



# Business Applications

## OCTOBER 2018 RELEASE NOTES

FEATURES RELEASING FROM OCTOBER 2018 THROUGH MARCH 2019



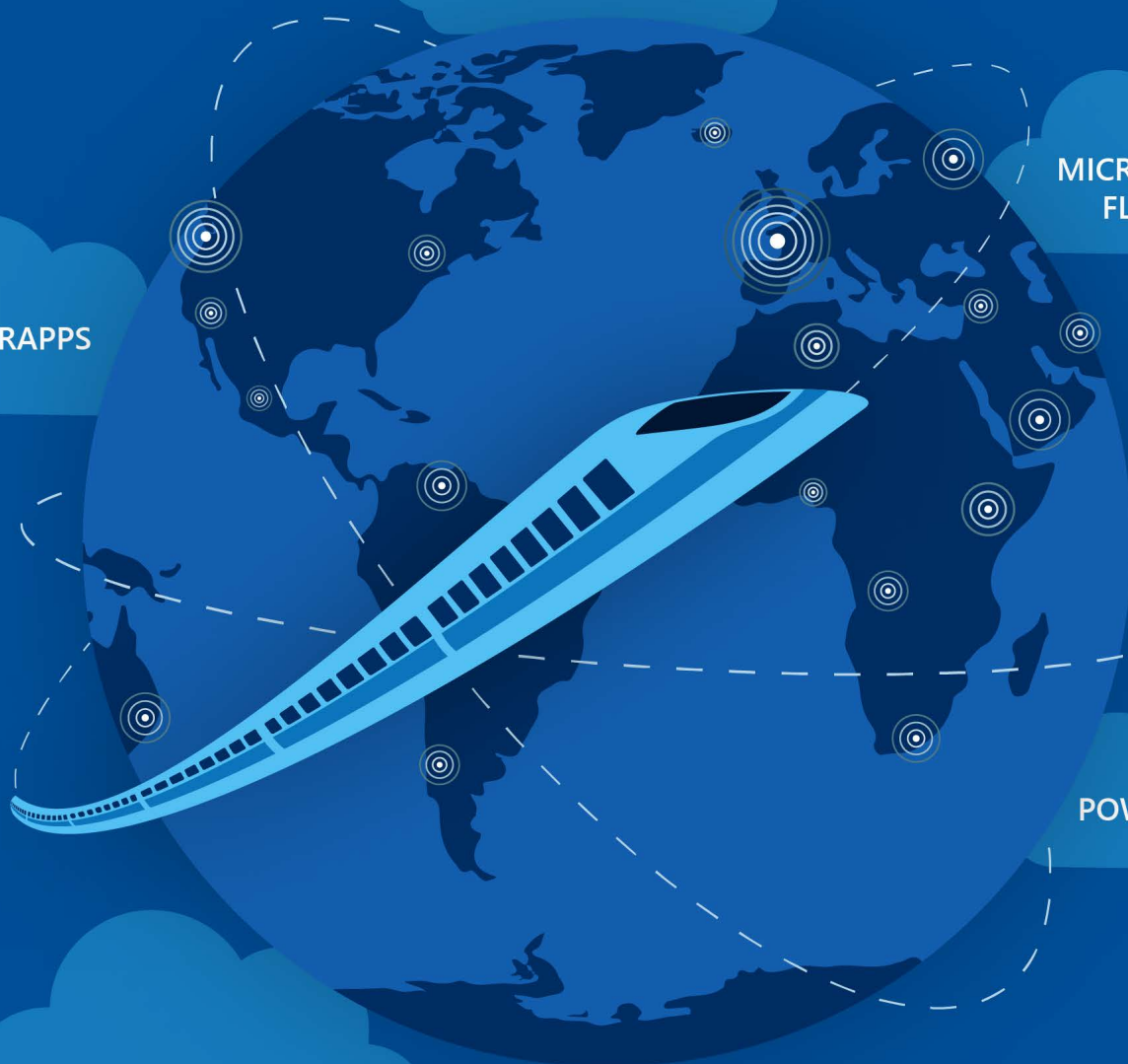
DYNAMICS 365

MICROSOFT  
FLOW

POWERAPPS

POWER BI

COMMON DATA SERVICE



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# October '18 release overview

The October '18 wave of business application releases from Microsoft provides you with significant capabilities to transform your business. These new services and capabilities become available starting in October 2018. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

- **Enhancements to Dynamics 365 applications** include hundreds of new capabilities across Sales, Marketing, Customer Service, Portals, Omni-channel Engagement Hub, Field Service, Project Service, Social Engagement, Finance and Operations, Talent, Retail, and Business Central. We're introducing a new set of mixed reality experiences using Microsoft Layout and Microsoft Remote Assist.
- **New intelligence applications** employ decades of AI work pioneered by Microsoft Research to make Dynamics 365 more intelligent. You can enhance sales performance and planning with the new Dynamics 365 AI for Sales application.
- **New Power platform capabilities** combine Power BI, PowerApps, Microsoft Flow, the Common Data Service for Apps, and Power BI dataflows into an unmatched palette of tools to extend, customize, and integrate Dynamics 365 and Office 365 into your environment.
- **Data integration** provides built-in connectivity to the Power platform and more, with data across hundreds of business systems, enabling rich and intelligent experiences. The Common Data Model provides semantic consistency for canonical business entities across Dynamics 365, Common Data Service for Apps, and Power BI dataflows, increasing value and saving time for application developers, ISV partners, and integrators.
- **Deeper integrations with other Microsoft products** offer seamless experiences with Dynamics 365 and Microsoft Outlook, Teams, SharePoint, Stream, Azure, and LinkedIn. We've enhanced Dynamics 365 with data and signal from Office 365 and Bing.
- **Performance, usability, and supportability enhancements** improve the applications and underlying platform, and provide a better experience for you to run your businesses.

We've done this work to help you—our partners, customers, and users—drive the digital transformation of your business on your terms.

We're looking forward to engaging with you as you put these new services and capabilities to work, and we're eager to hear your feedback as you dig into the October '18 release.



Let us know your thoughts. Share your feedback on a community forum for [Dynamics 365](#) or users of the ["Power" suite of products](#) (Power BI, PowerApps, Flow, and Stream). We'll use your feedback to make improvement



# Change history

## Change history

This topic is updated when features are added, or when a feature's release date changes. To find out about updates to these release notes, follow us on Twitter @MSFTDynamics365(<https://twitter.com/MSFTDynamics365>).

## Sales

### Feature section changed

Feature	Change	Date changed
<a href="#">Who knows whom</a>	Moved Sales AI topics to new AI section	September 24
<a href="#">Talking points</a>	Moved Sales AI topics to new AI section	September 24
<a href="#">Notes analysis</a>	Moved Sales AI topics to new AI section	September 24
<a href="#">Predictive lead scoring</a>	Moved Sales AI topics to new AI section	September 24
<a href="#">Predictive opportunity scoring</a>	New Sales AI topic	September 24
<a href="#">Relationship analytics</a>	Moved Sales AI topics to new AI section	September 24
<a href="#">Dynamics 365 AI for Sales app</a>	Moved Sales AI topics to new AI section	September 24
<a href="#">Call intelligence</a>	Moved Sales AI topics to new AI section	September 24



## Features added to release notes

Feature	Date added
<a href="#">Relationship Assistant extensibility</a>	September 24

## Release date changed

Feature	Change	Date changed
<a href="#">Playbooks</a>	Changed target release month to November 2018	October 18
<a href="#">LinkedIn insights</a>	Changed target release month to November 2018	October 18
<a href="#">Microsoft Teams integration</a>	Changed target release month to November 2018	October 18

## Service

### Features added to release notes

Feature	Date added
<a href="#">Enable voting for status reasons - Dynamics 365 Portal</a>	September 24
<a href="#">Other enhancements to Resource Scheduling Optimization</a>	October 19
Geofencing - Field Service Mobile	December 11

## Release date changed

Feature	Change	Date changed
<a href="#">Self-service portal diagnostics - Dynamics 365 Portal</a>	Changed from October 2018 to January 2019	September 24
<a href="#">SMS channel</a>	Changed target release month from December 2018 to February 2019	November 3
<a href="#">Channel Integration Framework</a>	Changed target release month from October 2018 to November 2018	November 3
<a href="#">SLA management - Field Service application</a>	Changed from November 2018 to December 2018	November 7
<a href="#">Push notifications - Field Service mobile</a>	Changed from November 2018 to December 2018	November 7
<a href="#">In-form scheduling - URS</a>	Changed from November 2018 to January 2019	November 7
Resource Utilization View - URS	Changed from November 2018 to January 2019	November 7
<a href="#">Background location sharing - Field Service mobile</a>	Changed from December 2018 to January 2019	December 11
<a href="#">Extensible resource availability - URS</a>	Changed from January 2019 to March 2019	December 11
<a href="#">Quick scheduling - URS</a>	Changed from January 2019 to March 2019	December 11
PowerApps sample app - URS	Changed from January 2019 to March 2019	December 11



Feature	Change	Date changed
<a href="#">Self-service scheduling APIs - URS</a>	Changed from January 2019 to March 2019	December 11
<a href="#">URS customer-driven product enhancements</a>	Changed from January 2019 to March 2019	December 11
<a href="#">Agent experience</a>	Changed target release month from December 2018 to January 2019	December 19
<a href="#">Unified routing and work distribution</a>	Changed target release month from December 2018 to January 2019	December 19
<a href="#">Live chat channel</a>	Changed target release month from December 2018 to January 2019	December 19
<a href="#">Entitlement management - Field Service application</a>	Changed from January 2019 to February 2019	January 14
Enable customers to bring their bots - Omni-channel Engagement Hub	Changed from January 2019 to April 2019	January 18
<a href="#">Routing Rule sets, Automatic Record Creation, and Service Level Agreements in Customer Service admin settings</a>	Changed from February 2019 to April 2019	March 15
<a href="#">Unified Service Desk admin experience on Unified Interface</a>	Changed from January 2019 to April 2019	March 15





## Features removed from release notes

Feature	Date removed
Customer Service health in One Admin Center	November 22
Integration with Microsoft Bot Framework - Field Service mobile	December 11
Sample Canvas Powerapp for Scheduling - Universal Resource Scheduling	January 15
Additional extensibility on the schedule board - Universal Resource Scheduling	January 15

## Feature description changed

Feature	Date changed
<a href="#">Quick scheduling - URS</a>	December 11

## Finance and Operations

### Features added to release notes

Feature	Date added
<a href="#">Expense management Power BI</a>	September 6
<a href="#">Operating unit user-defined values</a>	September 7
<a href="#">Customize number of decimals for prices, quantities, and weight</a>	September 7
<a href="#">Settle remainder</a>	September 10
Personalization improvements wave 2	September 12
<a href="#">Sticky default actions in grids</a>	October 9



Feature	Date added
<a href="#">Mobile project timesheets</a>	October 23
<a href="#">Restyled personalization toolbar</a>	October 26
<a href="#">Improved usability of the navigation pane</a>	October 26
<a href="#">Optimized "is one of" filtering experience</a>	November 1
<a href="#">Paste lists from Excel into filter fields with the "is one of" operator</a>	November 1
<a href="#">Resume master planning</a>	November 29
<a href="#">Legal entity filtering using grid column headers</a>	December 3
<a href="#">Collection letters</a>	December 14
<a href="#">Platform extensibility wave 4</a>	January 28

### Release date changed

Feature	Change	Date changed
<a href="#">Platform</a>	Fixed an error that listed all platform features as GA in October 2018.	August 10
<a href="#">Analytics</a>	Fixed an error that listed all analytics features as GA in October 2018.	August 16
<a href="#">On-premises deployment enhancements</a>	Changed target month to November 2018.	September 12
<a href="#">Extend analytical workspaces by mashing up external data with PowerBI.com</a>	Changed the release type to preview and changed target month to April 2019.	September 12



Feature	Change	Date changed
<a href="#">Troubleshooting for the document routing agent</a>	Changed the target release month to January 2019.	September 13
<a href="#">Summary of what's new in Finance and Operations</a>	Added information that indicates when features will be available in on-premises environments.	October 12
<a href="#">Upgrade automation</a>	Changed target release month to December 2018.	October 17
<a href="#">Dynamics Translation Service support for multi-language translation requests</a>	Changed target release month to December 2018.	November 9
<a href="#">Dynamics Translation Service usage metrics</a>	Changed target release month to "Undetermined".	November 9
<a href="#">Unit of measure conversion for variants</a>	Changed target release month to be Undetermined	November 27
<a href="#">Export up to 1 million rows to Excel</a>	Changed target release month to be December 2018 - January 2019	December 3
<a href="#">Settle remainder</a>	Changed from Undetermined to January 2019	December 14

### Feature description changed

Feature	Date changed
<a href="#">Personalization improvements</a>	September 12
<a href="#">Public sector enhancements</a>	September 25
<a href="#">Unit of measure conversion for variants</a>	October 2



Feature	Date changed
<a href="#">Global number sequences for customers and vendors</a>	October 8
<a href="#">Globalization – Enhanced configurability</a>	October 17
<a href="#">Test automation support</a>	October 22
<a href="#">Russian localization</a>	October 31
<a href="#">Platform extensibility enhancements wave 3</a>	October 24
<a href="#">Platform extensibility enhancements wave 2</a>	November 5
<a href="#">Export up to 1 million rows to Excel</a>	December 3
<a href="#">Mobile project timesheets</a>	January 7
<a href="#">Consistent validation actions</a>	February 1

### Features removed from release notes

Feature	Date removed
Additional demo data	August 28
Sealed bidding	September 6
Data resident subscriptions	September 24
Supportability rules	October 3
Align hyperlink click behavior with other Office products	January 24
Developer-defined custom shortcuts	January 24



Feature	Date removed
Filtering enhancements	January 24
Grouping in grids	January 24
Mass update in grids	January 24
New and improved grid control	January 24
Personalization improvements wave 2	January 24
Saved views	January 24
Totals in grids	January 24
Automatic ledger settlements	January 31
Reverse journal posting	January 31
Enterprise credit management	January 31
Revenue recognition	January 31
Bank revaluation	January 31
Simplification through configurable templates	January 31
Catch weight product processing with warehouse management	January 31

## Talent

### Features added to release notes

Feature	Date added
<a href="#">Deep links</a>	September 28
<a href="#">Share and manage access to guides or templates</a>	November 19
<a href="#">United Kingdom region</a>	January 24

### Features removed from release notes

Feature	Additional information	Date removed
Talent certified for ISO and SOC	This feature has not been removed. Talent is already ISO certified (27001, 20017, and 27018) and the SOC certification will occur during Q4 of 2018.	July 25
Company-based jobs and positions		August 3
Skype interviews		September 1
Reporting and analytics		December 26

## Release date changed

Feature	Change	Date changed
<a href="#">Managed activities</a>	Target release date changed from July 2018 to September 2018	September 10
<a href="#">Bulk guide updates</a>	Target release date changed from July 2018 to September 2018	September 10
<a href="#">Assignee placeholders</a>	Target release date changed from August 2018 to September 2018	September 10
<a href="#">Import activities from other guides or templates</a>	Target release date changed from August 2018 to September 2018	September 10
<a href="#">Relevant jobs and candidates</a>	Changed from General Availability, October 2018 to Public Preview, October 2018	September 28

## Feature description changed

Feature	Date changed
<a href="#">Dynamics 365 for Talent: Onboard</a>	September 12
<a href="#">Sourcing with LinkedIn Recruiter</a>	September 12
<a href="#">Relevant jobs and candidates</a>	September 12
<a href="#">Attract</a>	September 20
<a href="#">Offer Management</a>	September 20
<a href="#">Compensation enhancements</a>	September 28



Feature	Date changed
<a href="#">Leave and absence: Proration updates</a>	November 9
<a href="#">Updated offer management capabilities to include GA release for Adobe Sign and DocuSign integrations</a>	March 5
<a href="#">Updated Attract capabilities to include interview scheduling enhancements for internal candidates</a>	March 5

## Retail

### Features added to release notes

Feature	Date added
<a href="#">Suspend/resume improvements</a>	October 15
Omni-channel auto-charges	October 24
<a href="#">Mobile POS improvements</a>	October 24
<a href="#">POS journal improvements</a>	October 25
<a href="#">Loyalty enhancements wave 2</a>	November 13
<a href="#">Ecommerce sample order support</a>	November 21
<a href="#">Order attributes</a>	November 29
<a href="#">Improved omni-channel order processing</a>	January 11
<a href="#">Payment method restrictions for returns without a receipt</a>	January 17
<a href="#">Cash out gift card balance for a retail customer</a>	January 17





## Feature description changed

Feature	Change	Date changed
<a href="#">Improved extensibility</a>	Updated description to include new extensibility functionality	November 9
<a href="#">Store hours</a>	Updated description of feature	January 17

## Release date changed

Feature	Change	Date changed
<a href="#">Fiscal printer integration sample for Italy</a>	Target release date changed from October 2018 to November 2018	September 6
<a href="#">Support for on-premises (LBD) deployments</a>	Target release date changed from October 2018 to November 2018	October 19
<a href="#">Loyalty enhancements</a>	Target release date for on-premises changed from October 2018 to November 2018	October 19
<a href="#">Payment connector</a>	Target release date for on-premises changed from October 2018 to November 2018	October 25
<a href="#">Improved extensibility</a>	Target release date changed from October 2018 to November 15, 2018	November 9
Omni-channel auto-charges	Target release date changed from February 2019 to January 21, 2019	November 21
<a href="#">Store hours</a>	Target release date changed from October 2018 to January 2019	January 17



## Features removed from release notes

Feature	Date removed
Extension of fiscal printer integration sample for Italy	November 30
Fiscal service integration sample for Austria	November 30
Omni-channel auto-charges	February 15

## Business Central

### Features added to release notes

Feature	Date added
<a href="#">Late payment predictions</a>	October 18
<a href="#">Enhancements to Finance, Sales, and Purchasing</a>	October 18
<a href="#">Simpler workflows across business areas</a>	October 18
<a href="#">Easier to get started</a>	October 18
<a href="#">Monitoring SQL database deadlocks using file-based xe targets</a>	
<a href="#">Support for Azure SQL Database Managed Instance</a>	

### Features removed from release notes

Feature	Date removed
New object extensions as part of the improved Visual Studio Code AL experience	August 10
Cloud readiness illustration as part of the story for <a href="#">hybrid deployments</a>	November 11

## Artificial intelligence

### New product areas added

Subject	Change	Date added
<a href="#">AI for Customer Service Insights</a>	New feature	September 24
<a href="#">AI for Sales</a>	Moved from the Sales area	September 10
<a href="#">AI for Market Insights</a>	New feature	September 24

### Product name changed

Product	Change	Date changed
<a href="#">AI for Customer Service</a>	Changed product name from AI for Customer Service Insights to AI for Customer Service	September 25

## Mixed reality

### Features added to release notes

Feature	Date added
<b>Dynamics 365 Layout</b>	
<a href="#">Import using PC</a>	September 24
<a href="#">Choose units of measure</a>	September 24
<a href="#">Multi-select and grouping</a>	September 24
<a href="#">Dynamic audio</a>	September 24
<a href="#">Precisely adjust a layout</a>	September 24



Feature	Date added
<a href="#">New measuring tools</a>	September 24
<a href="#">Performance enhancements</a>	December 4
<a href="#">Import Tool improvements</a>	January 16
<a href="#">Free 90-day trial</a>	March 13
<a href="#">New file format for MR headsets makes saving much faster</a>	March 14
<a href="#">New tools make it easier to precisely place 3D assets</a>	March 14
<a href="#">Improvements to measuring tools</a>	March 14

### Features removed from release notes

Feature	Date removed
Accessibility improvements	February 28

## PowerApps

### Feature description changed

Feature	Change	Date changed
<a href="#">Improve ALM for canvas apps with solutions</a>	You can choose which solution will contain your app, but PowerApps won't create a solution by default.	August 2
<a href="#">Sharing enhancements for canvas apps</a>	The enhancements relate only to canvas apps, not model-driven apps.	August 2



Feature	Change	Date changed
<a href="#">Extend Dynamics 365 entity forms with embedded canvas apps</a>	Clarified what will be available in public preview	October 2
<a href="#">Easier to configure cascading drop-down lists</a>		November 14
<a href="#">PowerApps makers can create mashup apps with SharePoint Document Libraries</a>		February 9

### Features added to release notes

Feature	Additional information	Date added
<a href="#">Test out new updates first in Preview</a>	Moved from next semester	February 9
<a href="#">Canvas-app delegation of aggregate functions in Common Data Service for Apps</a>	Moved from next semester	February 9
<a href="#">Rich Text Editor and HTML view controls for canvas apps</a>	Previously removed from this semester	March 16

### Features removed from release notes

Feature	Additional information	Date removed
Enhanced SharePoint forms functionality	Removed this entry because it duplicated other items already listed in greater detail, including <a href="#">SharePoint web parts</a> , <a href="#">enhanced themes</a> , and <a href="#">easier configuration of cascading dropdowns</a> .	August 2
Support for custom messages		November 14



Feature	Additional information	Date removed
Improved app speed		November 14
Enhanced Service Health page		November 27
Simplified gallery, form, and data table field selection and binding		November 27
Formula-bar enhancements	Moved to next semester	November 26
Model-driven mobile applications are more reliable		January 11
Sign in more easily to Dynamics 365 on a mobile device	Moved to next semester	January 11
Unified Interface form optimizations		January 24
Dependent option sets on Unified Interface		January 24
Configure dependent option sets	Moved to next semester	February 9
Create and view related flows from an entity	Moved to next semester	February 9
Create canvas apps with responsive layout	Moved to next semester	February 9

Feature	Additional information	Date removed
Support for delegate users in Dynamics 365		February 9

## Release date changed

Feature	Change	Date changed
<a href="#">Summary of what's new</a>	Fixed an error that listed all features as GA in October 2018. Updated 13 features to correct the target release month, the release type, or both.	August 2
<a href="#">Opting into new features</a>	Changed from October 2018 to December 2018	August 8
<a href="#">Manage admin settings from the Power platform admin center</a>	Changed from GA to Public Preview	September 12
<a href="#">Create Power BI reports using data in Common Data Service for Apps</a>	Changed from October 2018 to March 2019	November 14
<a href="#">Deeper PowerApps integration in Power BI</a>	Changed from October 2018 to December 2018	November 14
<a href="#">Sharing enhancements for canvas apps</a>	Changed from October 2018 to November 2018	November 14
<a href="#">Simplified lookup field creation on entities</a>	Changed from October 2018 to January 2019	November 14
<a href="#">Simplified management of advanced entity properties</a>	Changed from December 2018 to January 2019	November 14
<a href="#">More reliable Outlook Client v8.2 for Dynamics 365</a>	Changed from October 2018 to December 2018	November 14



Feature	Change	Date changed
<a href="#">Set Regarding lookup enhancements in Dynamics 365</a>	Changed from October 2018 to November 2018	November 14
<a href="#">New admin analytics reports</a>	Changed from General Availability to Public Preview	November 14
<a href="#">Native support for Common Data Service data types in canvas apps</a>	Changed from General Availability to Public Preview	November 27
<a href="#">Catch, handle, and report errors, and write Null values to databases with canvas apps</a>	Changed from December 2018 to February 2019	November 27
<a href="#">Advanced relationships between entities</a>	Changed from January 2019 to February 2019	January 11
<a href="#">Create automatic number sequences</a>	Changed from January 2019 to February 2019	January 11
<a href="#">Create entities and apps in the same tool</a>	Changed from January 2019 to February 2019	January 11
<a href="#">Model-driven view designer enhancements</a>	Changed from November 2018 to December 2018	January 11
<a href="#">Build model-driven apps of higher quality with Solution checker</a>	Changed from November 2018 to December 2018	January 11
<a href="#">Extend Dynamics 365 entity forms with embedded canvas apps</a>	Changed from December 2018 to January 2019	January 11
<a href="#">New model-driven form designer</a>	Changed from December 2018 to January 2019	January 11
<a href="#">More reliable Outlook Client v9.0 for Dynamics 365</a>	Changed from December 2018	January 24





Feature	Change	Date changed
<a href="#">PowerApps makers can create mashup apps with SharePoint Document Libraries</a>	Changed from January 2019 to February 2019	February 9
<a href="#">Work with friendly display names in canvas apps when using Common Data Service for Apps or SharePoint</a>	Changed from January 2019 to March 2019	March 16
<a href="#">Improved help for Access users</a>	Changed from January 2019 to February 2019	March 16
<a href="#">Easier to configure cascading drop-down lists</a>	Changed from January 2019 to March 2019	March 16
<a href="#">Errors more discoverable by app makers</a>	Changed from January 2019 to August 2018	March 16
<a href="#">Customizers can embed Power BI tiles and reports in entity forms</a>	Changed from October 2018 to December 2018	March 16

## Microsoft Flow

### Features added to release notes

Feature	Date added
<a href="#">Sharing and Connectors Admin Analytics Reports</a>	October 28
<a href="#">Microsoft Flow supports Intune</a>	October 28
<a href="#">Edit Rich Text content in Microsoft Flow</a>	October 28
<a href="#">Custom response options in Approvals</a>	November 8
<a href="#">Advanced condition builder</a>	February 12



Feature	Date added
<a href="#">HTTP and custom connector support for DLP policies</a>	February 12
<a href="#">Peek code in the Microsoft Flow designer</a>	February 12

### Feature description changed

Feature	Date changed
<a href="#">Flow checker</a>	October 22
<a href="#">New Flow portal and designer experience</a>	October 22
<a href="#">Repair tips in email for failed flows</a>	October 22
<a href="#">South America region</a>	October 22
<a href="#">US government cloud deployment</a>	October 22

### Release date changed

Feature	Change	Date changed
<a href="#">Power Query integration</a>	Changed from October 2018 to September 2018; moved to April '18 Release Notes	October 3
<a href="#">New admin analytics reports</a>	Changed from October 2018 to September 2018; moved to April '18 Release Notes	October 3
<a href="#">Repair recommendations sent in email for failed flows</a>	Moved from April '18 Release Notes; changed from September 2018 to October 2018	October 3
<a href="#">Diet designer for all templates</a>	Changed from October 2018 to November 2018	October 3



Feature	Change	Date changed
<a href="#">Leverage device signals on mobile devices</a>	Changed from October 2018 to November 2018	October 3
<a href="#">Design flows in Visio</a>	Changed from October 2018 to December 2018	October 3
<a href="#">Customize SharePoint content approvals with Flow</a>	Changed from October 2018 to November 2018	October 22
<a href="#">Flow for SharePoint admin scenarios</a>	Changed from October 2018 to December 2018	October 22
<a href="#">Microsoft Teams uses Flow as a bot</a>	Changed from October 2018 to December 2018	October 22
<a href="#">Flow button enhancements</a>	Changed from October 2018 to November 2018	October 28
<a href="#">Flow management connector, SDK, and APIs</a>	Changed from October 2018 to November 2018	November 8
<a href="#">Custom controls in business process flows</a>	Changed from October 2018 to November 2018	November 8
<a href="#">Integrated help and support experience in Flow designer</a>	Changed from October 2018 to November 2018	November 8
<a href="#">OneDrive for Business Flow launch panel</a>	Changed from January 2019 to February 2019	February 12
<a href="#">OneDrive for Business request sign-off</a>	Changed from January 2019 to February 2019	February 12
<a href="#">US government cloud deployment</a>	Changed from January 2019 to February 2019	February 12
<a href="#">Post richer messages in Microsoft Teams</a>	Changed from January 2019 to February 2019	February 12



Feature	Change	Date changed
<a href="#">SharePoint Remind Me</a>	Changed from January 2019 to February 2019	February 12

## Power BI Desktop

### Features added to release notes

Feature	Date added
<a href="#">Copy and paste across reports</a>	October 10
<a href="#">New filtering experience</a>	October 10
<a href="#">Search in filter cards</a>	October 10
<a href="#">Smart alignment guides</a>	November 29
<a href="#">Per-report control of data export</a>	November 29

### Release date changed

Feature	Change	Date changed
Accessibility: slicers	Changed from October 2018 to July 2018; moved to April '18 Release Notes	August 30
<a href="#">Additional quick insights</a>	Changed from Public Preview, October 2018 to GA, July 2018; moved to April '18 Release Notes	August 30
<a href="#">Aggregations</a>	Changed from Public Preview, October 2018 to Public Preview, September 2018; moved to April '18 Release Notes	August 30



Feature	Change	Date changed
<a href="#">Composite models</a>	Changed from October 2018 to July 2018; moved to April '18 Release Notes	August 30
<a href="#">Copy data from table and matrix visuals</a>	Changed from Public Preview, October 2018 to GA, September 2018; moved to April '18 Release Notes	August 30
Flexible matching in Q&A	Changed from October 2018 to August 2018; moved to April '18 Release Notes	August 30
<a href="#">Report wallpapers</a>	Changed from Public Preview, October 2018 to GA, July 2018; moved to April '18 Release Notes	August 30
<a href="#">Show measures as clickable URLs</a>	Changed from October 2018 to August 2018; moved to April '18 Release Notes	August 30
<a href="#">Theming over report level and visual container styles</a>	Changed from October 2018 to August 2018; moved to April '18 Release Notes	August 30
<a href="#">Theming general availability</a>	Changed from October 2018 to August 2018; moved to April '18 Release Notes	August 30
<a href="#">Self-service data prep</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Azure integration</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Computed entities</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Linked entities</a>	Changed from October 2018 to November 2018	October 10



Feature	Change	Date changed
<a href="#">Dataflow refresh</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Dataflows on Premium capacity</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Quick insights for non-additive measures</a>	Changed from Public Preview to General Availability	October 10
<a href="#">Expand and collapse in matrix visual</a>	Changed from November 2018 Private Preview to General Availability	November 29
<a href="#">Copy and paste across reports</a>	Changed from November 2018 Public Preview to General Availability	November 29
<a href="#">Accessibility - Users can interact with Power BI Desktop via keyboard navigation and screen reader</a>	Changed from December 2018 Public Preview to General Availability	November 29
<a href="#">New filtering experience</a>	Changed from March 2019 to November 2018	December 4
<a href="#">Expression-based formatting</a>	Changed from March 2019 to April 2019	December 4

### Features removed from release notes

Feature	Date removed
Q&A telemetry pipeline	September 10
Custom fonts	October 10
Ad-hoc exploration	March 4



## Power BI Service

### Release date changed

Feature	Change	Date changed
<a href="#">Paginated reports (Power BI Premium)</a>	Changed from October 2018 to November 2018	October 9
<a href="#">Self-service data prep</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Azure integration</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Computed entities</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Linked entities</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Dataflow refresh</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Dataflows on Premium capacity</a>	Changed from October 2018 to November 2018	October 10
<a href="#">Additional URL parameters for report filtering</a>	Changed from October 2018 to July 2018; moved to April '18 release notes	October 19
<a href="#">Dashboard Commenting</a>	Changed from October 2018 to September 2018; moved to April '18 release notes	October 19
<a href="#">Filters for report sharing</a>	Changed from October 2018 to July 2018; moved to April '18 release notes	October 19
<a href="#">Personal bookmarks</a>	Changed from November 2018 to December 2018	November 13
<a href="#">Home</a>	Changed from October 2018 General Availability to October 2018 Preview	November 15
<a href="#">Secure embed codes</a>	Changed from November 2018 to January 2019	November 27



Feature	Change	Date changed
<a href="#">Multi-Geo for compliance</a>	Changed from Public Preview, October 2018 to General Availability, March 2019	January 11
<a href="#">Metadata translations</a>	Moved from October '18 release notes to April '19; changed from March 2019 to May 2019	January 18
<a href="#">Report commenting</a>	Moved from October '18 release notes to April '19; changed from March 2019 to April 2019	January 29
<a href="#">XMLA endpoint for third-party client connectivity and monitoring</a>	Changed from February 2019 to March 2019	February 26

### Features removed from release notes

Feature	Date removed
Historical capacity metrics (Power BI Premium)	September 10
Automated machine learning in Power BI	December 11
Access Azure Machine Learning models in Power Query	December 11

### Features added to release notes

Feature	Date added
<a href="#">Personal bookmarks</a>	October 28
<a href="#">Secure embed codes</a>	October 23
<a href="#">Shared and certified datasets</a>	November 5
<a href="#">Export enhancements</a>	October 30





Feature	Date added
<a href="#">Email subscription enhancements</a>	October 30
<a href="#">Ask related questions using Q&amp;A</a>	November 2018
<a href="#">Customizable app navigation</a>	December 2018

### Feature description changed

Feature	Date changed
<a href="#">Admin APIs and PowerShell module</a>	October 16

## Power BI Mobile

### Features removed from release notes

Feature	Date removed
Personalized Home experience	September 7
Paginated reports	September 7
Windows-based large screen devices	October 10
Removed Android from <a href="#">Mobile shared credentials</a>	October 10

### Features added to release notes

Feature	Date added
<a href="#">Copy values</a>	November 27
<a href="#">Windows presentation mode for large screens</a>	November 27



Feature	Date added
<a href="#">Paginated Reports (RDL)</a>	November 27

## Power BI Service Apps

### Release date changed

Feature	Change	Date changed
<a href="#">Embedding Power BI content from Power BI Service Apps</a>	Changed from October 2018 to February 2019	September 10
<a href="#">Installing Power BI Service Apps</a>	Changed from General Availability, October 2018 to Public Preview, November 2018	September 10
<a href="#">Personalization</a>	Changed from General Availability, October 2018 to Public Preview, November 2018	September 10
<a href="#">Create a Power BI Service App package</a>	Changed from General Availability, October 2018 to Public Preview, November 2018	September 10
<a href="#">Update an existing app</a>	Changed from General Availability, October 2018 to Public Preview, November 2018	September 10
<a href="#">APIs to manage and embed Power BI Service Apps</a>	Changed from February 2019 General Availability to Public Preview	November 23

### Features removed from release notes

Feature	Date removed
ECMAScript support	September 10



## Power BI Custom Visuals

### Features removed from release notes

Feature	Date removed
Custom visuals in Excel	September 4

## Power BI Embedded

### Features removed from release notes

Feature	Date removed
Automatic end-to-end deployment of Power BI Embedded solutions	July 31
Deploy an updated dashboard or tile to production	July 31
Improved refresh APIs	July 31
Apply and change themes	August 30
Single sign-on for Azure SQL Database	August 30

## Power BI Report Server

### Features removed from release notes

Feature	Date removed
Export to Excel	October 23

## Release date changed

Feature	Change	Date changed
<a href="#">Row-level security (RLS)</a>	Changed from November 2018 to January 2019	October 23
<a href="#">Support for new features of Power BI Report Server</a>	Changed from November 2018 to January 2019	October 23

## Data Integration

### Features added to release notes

Feature	Change	Date added
<b>Power BI</b> New and improved connectors: <ul style="list-style-type: none"> <li>- IBM DB2 DirectQuery</li> <li>- Vertica in PBI Service (via Gateway)</li> <li>- HDInsight Interactive Query in PBI Service (via Gateway)</li> </ul>	New feature	August 8
<b>CDS for Apps and Power BI dataflows</b> <ul style="list-style-type: none"> <li>- Scheduled refresh support for Data Integration projects in PowerApps Maker Portal</li> <li>- Automatic relationship creation between entities through Data Integration when the source entities are related</li> </ul>	New feature	August 8
<b>CDM</b> GitHub repository where entity definitions open-sourced with additional documentation and tooling	New feature	August 8
<b>Microsoft Flow and PowerApps</b> New connectors: <ul style="list-style-type: none"> <li>- Azure Data Factory</li> <li>- Dynamic Signal</li> <li>- Marketo</li> <li>- ElasticOCR</li> </ul>	New features	October 11



Feature	Change	Date added
<ul style="list-style-type: none"> <li>- MailParser</li> <li>- PoliteMail</li> <li>- Cloud Connect Studio</li> <li>- ProjectWise Design Integration</li> <li>- LMS365</li> <li>- Azure IoT Central</li> <li>- Survey123</li> <li>- Power platform for Admins</li> <li>- PowerApps for App Makers</li> <li>- PowerApps for Admins</li> <li>- Microsoft Flow for Admins</li> <li>- Project Roadmap</li> <li>- NetDocuments</li> <li>- Microsoft School Data Sync</li> <li>- TeleSign SMS</li> <li>- AppsForOps</li> <li>- K2 Workflow</li> </ul>		

### Release date changed

Feature	Change	Date changed
<b>Power BI</b> New PDF connector	Updated release date.	August 8
<b>Power BI</b> "Fuzzy Merge" transformation	Changed release type.	August 8
<b>CDS for Apps and Power BI dataflows</b> <ul style="list-style-type: none"> <li>- GDPR (ability to export user data, ability to audit all CRUD operations by a user, DPIA document)</li> <li>- Improvements for Data Integrator Admins</li> </ul>	Changed release type.	August 8
<b>Microsoft Flow and PowerApps</b> Excel Online - support for update operation	Changed release type.	August 8

Feature	Change	Date changed
<b>Power Query</b> - Data profiling capabilities to easily identify errors and outliers as part of the Data Preparation workload - Intellisense support for M language	Changed release type.	August 8
<b>CDS for Apps and Power BI dataflows</b> <a href="#">Self-service data prep with dataflows</a>	Changed release type.	August 30
<b>Power BI</b> Ability to manage all the tenant's gateways in the D365 admin portal	Changed release date.	September 7
<b>Power BI</b> - AtScale connector - Essbase connector	Changed public preview date.	September 7
<b>Microsoft Flow and PowerApps</b> Support for new regions: - US Government (GCC)	Changed release date and type.	September 7
<b>Power Query</b> <a href="#">Community Website Launch</a>	Changed release date.	October 11
<b>Power Query</b> <a href="#">New PDF Connector</a>	Changed release type.	October 11
<b>CDS for Apps</b> Ability to create a DI project from the published templates in marketplace (starting from DI or from marketplace)	Changed release type.	October 11



### Features removed from release notes

Feature	Additional information	Date removed
<p><b>CDS for Apps and Power BI dataflows</b> Support for Custom Connectors (via Gateway)</p>	<p>Investigation into support for this feature is still under way; however, we don't have a clear timeline to support it. Please vote on the suggestion at <a href="#">PowerApps ideas</a> and/or <a href="#">Power BI ideas</a> to help prioritize.</p>	<p>August 8</p>
<p><b>Power BI</b> Support for gateway with Power BI premium in different capacity regions</p>	<p>Due to changing priorities, the timeframe for this feature has not been determined. While investigation continues, please vote on the suggestion at <a href="#">Power BI ideas</a> to help prioritize.</p>	<p>August 8</p>
<p><b>Power BI</b> Additional cloud data refresh capabilities for parity with Power BI Desktop</p>	<p>Due to changing priorities, the timeframe for this feature has not been determined. While investigation continues, please vote on the suggestion at <a href="#">Power BI ideas</a> to help prioritize.</p>	<p>October 11</p>

# Marketing

## Overview of Dynamics 365 for Marketing October '18 release

Dynamics 365 for Marketing delivers comprehensive capabilities for creating and running multi-channel campaigns to generate leads for your sales team using simple drag-and-drop design tools.

In the October '18 release, new capabilities include account-based marketing and deeper LinkedIn integration. The marketing app also supports [additional languages and is available in more markets](#). (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

These key areas of investment are designed to help you optimize your marketing efforts:

- **Intelligence integrated into the app** means marketers can build custom dashboards using Power BI to leverage data from various apps, marketing interactions, and other data sources. Combine these analytics with social listening, which monitors brand awareness and sentiment on social networks, to get the full picture and evaluate the success of your campaigns—all right on the visual customer journey canvas.
- **Personalized marketing experiences** are fine-tuned for both users and prospects. Account-based marketing helps close more deals by targeting specific accounts that are most likely to generate revenue. Content management is supported at block level with role-based editing privileges. The new marketing calendar provides a quick overview of all scheduled journeys and events to help marketers plan better.
- **More integrations with Microsoft offerings** include deeper LinkedIn integration extends into marketing automation.
- **Fundamental improvements** provide improved performance, and greater scalability and throughput of email marketing services. The segmentation user interface has been enhanced to improve usability and performance for the most common scenarios.

## Summary of what's new in Dynamics 365 for Marketing

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).



When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Account-based marketing</a>	General Availability	October 31, 2018
<a href="#">Reusable content blocks</a>	General Availability	October 31, 2018
<a href="#">Social listening for your campaigns</a>	General Availability	October 31, 2018
<a href="#">Marketing calendar for planning</a>	General Availability	October 31, 2018
<a href="#">Deep LinkedIn integration</a>	General Availability	October 31, 2018
<a href="#">Richer segmentation experience</a>	General Availability	October 31, 2018
<a href="#">Additional languages and geographies</a>	General Availability	October 01, 2018
<a href="#">Custom analytics</a>	Public Preview	October 31, 2018
<a href="#">Videos in marketing content</a>	Public Preview	October 31, 2018

## Account-based marketing

With account-based marketing, business-to-business (B2B) marketers can use Dynamics 365 for Marketing to target each business account as a single unit, thus increasing integration and alignment between the sales and marketing departments.

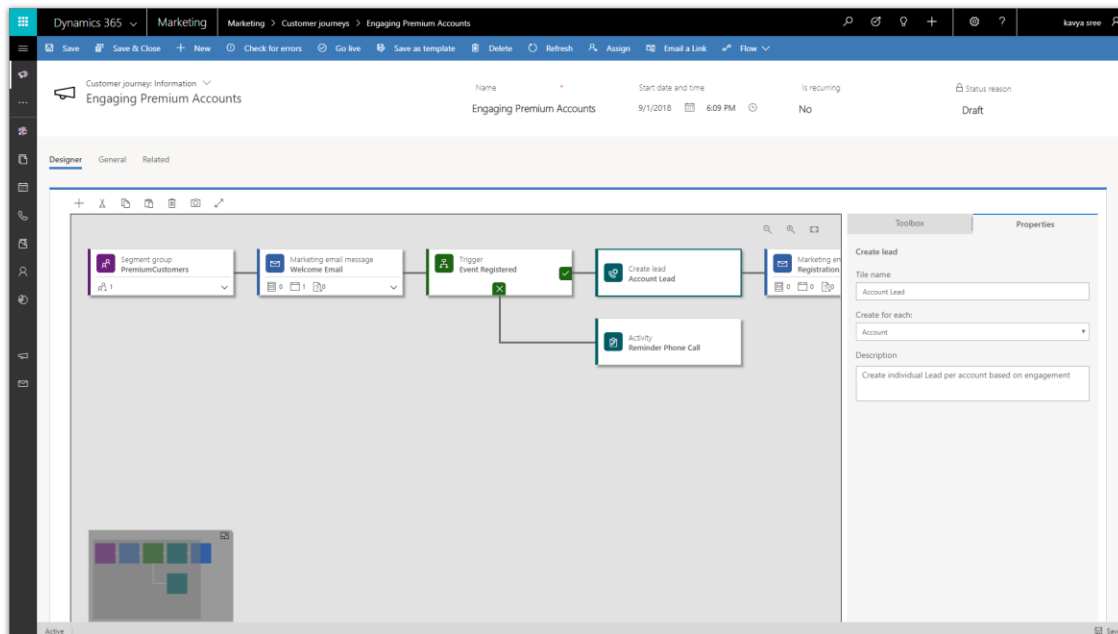
Account-based marketing scenarios enable sales and marketing to close more deals by targeting specific accounts—those that are most likely to generate the largest revenue.

Account-based marketing tailors demand generation and messaging for a specific set of accounts to ensure relevance and value for them, and for your salespeople. Account-based marketing can help organizations to:

- Align sales and marketing departments by mapping marketing activity to account strategies.
- Increase return on investment by removing waste and focusing on targeted, high-value accounts.
- Increase account relevance by providing personalized and compelling content.
- Generate efficiency by identifying specific contacts at specific companies within a specific market.

Account-based marketing can:

- Identify and create segments of high-value accounts.
- Identify key stakeholders to reach within each account.
- Create personalized content, such as emails, based on account.
- Generate account-level leads and nurture them through the demand-generation funnel.
- Continuously measure account engagement and optimize your messaging.



### *Account-based customer journey*

## Resources

[Account-based marketing](#)

## Reusable content blocks

Reusable content blocks enable Marketing users to define and store reusable blocks of content that are easy to add to email and page designs. For example, if you've created a beautiful header for a marketing page, you can make it a standard design element by saving it as a reusable block.

In most cases, the design and content of a content block are locked when used in the graphical designer, but you can choose to un-protect content blocks that contain just a single image, which will allow other users to change the image source and properties for those blocks in their local designs. Users that have access to the advanced HTML editor can see that a block is protected, but will still be able to modify the code if needed.

Reusable content blocks provide a protected way to distribute standard design elements among your team. This will enable users to work more quickly, and because you can protect the content, you can improve compliance with your brand identity and organizational design standards.



Use the new content-blocks creator to define the content, design, and protected status for each reusable content block. You can even include dynamic values from Dynamics 365. Once a block is saved and published, you and other users will be able to add it to a page or email design and see its content in the designer. Each block could be as simple as a call-to-action button, or as complex as an event countdown timer.

## Resources

[Create content blocks](#)

## Social listening for your campaigns

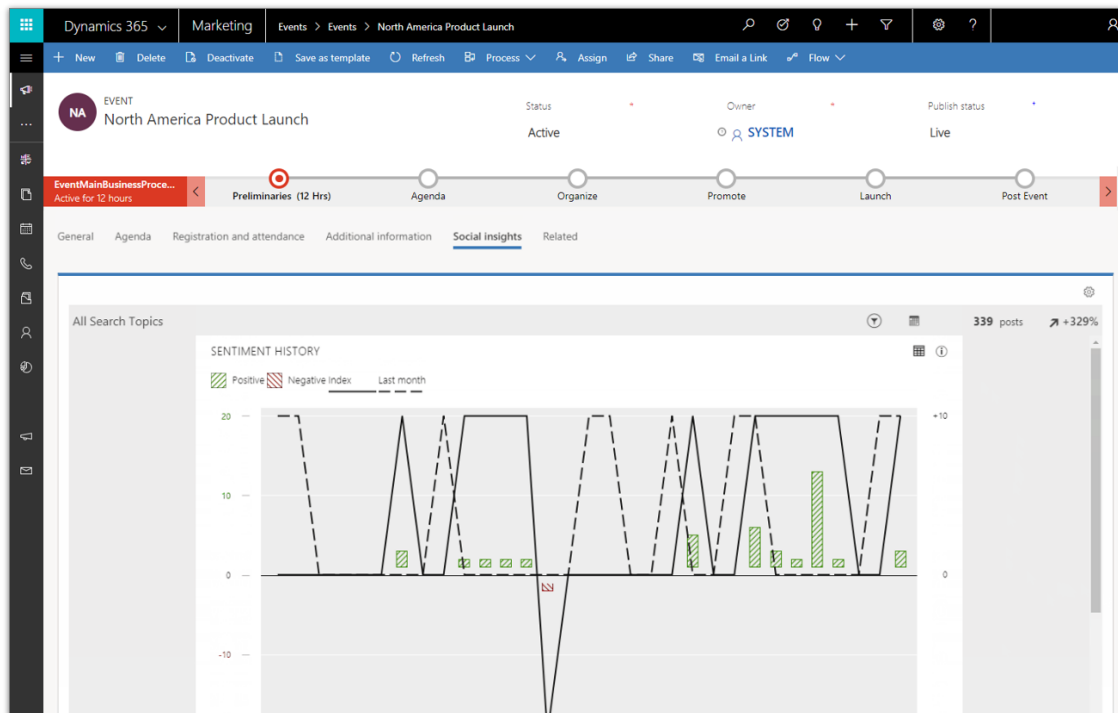
Modern marketing relies on signals from social media to help keep customers engaged. Social listening in Dynamics 365 for Marketing lets marketers add relevant social tags to customer journeys, events, and other entities, so they can view the social media response to their marketing initiatives right alongside other marketing insights.

A modern marketer must be able to combine analytics generated through social media platforms with those from traditional digital marketing, like email and landing pages, to obtain a comprehensive overview of their market impact. Dynamics 365 for Marketing brings together insights from multiple marketing channels like events, emails, and landing pages, as well as social listening data from various social media platforms.

Social listening adds:

- A dedicated social tab to every customer journey and event.
- A new dashboard for social insights.

Marketers use the social tab to establish a collection of specific phrases that are relevant to the related customer journey or event, and then monitor social media posts for mentions of those phrases. Social listening gathers data from all the major social networks and populates the various widgets on the social tab with relevant analytics that reveal how often each phrase is mentioned over time, the sentiment associated with each mention, potential influencers that mention the phrases, and much more.



### *Social listening*

## Resources

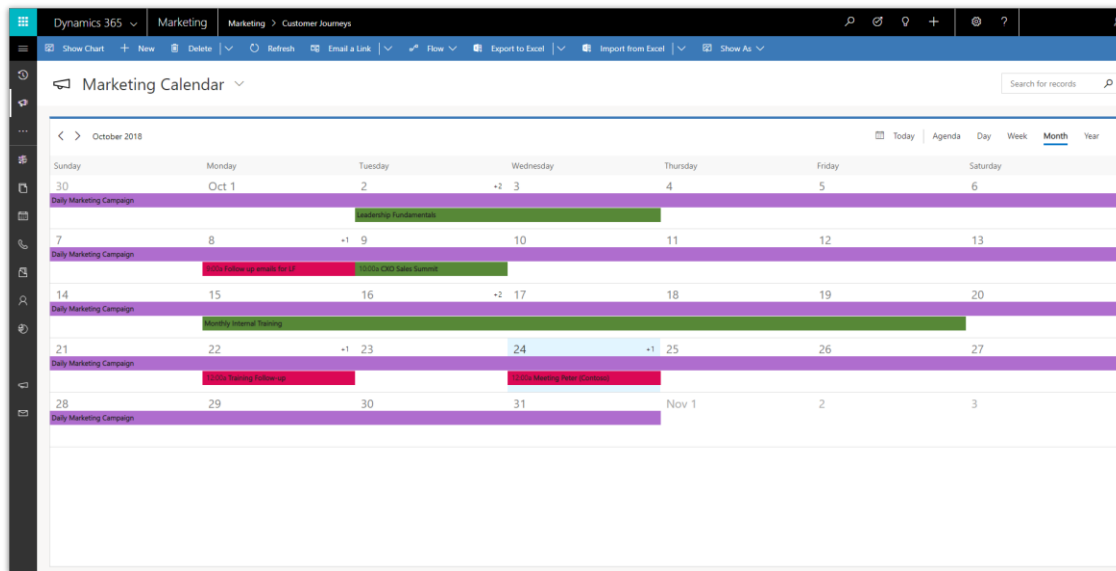
[Set up social listening and add it to any record](#)

## Marketing calendar for planning

The marketing calendar control lets marketers visualize a variety of marketing activities that have a start and end date. Effectively, marketers can view many elements of a campaign (such as events) on the same calendar, providing an easy overview.

The calendar enables all stakeholders to view many diverse elements of a marketing campaign on a single calendar, allowing for faster decision making. It's easy for events planners to view or create sessions straight from the calendar, while accounting for room and speaker availability, without leaving the page.

The marketing calendar provides a mobile-friendly responsive control that allows users to view and in some cases create items on the calendar without leaving the page. Most marketing entities that include a start and end date such as journeys and events can be shown. The calendar makes it easy to add entities with a click, or view sessions inside an event.



## Marketing calendar

## Resources

[Work with marketing calendars](#)

## Deep LinkedIn Integration

Dynamics 365 for Marketing provides deep LinkedIn integration for generating leads from professional networks and relationships. New integration features let you run journeys specifying targeting on LinkedIn and leverage resulting interactions for orchestration, scoring and segmentation.

Deep LinkedIn integration brings:

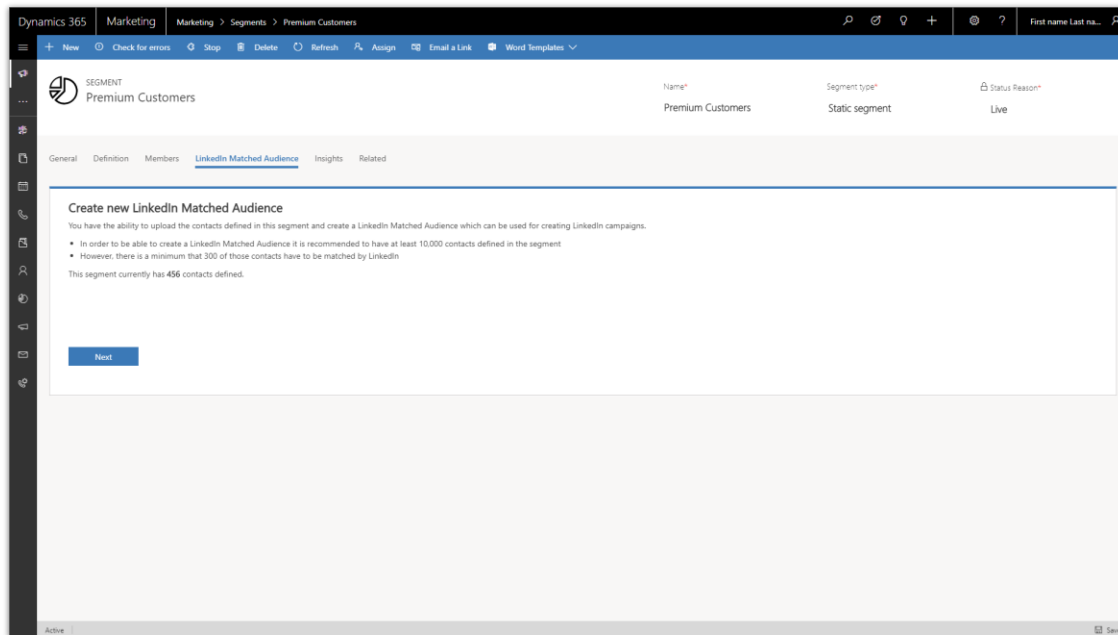
- Optimized and high-quality engagement on LinkedIn through account-based marketing.
- Generation of more highly qualified leads to be nurtured from within Dynamics 365 for Marketing and an increase in the marketing return on investment.

Dynamics 365 for Marketing can already sync leads captured using LinkedIn Lead Gen Forms. We are expanding on this capability by adding the following functionality:

- Integrate Dynamics 365 for Marketing segments with LinkedIn-matched audiences.
- Orchestrate journeys that includes triggers that react to submission from LinkedIn Lead Gen Forms.



- Evaluate the success of your LinkedIn targeting via engagement statistics in Dynamics 365 for Marketing.
- Generate leads in Dynamics 365 for Marketing on the account level when retrieving form submissions from LinkedIn.
- Nurture leads via lead scoring based on LinkedIn form submission interactions.



### *Targeted LinkedIn ads through journeys*

## Resources

- [Market to Dynamics 365 segments on LinkedIn with LinkedIn Matched Audiences](#)
- [The LinkedIn campaign tile for customer journeys](#)
- [LinkedIn Lead Gen integration](#)

## Richer segmentation experience

The improved segment designer enables marketers and business analysts to create segments more easily and efficiently. A host of new business-centric operators will make it simpler for business users to create complex, business-centric marketing segments, allowing them to easily create segments for targeted marketing.

The improved segment designer provides:

- More operators.
- Improved user interface performance.

## Resources

- [Working with segments](#)
- [Design profile-based dynamic segments](#)
- [Design interaction-based dynamic segments](#)
- [Define a static segment](#)
- [Combine segments into a compound segment](#)

## Custom analytics

Dynamics 365 for Marketing collects wide-ranging and detailed information about how contacts interact with your marketing initiatives. Use custom analytics to organize and present this data within the Marketing app.

Custom analytics can help deliver actionable insights based on data from Marketing and other business applications. View reports that are fine-tuned to your business processes and use them to identify ways to run more efficient and effective campaigns. In the future, we'll also deliver insights based on machine learning to help you get even more out of your business data, acquired data, and unique Microsoft data sets.

Use Dynamics 365 for Marketing to build custom analytics that support your organization's specific business processes, drive good decision making, and deliver results. Design charts, graphs, and KPIs that you can embed right into the app, where marketers need them most.

## Setup required

- You must bring your own Azure Blob Storage to use this feature. The Marketing app must be able to connect to this resource and store marketing data there.
- You can choose to build Power BI reporting on top of this data store by using the Power BI dataflows connector. This feature is still in preview. More information: [Self-service data prep with dataflows \(Public Preview\)](#)
- Alternatively, you can build Power BI reporting leveraging custom mapping for the marketing data stored on Azure Blob Storage.



## Status

Public preview

## Resources

[Create custom analytics with Power BI](#)

## New geographical and language support

For the October 2018 release, we will greatly expand the set of languages and geographies where Dynamics 365 for Marketing is available and supported.

### Language availability

Dynamics 365 for Marketing is currently available in 8 languages. We'll be adding 33 more.

Currently supported	Coming in October '18
Danish, Dutch, English, French, German, Italian, Japanese, Spanish	Arabic*, Basque, Bulgarian, Catalan, Chinese (Hong Kong), Chinese (Taiwan), Croatian, Czech, Estonian, Finnish, Galician, Greek, Hebrew*, Hungarian, Indonesian, Korean, Latvian, Lithuanian, Norwegian (Bokmal), Polish, Portuguese (Brazil), Portuguese (Portugal), Romanian, Russian, Serbian (Latin), Serbian Cyrillic, Slovak, Slovenian, Swedish, Thai, Turkish, Ukrainian, Vietnamese

\* Right-to-left (RTL) language support currently has the following limitations: the segmentation designer is usable, but shows its user-interface elements in the wrong order; and the supplied content samples (marketing-page templates, email templates, form templates, and event website) aren't provided in RTL layouts.

### Geographical availability

The geographical availability of Dynamics 365 for Marketing will be expanded to include all of the markets where Dynamics 365 for Sales is already supported.

Area	Currently supported	Coming in October '18
The Americas	Canada, United States	Argentina, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Curacao, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, St. Kitts and Nevis,

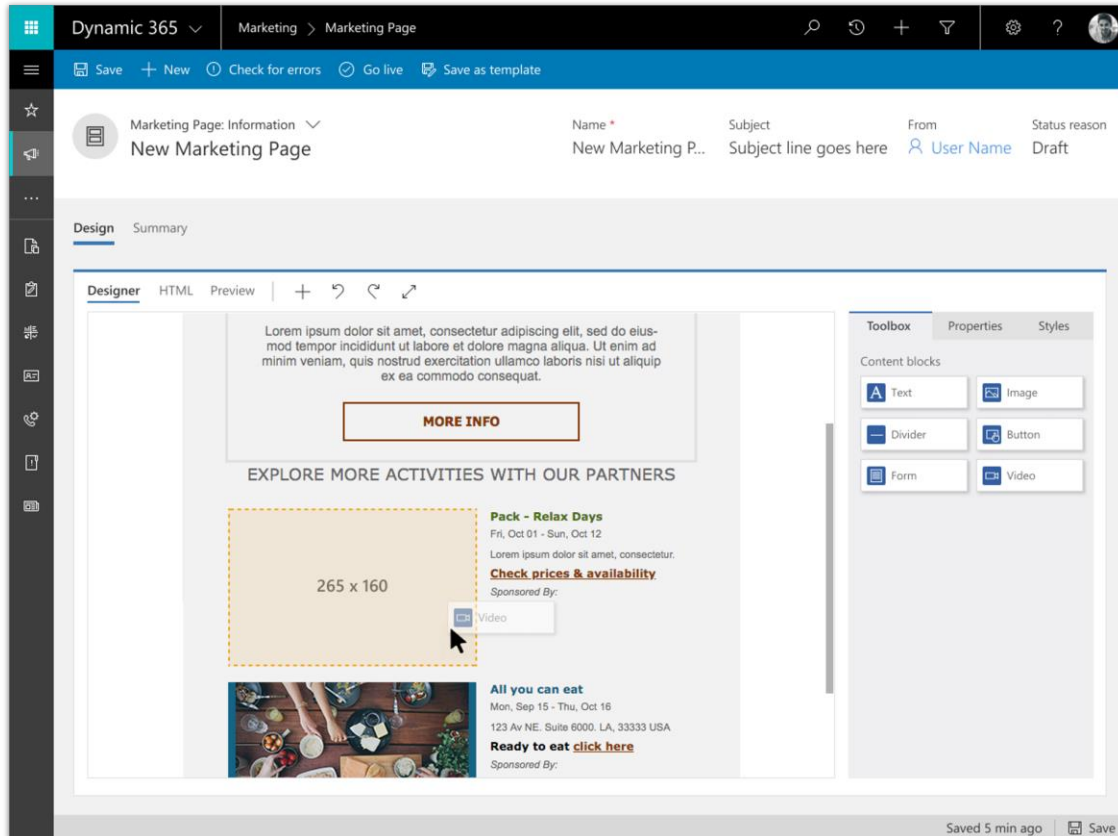
Area	Currently supported	Coming in October '18
		Trinidad and Tobago, Uruguay, Venezuela, Virgin Islands U.S.
Europe, Middle East, and Africa	Denmark, France, Germany, Italy, Netherlands, Spain, United Kingdom	Afghanistan, Albania, Algeria, Angola, Armenia, Azerbaijan, Austria, Bahrain, Belarus, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Cameroon, Cabo Verde, Cyprus, Côte d'Ivoire, Croatia, Czech Republic, Egypt, Estonia, Ethiopia, Faroe Islands, Finland, Georgia, Ghana, Greece, Hungary, Iceland, Iraq, Ireland, Israel, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Kuwait, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Macedonia (FYRO), Malta, Mauritius, Moldova, Monaco, Mongolia, Montenegro, Morocco, Namibia, Nigeria, Norway, Oman, Palestinian Authority, Pakistan, Poland, Portugal, Qatar, Romania, Russia, Rwanda, Saudi Arabia, Senegal, Serbia, Slovakia, Slovenia, South Africa, Sweden, Switzerland, Tajikistan, Tanzania, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uzbekistan, Zambia, Zimbabwe
Asia Pacific	Australia, Japan	Bangladesh, Brunei, Fiji, Hong Kong SAR, India, Indonesia, Korea, Macau SAR, Malaysia, Nepal, New Zealand, Philippines, Singapore, Sri Lanka, Taiwan, Thailand, Vietnam

## Videos in marketing content

Growing audience preference for audio/visual over written content has pushed marketers to start integrating video into their campaign and outreach strategies. Dynamics 365 for Marketing paves the way for video content to be added to marketing pages and emails.

Online videos are an essential part of marketing, and the fastest-growing medium for reaching newer and wider audiences. Dynamics 365 for Marketing provides native support for embedding videos in marketing communications.

The new videos feature in Dynamics 365 for Marketing adds a video block to the content designer. To add a video to any marketing page, just drag a video block from the designer's toolbox, drop it into place on your design, and choose which video to include.



*Just drag a video block to embed a video in your content*

## Status

Public preview

## Resources

[Create a video library and add videos to your designs](#)



# Sales

## Overview of Dynamics 365 for Sales October '18 release

Microsoft Dynamics 365 for Sales enables digital transformation by delivering productivity at scale and AI-driven analytics, and by modernizing the sales team collaboration through better-together integration across the Microsoft ecosystem.

The broad expansion to the sales suite allows organizations to modernize and extend their sales processes and applications with meaningful data at the core. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).)

Microsoft Dynamics 365 for Sales strives to be the most significant sales insights and productivity application suite on the solution stack of any type and size of sales organization. By combining crucial business data about sellers, buyers, products, organizations, and relationships that previously lived on disconnected data silos in CRM systems, social graphs, and email systems, Microsoft Dynamics 365 for Sales helps organizations empower information workers to make intelligent decisions and be more productive.

## Summary of what's new in Sales

This section lists the features planned for release between October 2018 and March 2019 in Dynamics 365 for Sales. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).)

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Playbooks</a>	General Availability	November 4, 2018
<a href="#">LinkedIn insights</a>	General Availability	November 2018

Feature	Release type	Date
<a href="#">Live org charts</a>	General Availability	November 8, 2018
<a href="#">Microsoft Teams integration</a>	Public Preview	November 20, 2018
<a href="#">Relationship Assistant extensibility</a>	General Availability	November 1, 2018
<a href="#">Dynamics 365 AI for Sales</a>	General Availability	October 31, 2018

## Empower sellers with Playbooks guided by event-driven sales activities

Dynamics 365 for Sales is introducing **Playbooks**, a new capability to help organizations automate repeatable sales activities and respond to external events.

In the age of the customer, buyers have the upper hand in the relationship with sellers. With nearly limitless access to information, they can dictate their own customer journeys, rather than follow a predefined business process. It is thus important to move from a reactive process-driven data repository on systems of record to proactive and predictive event-driven guidance engines that can suggest next best actions and surface relevant sales activities to successfully respond to external events.

One possible real-world application of Playbooks is the following scenario: If a decision maker and top champion of the product leaves the organization in the middle of a deal, this can become an event with the potential to jeopardize the entire commercial transaction. With Playbooks, however, automation can trigger a play that creates a set of tasks and activities needed to remedy the situation. A task to reach out to current contacts at the customer account and identify the new stakeholder could be immediately followed by an introductory phone call to better understand the new stakeholder's priorities. This carefully crafted orchestration of activities ensures that the new decision maker is successfully identified and turned into a new champion for the product so that the deal can be salvaged.

The new capabilities will allow organizations to:

- Configure Playbooks and define the set of tasks and activities to automate once triggered.
- Search and launch Playbooks for a particular scenario.
- Track the status progress of running Playbooks against their outcome, successful or not.

## Resources

[Enforce best practices with playbooks](#)

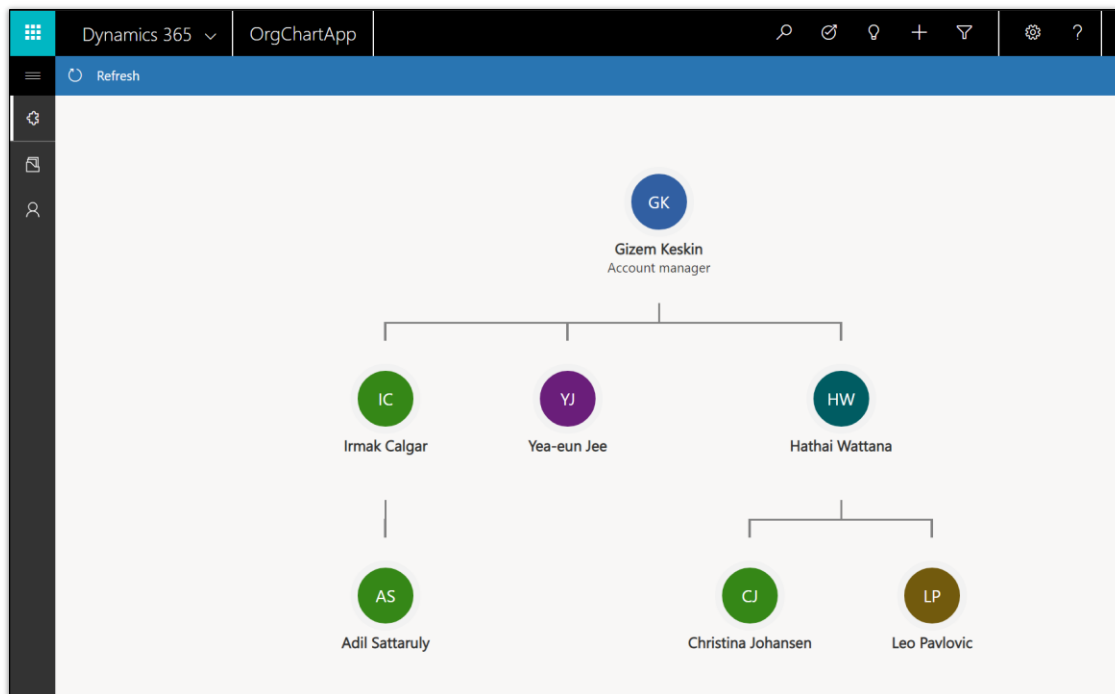
### Build intelligent sales applications and business processes powered by LinkedIn insights

Dynamics 365 applications powered by LinkedIn insights are taken to the next level by combining the modular and customizable **LinkedIn Sales Navigator controls** with the power and flexibility of **Dynamics 365 Business Process Flows**. Any business process, including the sales scenarios, can be created or enhanced to feature LinkedIn insights about people and companies, which help information workers complete the stages and steps accurately and quickly, driving the sales deals and other processes forward toward a successful conclusion. The insights include:

- Fundamental data about companies including size, industry, and location.
- Fundamental data about people including name, company, position, and years of experience.
- Icebreakers and conversation starters, which are the key common aspects to start the conversation with a warm engagement.
- A path to a warm introduction with connection lists that include first, second, and LinkedIn TeamLink connections that reach beyond the information worker's network by traversing their entire organization and the aggregate networks.
- Recommendations for people similar to a target lead or who play a key role in an organization.

## Organize contacts in live org charts for accounts

The live org chart lets salespeople maintain external organization charts for their accounts. Dynamics 365 users can build a hierarchy for existing accounts or use it as a starting point for adding contacts to a new account. The org chart also provides easy access to an embedded LinkedIn Sales Navigator widget, helping to ensure that contacts are kept up to date.



### *Live org chart on account form*

You'll find the org chart on the account form when hierarchy settings for contacts are enabled. Open the org chart from the command bar and add more context to your account.

More information: [Organize contacts in live org charts for accounts](#)

## Transform sales team collaboration through tight integration with Microsoft Teams

Today's salespeople are on twice as many teams compared to five years ago. They work with an average of six decision makers and 16 colleagues to close a deal. The modern sales environment requires faster collaboration with more people and more data. The Microsoft Teams integration with Dynamics 365 brings together the capabilities that salespeople need to collaborate more effectively

Sales professionals can connect a Microsoft Teams channel to any Dynamics 365 record. With the connected Microsoft Teams channel, sales teams can communicate more effectively through persistent chat sessions across the Microsoft Teams and Dynamics 365 records, ensuring no one misses the latest conversations.

Users can share and coauthor sales collateral with their entire team seamlessly from either Microsoft Teams or Dynamics 365. Files get stored in one central location, ensuring the entire team has easy, consistent, and secure access to the latest documents.

For more information, see [Preview: Integrate Dynamics 365 for Customer Engagement apps with Microsoft Teams](#).

## Extend Relationship Assistant with new insights

Relationship Assistant now supports extensibility. New insights can now be shown in the Relationship Assistant interface, with new card types created and displayed via an SDK. Further, direct integration to the Relationship Assistant configuration enables a seamless experience for card enablement.

More information: [Create custom cards in Relationship assistant](#)

## Dynamics 365 AI for Sales

Empower your sales teams with insights to help them close deals faster. Help managers evaluate and improve the performance of their teams. For more details on this new offering for Dynamics 365 customers, see the full set of AI for Sales capabilities here: [Summary of what's new in Artificial Intelligence business applications](#)



# Service

## Overview of the Service October '18 release

The October '18 release introduces new investments in service areas, including Customer Service, Field Service, and the Dynamics 365 Portal. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

The latest release of **Dynamics 365 for Customer Service** enables holistic customer engagement across various touchpoints, while improving operational efficiency and organizational productivity. Among the new features is service scheduling powered by Universal Resource Scheduling.

The **Omni-channel Engagement Hub** is a cloud-based service that enables businesses to instantly connect and engage with their customers via newly introduced channels: live chat and SMS. The modern, customizable, and high-productivity app allows agents to engage with customers across different channels via a unified interface.

New investments in **Unified Service Desk** for Dynamics 365 enable it to host web apps using the Microsoft Edge web browser. You also can configure it using the Administrator App built on the Unified Interface framework.

The **Dynamics 365 Portal** October '18 release provides a tool that can aid in diagnosing portal settings and customization.

**Dynamics 365 for Field Service** further empowers field service organizations to provide more advanced capabilities that match real-world scenarios. Work orders with multiple resources can be defined and scheduled. Customer expectations can be defined and met through entitlement and SLA functionality.

With **Dynamics 365 for Project Service**, the focus was on functional and usability improvements that customers have requested. New features include adjustments to approved time, expense, and journal lines; support for multiple time units on a single price list; and configuring a unit of time for estimating work on project tasks.

## Overview of Dynamics 365 for Customer Service October '18 release

Dynamics 365 for Customer Service continues to deliver capabilities that empower organizations to deliver efficient and effective customer service to their users. With the latest release, we have focused on enabling user productivity through new experiences, bringing actionable intelligence within customer service operations, and enhancing operational efficiency.

With the new service scheduling solution built on the powerful Universal Resource Scheduling (URS), customers can now work with existing constructs such as service activities while leveraging URS capabilities like resource search and resource sorting, thus enabling effective scheduling.

As part of the latest release, the Customer Service Admin experience is now available within Customer Service Hub, enabling easy, single-point configurations.

Intelligent assistance in the form of suggesting similar cases and recommending knowledge articles helps provide intelligent insights to Customer Service agents and facilitate quicker and effective case resolution, leading to improved KPIs.

With Relevance search in Knowledge Base Search Control on Unified Interface, agents get the knowledge article results with improved performance and accuracy within the context of case management.

**NOTE** To see the list of new features available on on-premises for customer service, see [Features that are new to the next release of Dynamics 365 for Customer Engagement applications, on-premises](#).

### Summary of what's new in Dynamics 365 for Customer Service

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Service scheduling powered by Universal Resource Scheduling</a>	General Availability	November 20, 2018
<a href="#">Customer Service admin settings</a>	General Availability	November 2018

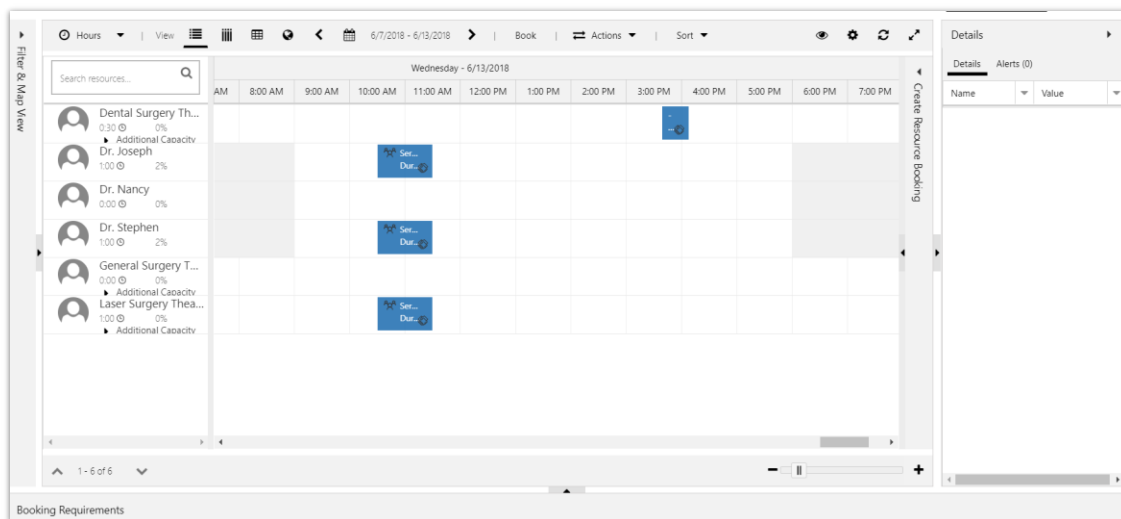
Feature	Release type	Date
<a href="#">Suggest similar cases</a>	General Availability	December 2018
<a href="#">Relevance search for knowledge management</a>	General Availability	October 1, 2018
<a href="#">Knowledge article recommendations</a>	General Availability	December 2018

### Service scheduling powered by Universal Resource Scheduling

Service scheduling provides organizations with an efficient way to schedule complex combinations of resources by considering the availability of employees, facilities, and equipment. It benefits organizations in improving service quality and preventing over-scheduling with predictable workloads for employees, as well as ensuring reliable time estimates for customers and clients.

The new service scheduling solution built atop Universal Resource Scheduling (URS) allows customer service organizations to work with the existing constructs such as Services and Service Activities, while leveraging the power of URS functionalities such as Schedule Board - Filter View, Resource search, Resource sorting, and hours/day/week/month view of service activities.

Customers currently using service scheduling on Web Client will be provided with a detailed migration guide to upgrade to the latest solution.



*Universal Resource Scheduling*

## Resources

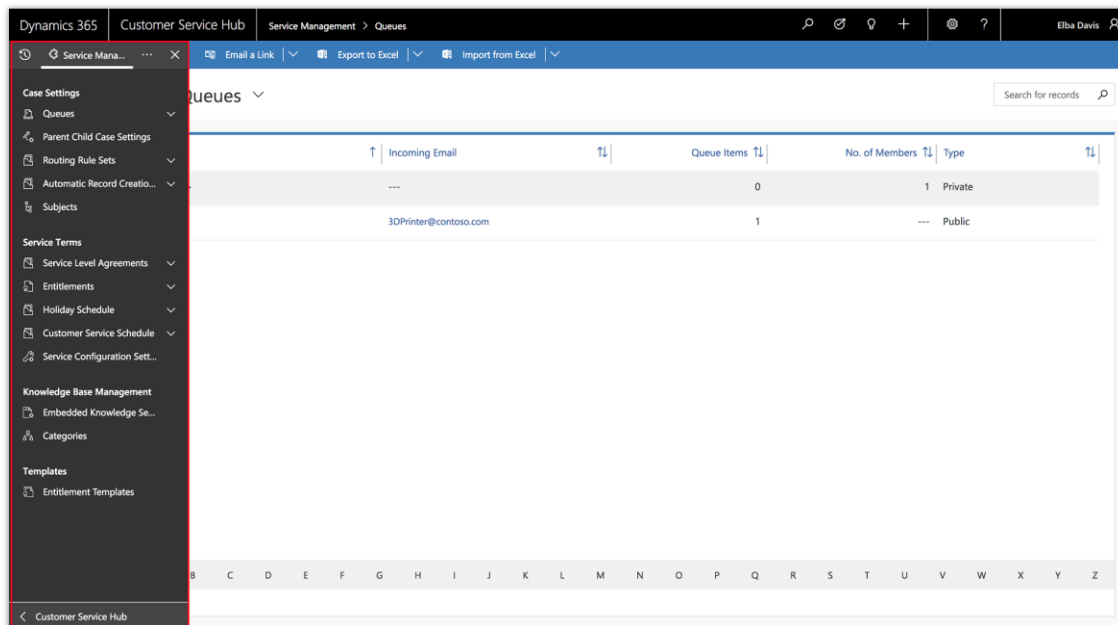
### [Service Scheduling Guide](#)

## Customer Service admin settings

One of the key goals for Dynamics 365 customers is quick deployment of their business processes. The Service Management module helps customer service managers automate various customer service processes, improve agent turn-around time, and lead toward optimum customer satisfaction. Service Management provides an admin the ability to configure and manage customer service tasks such as configuring public or private queues, setting up parent-child case settings, configuring routing rules, configuring automatic record creation and update rules, and setting up service level agreements (SLAs), among other capabilities.

With the latest release, Service Management moves under the Customer Service Hub, enabling customer service managers to access the configurations from inside the application. Built on the Unified Interface, the new Service Management helps to easily configure service tasks, enabling increased productivity.

You can access Service Management through the sitemap in the Customer Service Hub:

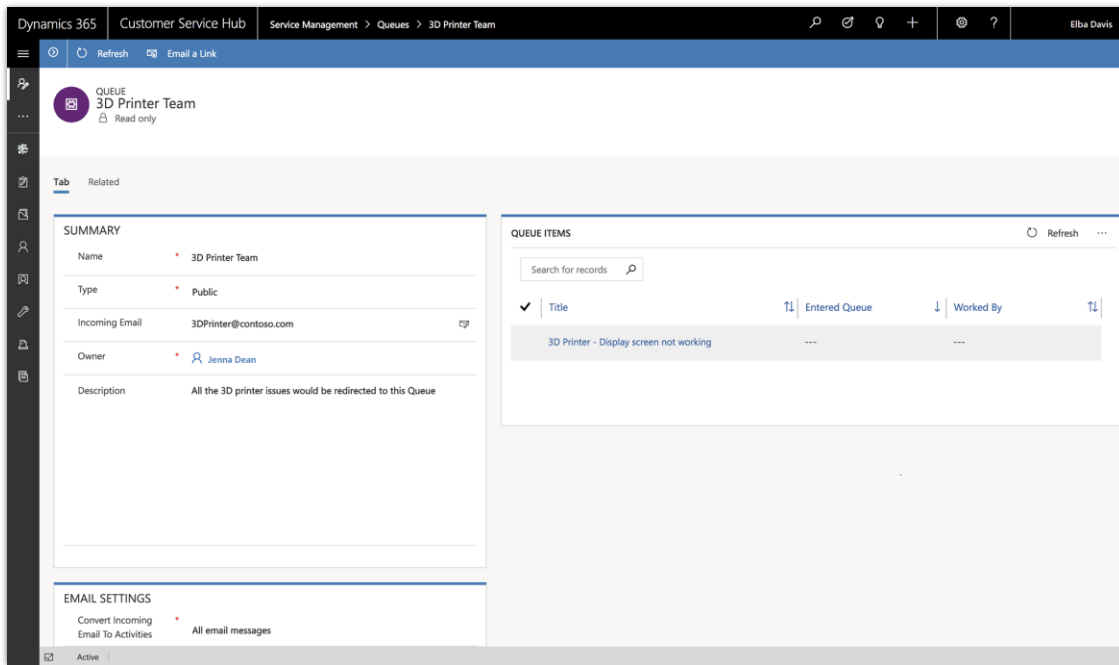


### *Accessing Service Management through the sitemap*

**NOTE** With the October '18 release, you can access and manage all admin settings from the Customer Service Hub sitemap except for **Routing Rule sets**, **Automatic Record Creation**, and **Service Level Agreements**. To access and manage these three admin settings, go to **Settings > Service Management** in the web application. These three admin settings (Routing Rule sets, Automatic Record Creation, and Service Level Agreements) will be available in the Customer Service Hub sitemap beginning with the April '19 release.

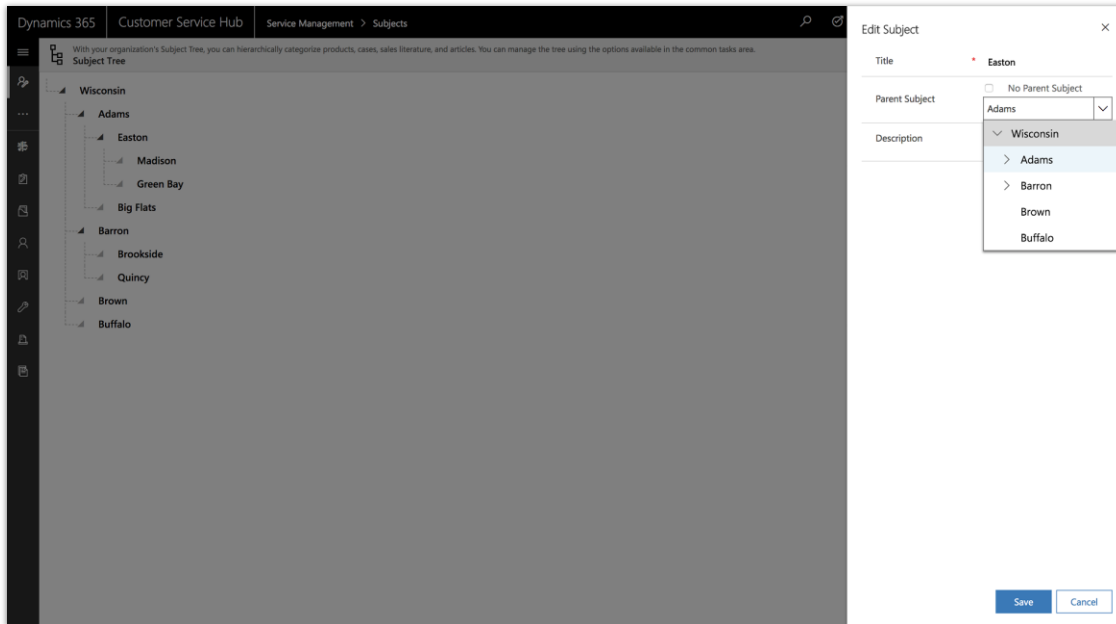
Within Service Management, you can customize various features. These include:

- **Queues:** Queues in Service Management come with a redesigned experience that helps to appropriately prioritize and monitor the progress of the assigned work.



*Using queues in Service Management*

- **Subjects:** Subjects are a powerful mechanism to classify cases, knowledge base articles, products, and sales literature, thereby empowering agents and facilitating quick responses to customers.



### *Using subjects in Service Management*

- **Case settings:** With the Parent-Child case settings, cases can be linked together, enabling better response and tracking for common issues.
- **Routing rules:** Routing rules help automatic routing of cases to the right queue, user, or team without any manual intervention.
- **Automatic record creation and update rules:** These rules allow automatic creation or update of a case or related record based on incoming activities like email, social activity, or other categories of activities.

- **Entitlement:** Entitlements help define and quantify the support for which a customer is eligible. The support terms can be specified based on number of hours or number of cases.

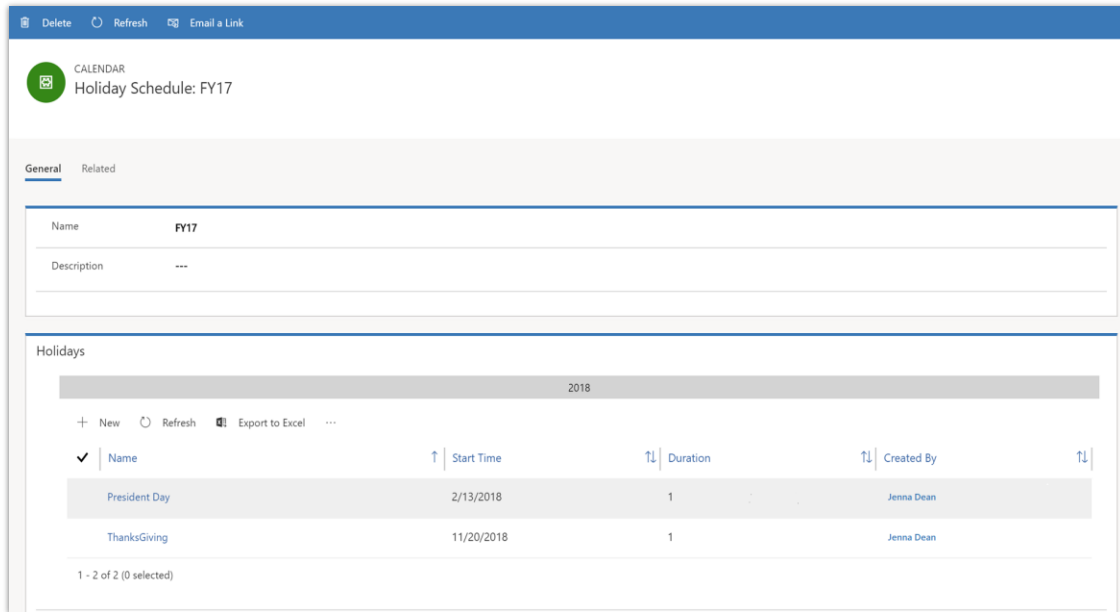
The screenshot displays the Dynamics 365 Customer Service Hub interface for an Entitlement record. The record is titled 'ENTITLEMENT Coho' and is associated with the customer 'Coho'. The interface is divided into several sections:

- General Information:**
  - Name: Coho
  - Primary Customer: Coho
  - Start Date: 6/1/2018
  - End Date: 6/30/2020
  - Restrict based on entitlement terms: Yes
  - SLA: ---
  - Owner: Jenna Dean
  - Description: ---
  - Is Default:
- ENTITLEMENT TERMS:**
  - Allocation Type: Number of cases
  - Decrease Remaining On: Case Resolution
  - Total Terms: 100.00
  - Remaining Terms: 100.00
- ENTITLEMENT CHANNEL:**
  - Table with columns: Name, Total Terms, Remainin...
  - Row: Email, 50.00, 50.00
- PRODUCTS:**
  - Search for records: [Search]
  - Table with columns: Name, Product ID, Product Type
  - Message: No data available.
  - Summary: ABC 0 - 0 of 0 (0 selected)
- CONTACTS:**
  - Search for records: [Search]
  - Table with columns: Full Name, Email, Company Name
  - Row: Jenna Dean, ---, ---

### Using entitlements

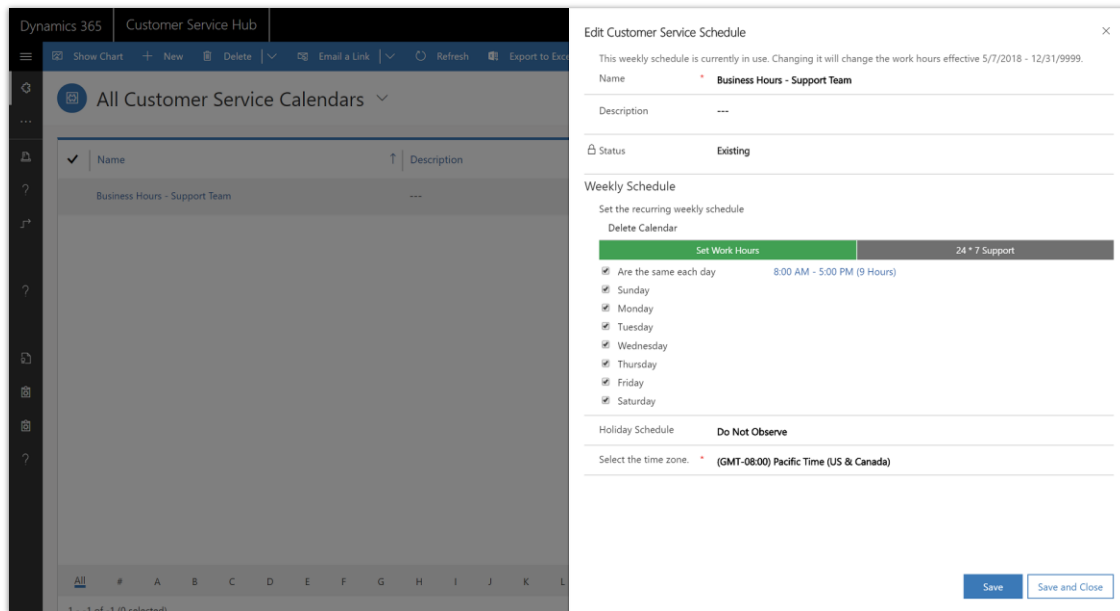
- **Entitlement templates:** Entitlement templates enable a quick configuration experience by allowing reusable templates for setting up entitlements.

- Holiday schedule:** Holiday schedule lets you accommodate holiday closures so that the SLA is not impacted.



*Scheduling holidays*

- Customer service schedule:** Customer service schedule can be used to define the business hours for your team.



*Setting customer service schedule*



- **Service level agreements:** Service level agreements are used for agreement on milestones of the service tasks. Service level agreements adhere to the configurations defined in the holiday schedule and customer service schedule.
- **Knowledge management settings:** Knowledge management settings are used to enable entities for knowledge management and text analytics.

## Resources

[Service Manager Guide \(Customer Service Hub and Customer Service app\)](#)

## Suggest similar cases

Resolving a customer service issue during the first contact and within minimal time helps organizations with increased customer satisfaction (CSAT) and reduced operations cost. Typically, in a customer service organization, experienced customer service agents or subject matter experts (SMEs) resolve issues faster based on knowledge or experience gained over a period of resolving similar issues. If agents get a case outside their areas of expertise, transferring the case to an expert agent or consulting an SME leads to increased customer effort and call handling time, resulting in reduced CSAT.

Intelligent insights on similar cases help customer service organizations empower agents with knowledge and expertise that was otherwise available only with experienced agents. Suggestions on similar cases help in leveraging resolution steps across the organization, thus making an inexperienced agent as productive as an experienced one.

The screenshot displays the Dynamics 365 Customer Service Hub interface for a case titled "Product damaged during delivery". The case is in "In Progress" status, created on 5/30/2018 at 6:00 AM, with a "Normal" priority. The process flow includes "Identify", "Research", and "Resolve (17 D)".

The "GENERAL INFORMATION" section shows the account "Coho Winery" with contact details for Jenna Dean. The "TIMELINE" section lists recent activities such as a phone call and a task from Doris Duke. The "RELATED" section, highlighted with a red box, lists "SIMILAR CASES" with titles and modification dates, including "Product feature information requir...", "Damaged during shipment (sample)", "Faulty product catalog (sample)", "Information on the product (sample)", "Item defective on delivery (sample)", "Noise from product (sample)", and "Delivery never arrived (sample)".

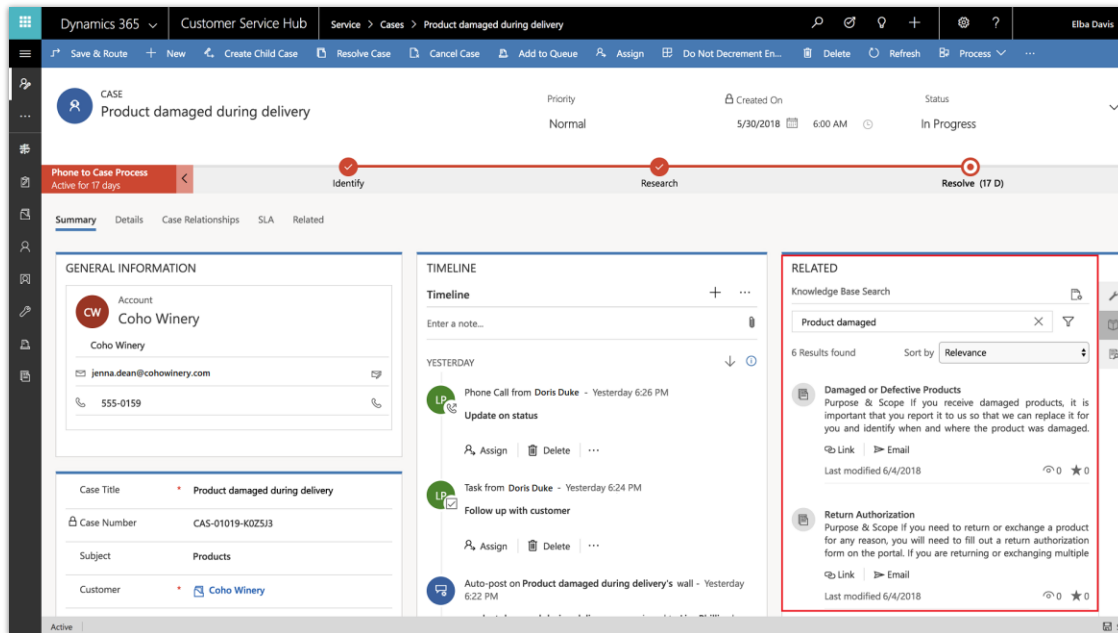
*Example of similar cases*

## Knowledge article recommendations

For any customer service organization, knowledge management is vital for improved customer experience and agent productivity. This feature leverages Relevance search to provide knowledge article recommendations based on related entities' data. This gives agents faster access to relevant and contextual knowledge articles, helping them resolve cases quickly.



The following screenshot shows knowledge article recommendations in Dynamics 365 for Customer Service:



*Displaying knowledge article recommendations*

## Relevance search for knowledge management

Dynamics 365 knowledge base search control delivers knowledge to agents within the context of case management. It is now powered by relevance search to deliver results with improved performance and accuracy.

This feature helps agents choose the most relevant articles quickly by highlighting search term matches in the results list. Moreover, admin customizations help display only the necessary fields in the results list, enabling the agents to obtain essential information at first view. Additionally, agents can search in notes and attachments of knowledge articles from within the case form.

Agents can use this enhanced search on KB search control by default, once the organization is enabled for relevance search. This does not require any additional configuration.

This capability is now available on the Unified Interface Customer Service Hub app in addition to Web Client, where it is already available.

## Resources

[Search for knowledge articles using Relevance search](#)



## Overview of Omni-channel Engagement Hub October '18 release

The Omni-channel Engagement Hub for Dynamics 365 is a cloud-based service that extends the power of Dynamics 365 for Customer Service to enable customers to instantly connect and engage with their customers via newly introduced channels: live chat and SMS.

Omni-channel Engagement Hub provides a modern, customizable high-productivity app that allows agents to engage with customers across different channels via a unified interface. This app offers contextual customer identification, integrated follow-on actions (for example, create a case/lead), and real-time conversation alerts to ensure agents are working effectively.

Supervisors get real-time visibility and insights into the operational efficiency of agents and the utilization across various channels. The enterprise-grade routing and work distribution engine allows customers to configure agent presence, availability, and business priorities, thus ensuring agents are working on the most relevant interactions.

In addition to enabling operational efficiency and visibility, Omni-channel Engagement Hub delivers intelligent insights consisting of information gathered across various engagement channels and the underlying business data. It also enables supervisors to manage agent productivity and channel efficiency by creating, managing, and tracking relevant channel-specific and cross-channel KPIs.

### Summary of what's new for Dynamics 365 Omni-channel Engagement Hub

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Agent experience</a>	Public Preview	January 2019
<a href="#">Unified routing and work distribution</a>	Public Preview	January 2019
<a href="#">Live chat channel</a>	Public Preview	January 2019
<a href="#">SMS channel</a>	Public Preview	February 2019

Feature	Release type	Date
<a href="#">Channel Integration Framework</a>	General Availability	December 10, 2018

## Agent experience

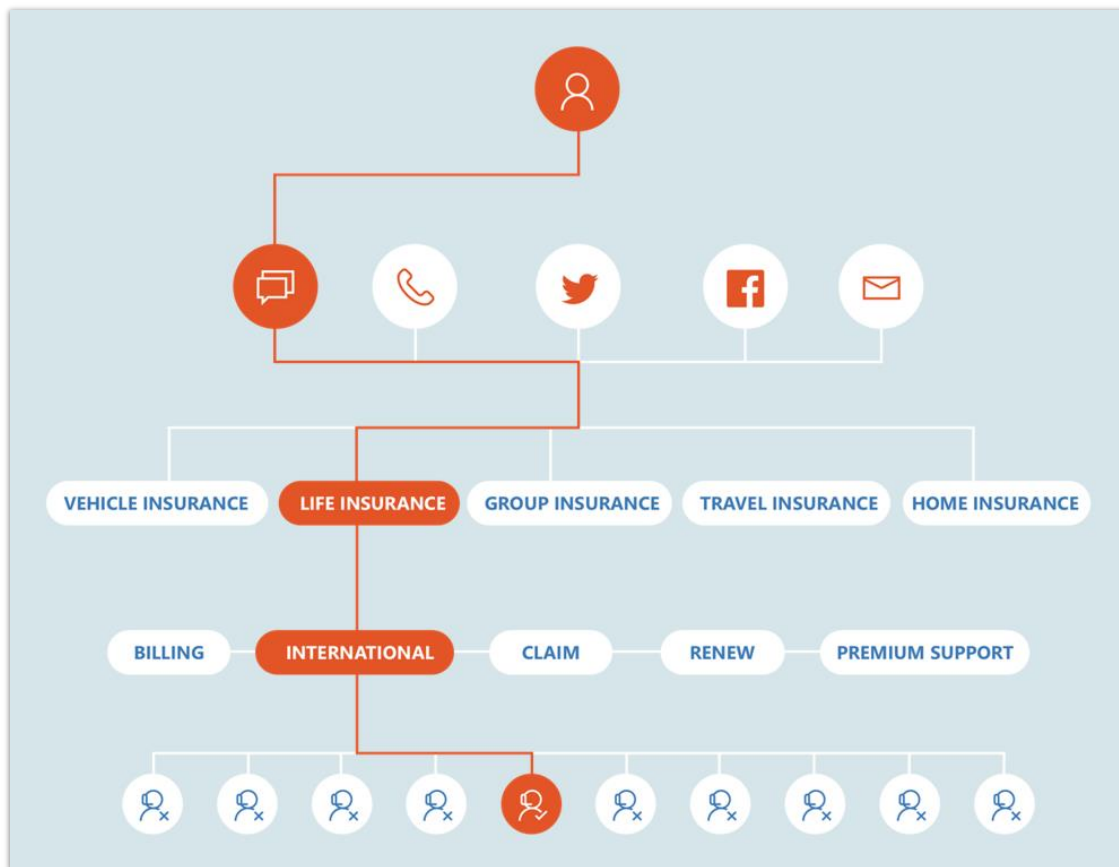
Agents are able to serve customers across all channels from a consistent, easy-to-learn interface. By providing a consistent experience regardless of the support channel, service organizations are able to maximize agent productivity as well as reduce training needs. The ability to handle multiple sessions simultaneously while preserving customer context allows agents to resolve issues faster and meet the KPI goals of the organization.

Key capabilities for agent experiences include:

- Rich multisession experiences for enhanced agent productivity delivered using Unified Service Desk.
- Contextual 360-degree view of customer.
- Contextual view of the current issue.
- Recent interactions with the customer.
- Presence control for efficiently managing work distribution.
- Screen-pops and notifications.
- Search, preview, and sharing of relevant knowledge articles within the context of a session.

## Unified routing and work distribution

Organizations can leverage the unified routing and work distribution capabilities to route work items originating from chat, messaging, and web portal channels to different customer service support teams within the organization. Through the configuration interfaces, organizations can tightly define the work profile that their agents are supposed to handle. During runtime, the system will automate the flow of work to various agents based on their capacity and availability.



### *Example of unified routing and work distribution*

The unified routing and work distribution system can enable organizations to achieve the following objectives:

- Agent attention is always used for the most urgent tasks.
- Organizations can track agent utilization at a granular level and make appropriate process improvements.
- Unify the work items and requests across channels and asynchronous work items like cases, leads, call backs, and scheduled tasks.

### **Live chat channel**

A strategic shift toward conversational messaging among consumers has encouraged organizations to add support beyond traditional customer interaction channels like email and phone. Live chat with its faster problem resolution and customer convenience has emerged as one of the drivers of this new trend.

### Key capabilities of live chat channel

- Quick and easy provisioning of multiple chat widgets
- Authenticated and unauthenticated visitor support
- Set up pre-chat, post-chat, and offline surveys
- Customize chat widget theme based on org preferences

### SMS channel

SMS channel is a powerful mechanism for organizations to reach and interact with their customers in a timely and convenient manner.

#### Key capabilities of SMS channel

- Two-way texting between customers and agents.
  - Scenario: Customers can interact with organizations for product inquiry, installation query, support issues, and so on through texts.
- Updating customers with automated SMS notifications.
  - Scenario: Notifications to the customer during case creation, case resolution, appointment reminder, and more.
- Automated response management.
  - Scenario: Welcome message, thank you message, and so on can be automatically sent to customers.

### Channel Integration Framework

The Dynamics 365 Channel Integration Framework enables building immersive communication experiences with third-party channel providers.

These are the benefits of this framework:

- **Bring your own channel providers into Dynamics 365.** The framework allows you to embed communication widgets in the Unified Interface apps, which can communicate with Dynamics 365 using a standard API set. The framework is inherently channel-agnostic, and can be used to integrate communication widgets catering to one or many of the different channels—for example, voice, chat, and email.
- **Minimize total cost of ownership with cloud-based solutions.** It is a platform-independent, browser-independent, and zero footprint (no adaptors need to be deployed

on agent desktops) framework for integrating communication widgets. Dynamics 365 will provide a plug and play configuration mechanism for communication widgets based on the framework, making it easy to deploy, manage, and upgrade.

- **Customize for your business workflows.** With this framework, many key communication scenarios, such as search and screen pop based on incoming communication parameters (such as phone number) and click to dial, can be automated. It also provides ways to perform CRM operations like creating a new record or updating an existing record from the communication widget.



## Overview of Unified Service Desk October '18 release

Unified Service Desk for Dynamics 365 provides a configurable framework for quickly building applications for call centers so that agents can get a unified view of the customer data stored in Dynamics 365. As part of the October '18 release, you can:

- Use Unified Service Desk to host web applications like Dynamics 365 pages (Web Client and Unified Interface) using the Microsoft Edge web browser.
- Configure Unified Service Desk using the administrator app built on Unified Interface framework. This capability is in addition to the existing Web Client configuration experience.

**NOTE** The next version of Dynamics 365 Customer Engagement (on-premises) will support only Unified Service Desk 4.0 and higher versions.

### Summary of what's new in Dynamics 365 Unified Service Desk

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Using edge process for hosting web applications in Unified Service Desk</a>	Public Preview	December 17, 2018
<a href="#">Unified Service Desk admin experience on Unified Interface</a>	General Availability	April 2019

### Using Edge process for hosting web applications in Unified Service Desk

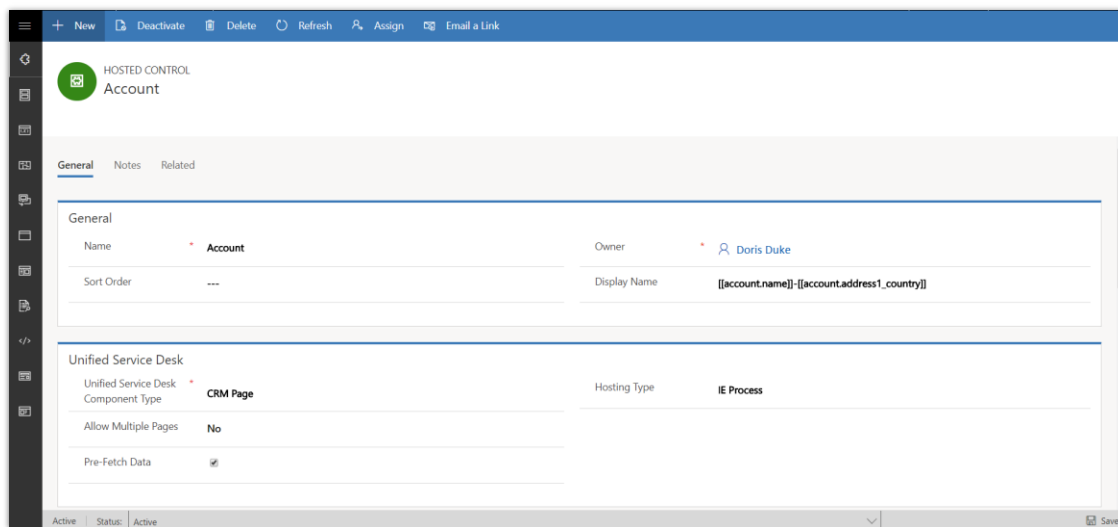
Administrators will be able to configure the Microsoft Edge browser to open web applications in Unified Service Desk. This will bring the performance and reliability enhancements of Microsoft Edge to Unified Service Desk users, along with other benefits that a modern browser like

Microsoft Edge brings. This preview capability will be available only for deployments upgraded to the latest version of the Windows 10 operating system.

## Unified Service Desk admin experience on Unified Interface

Unified Service Desk for Dynamics 365 provides a configurable framework for quickly configuring applications for call centers so that agents can get a unified view of customers from Dynamics 365 and from other line-of-business applications.

With this release, you can now configure Unified Service Desk on Unified Interface. This new experience is in addition to the existing Web Client experience. The new experience built on Unified Interface provides benefits such as faster, responsive, and adaptive UI along with accessibility compliance.



*Unified Service Desk admin experience*

## Overview of Dynamics 365 Portal October '18 release

Dynamics 365 Portal enables organizations to easily extend entities, features, and functions of Dynamics 365 to external audiences like customers and partners.

In the October '18 release, we have invested in a tool that can aid in diagnosing portal settings and customization. We have also invested in integrating the portal with other Microsoft services and in simplifying the customization experience of the portal.

### Fundamentals

With a series of platform changes over the last few months, Dynamics 365 Portal is now more reliable and performant than ever. You will see improvements across the board spanning provisioning and solution updates to improvements in cache latency. In this release, we continue to prioritize improving the fundamentals of the product with a self-serve tool to diagnose potential issues with portal settings and customization.

### Integration with other Microsoft services

We have focused on providing a seamless and consistent experience to portal users using Office 365 and other Microsoft services. With our *SharePoint Integration*, portal users can upload and view documents from the SharePoint online document library, enabling businesses to leverage their investments in SharePoint. In addition, we are providing the ability to *embed Power BI charts* within a portal, allowing users to benefit from the interactive visualizations of Power BI.

### Usability

Most, if not all, customers end up customizing their portal to meet their unique look and feel and process needs. We have reimagined key customization experiences, making them simple, intuitive, and modern.

## Summary of what's new in Dynamics 365 Portal

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Configuration migration</a>	General Availability	October 22, 2018
<a href="#">Embed Power BI visualizations</a>	General Availability	October 22, 2018
<a href="#">Restrict portal access by IP address</a>	General Availability	October 22, 2018
<a href="#">Manage SharePoint documents</a>	General Availability	October 22, 2018
<a href="#">Simplified customization</a>	Public Preview	October 22, 2018
<a href="#">Self-service portal diagnostics</a>	General Availability	January 2019
<a href="#">Enable voting for status reasons</a>	General Availability	October 22, 2018

## Configuration migration

Portal development involves several configurations and customizations to achieve a desired experience for portal end users. To reduce the time and effort required to manage portal configuration across environments, we are publishing schema for configuration migration that works with the [Configuration Migration SDK tool](#).

Portal customizers use various ways, including creation of schema files from scratch, for the Configuration Migration SDK tool to move configurations to different environments, typically development, test, and production. Creating schema from scratch can be time-consuming, sometimes causing partial data migration, and can be error-prone.

All Configuration Migration SDK tool capabilities can be used with this schema to manage portal configuration:

- **Create schema:** The schema can be tailored for the implementation using standard ways provided by the tool. Schema files can be loaded in the tool and altered to add, remove, and modify entities, attributes, and so on to suit configuration migration needs.
- **Export data:** Use the schema file to export data from an environment into a .zip file, and use it for backup, source control, or importing into a target environment.
- **Import data:** Use the exported data to import into a target environment.

## We'd like to thank

Thank you for submitting [this idea](#) with votes and comments that helped us prioritize it.

## Resources

[Migrate Dynamics 365 Portal configuration](#)

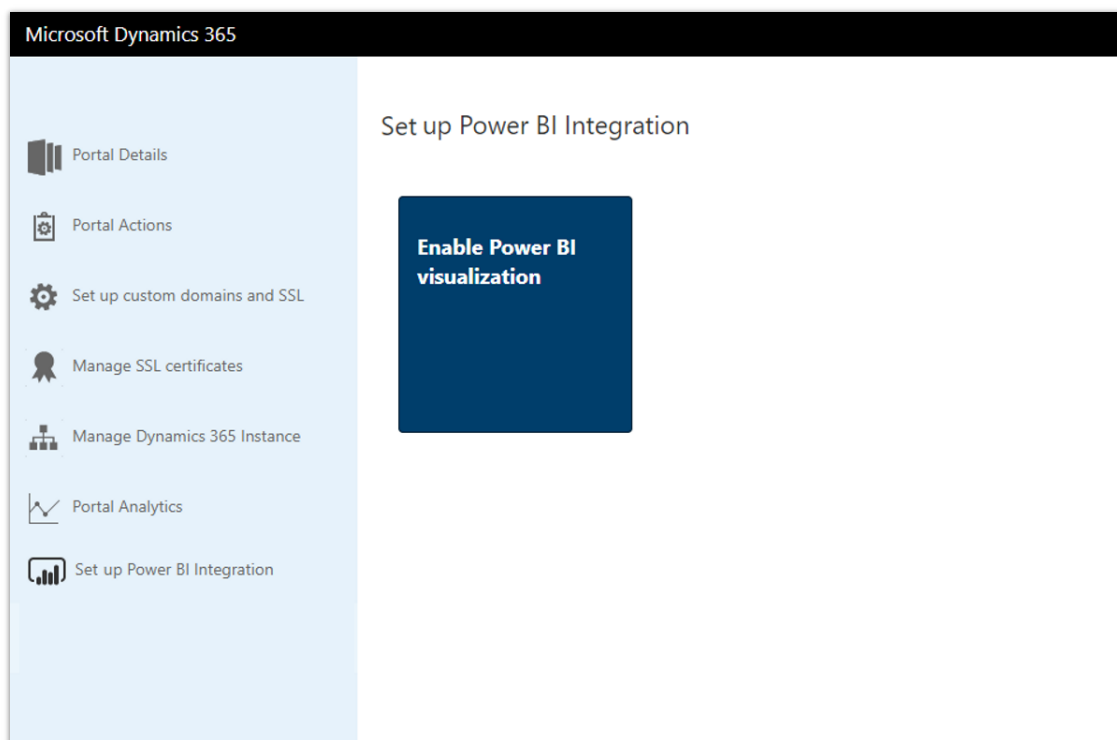
## Embed Power BI visualizations

[Power BI](#) is one of the best tools to deliver insights with simple and interactive visualization. Considering Power BI features and the use cases it enables for portal users, this feature remains one of the top-voted ideas.

Currently, embedding secure Power BI reports in a portal is a complex task. It includes writing custom logic to handle and manage security token. This feature streamlines the Dynamics 365 Portal and Power BI integration.

## Enable Power BI

Administrators will be able to configure and enable Power BI for a portal. This will require an appropriate Power BI license.



*Enable Power BI integration from Portal Admin Center*

## Add Power BI visualization

Customizers can use Liquid code to embed Power BI dashboards and reports within pages. While embedding the Power BI content, customizers can use [filter parameters](#) to create personalized views. The powerbi Liquid tag embeds the Power BI dashboards and reports within pages.

```
{% powerbi path:"https://app.powerbi.com/view?r=eyJrIjoInjMzZTY1ZTI0MDE2My00NGY5LWlwYmItNjUwMGY5NzEY3IiwidCI6IjU3NGMzZTU2LTQ5MjQ5NDZDFhLWQ4NDI3ZTdkYjI0MSi0jz9" %}
```

### Parameters

The powerbi tag accepts the following parameters:

#### path

Path of the Power BI report or dashboard. If the Power BI report or dashboard is secure, you must provide the authentication type.

#### authentication\_type

Type of authentication required for the Power BI report or dashboard. Valid values for this parameter are **Anonymous** or **AAD**. The default value is **Anonymous**.

While adding the secure Power BI report or dashboard, ensure that it is shared with Dynamics 365 Portal Azure Active Directory authenticated users.

```
{% powerbi authentication_type:"AAD" path:"https://app.powerbi.com/groups/00000000-0000-0000-0000-000000000000/reports/00000000-0000-0000-0000-000000000001/ReportSection01" %}
```

#### tileid

Displays the specified tile of the dashboard. You must provide the ID of the tile.

```
{% powerbi authentication_type:"AAD" path:"https://app.powerbi.com/groups/00000000-0000-0000-0000-000000000000/dashboards/00000000-0000-0000-0000-000000000001" tileid:"00000000-0000-0000-0000-000000000002" %}
```

## We'd like to thank

Thank you for submitting [this idea](#) with votes and comments that helped us prioritize it.

## Resources

[Set up Power BI integration](#)

## Restrict portal access by IP address

Security is a key concern for applications and it becomes more paramount for an external-facing application like Dynamics 365 Portal. As part of this release, we will add capabilities for customers to be able to restrict access to their portals from certain IP addresses. This will help organizations that are looking to restrict their portals from fixed locations like internal company networks. Also, this will help customers who are in a development phase and want to make sure their data doesn't get leaked because of a bad configuration.

This feature would allow administrators to define a list of IP addresses that are allowed to access your portal. The allow list can include individual IP addresses or a range of IP addresses defined by a subnet mask. When a request to the portal is generated from any user, their IP address is evaluated against the allow list. If the IP address is not in the list, the portal replies with an HTTP 403 status code.

### Resources

[Restrict portal access by IP address](#)

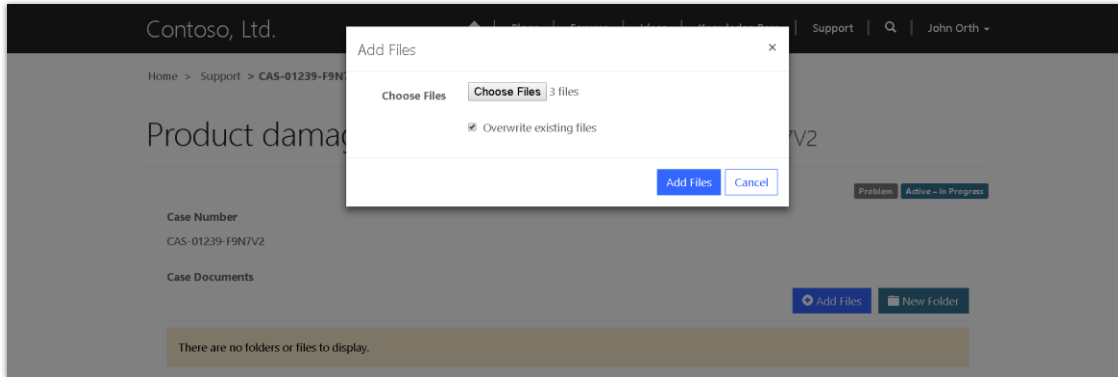
## Manage SharePoint documents

This feature extends document management capabilities of Dynamics 365 applications to portals, providing a consistent experience and allowing customers to leverage their existing investments in SharePoint with Dynamics 365 for document management.

Documents associated with entity records can be managed by portal users as they are stored in a SharePoint document library, thus also enabling businesses to leverage the seamless collaboration capabilities offered natively by SharePoint.

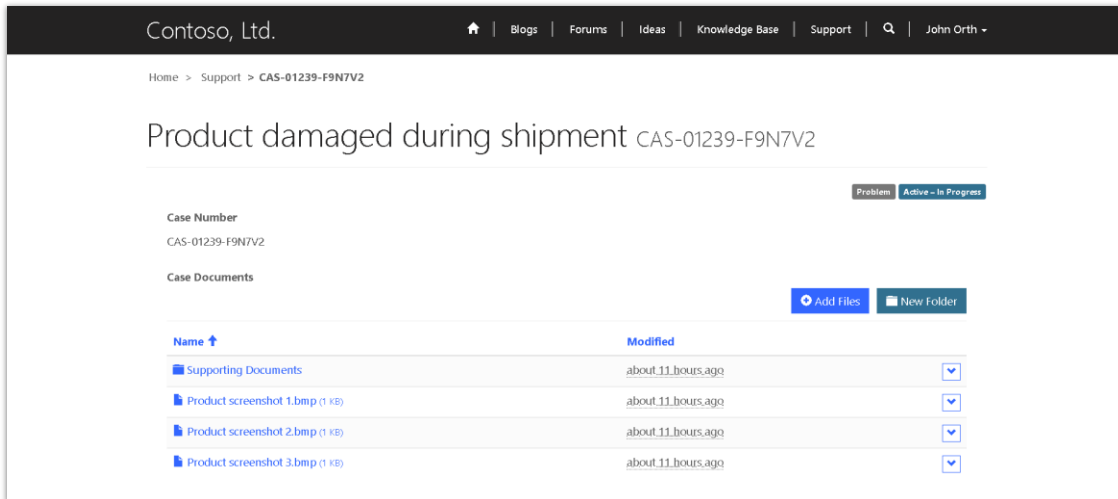
SharePoint Online document libraries configured with entities in Dynamics 365 can be surfaced via portal entity and web forms. This allows portal users to perform the following actions:

## Add documents



*Add files to a case record*

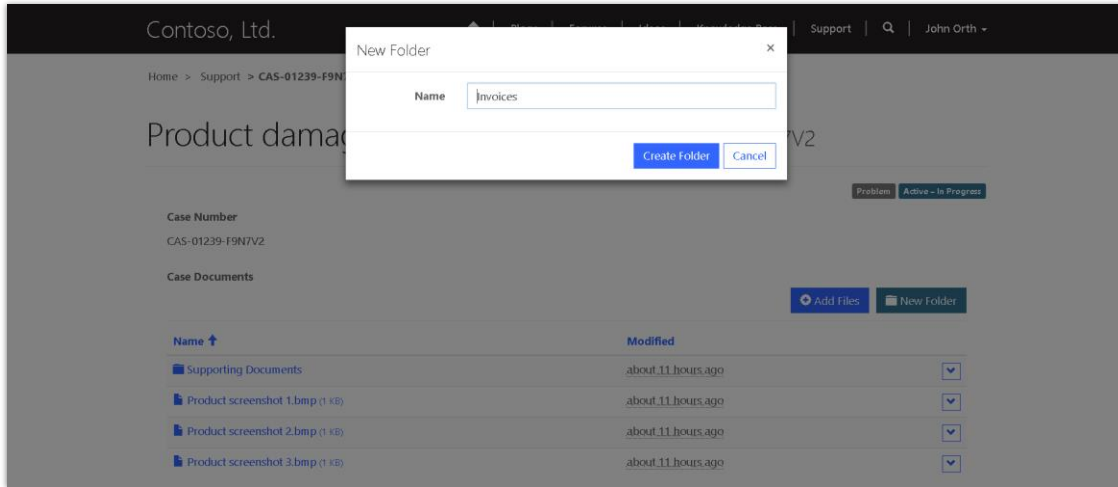
## View and download documents



*View documents related to a case record*

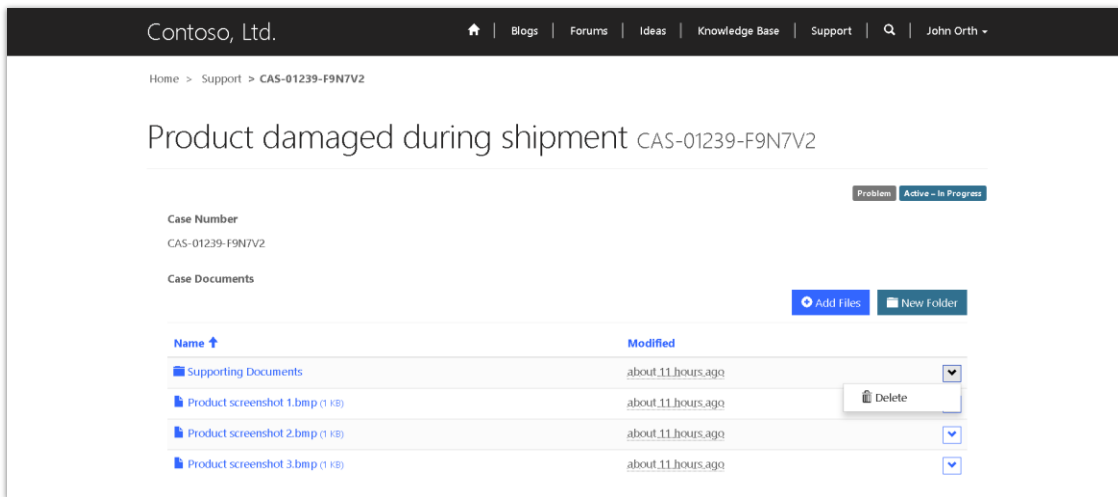


## Create folder



*Create subfolder within document list to organize files*

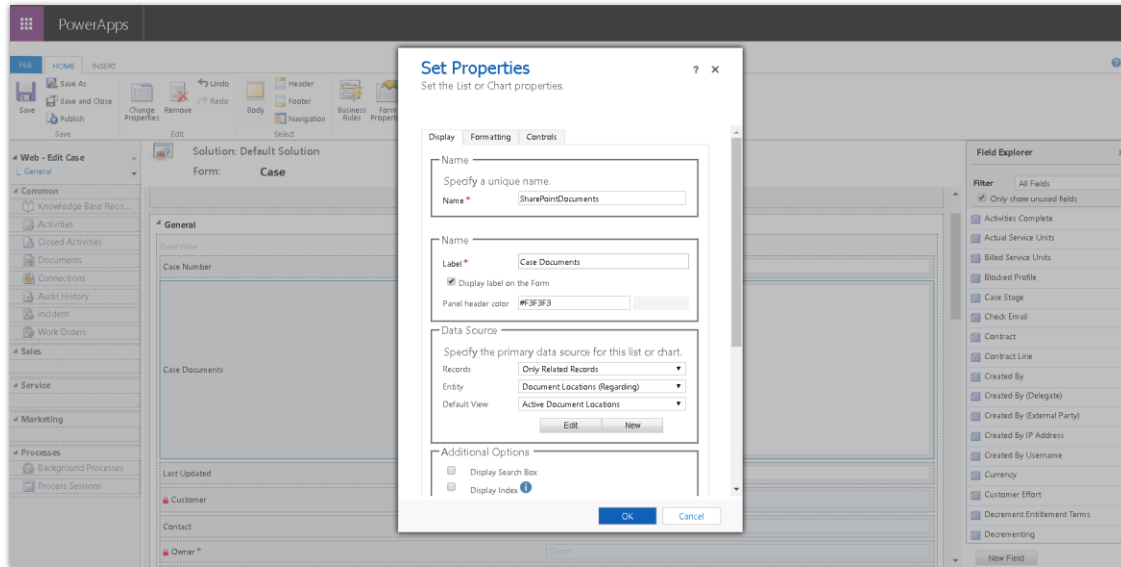
## Delete document



*Delete files from a case record*

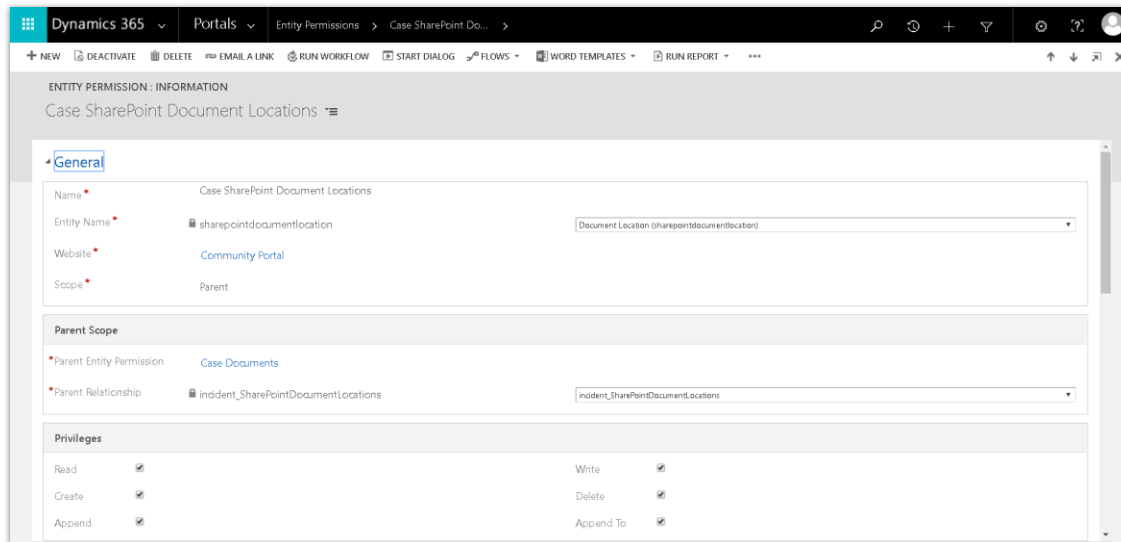
## Quick steps

### Configuring document list on entity forms



### Configure document list subgrid on case entity form

### Configuring permissions on document list



### Configure document list permissions

A permissions-based model allows controlling these actions on files and folders for specific customer scenarios.

## We'd like to thank

Thank you for submitting [this idea](#) with votes and comments that helped us prioritize it.

## Resources

[Manage SharePoint documents](#)

## Simplified customization

With our focus on simplifying customization of Dynamics 365 Portal, we have targeted enhancements for portal customizer and administrator personas respectively. An intuitive experience abstracts data model complexities, lowers the learning curve for portal customization, and leads to increased user productivity. Providing a persona-focused tool will also lay a foundation for differentiated experiences in upcoming releases.

Customizers and administrators benefit from:

- WYSIWYG-based content editors that help craft beautiful visual experiences.
- Modern and intuitive web page authoring experience.
- Improved sitemap configuration that helps users manage navigation and page hierarchies efficiently.
- Contextual component configuration and administration for improved productivity.

## Resources

[Get started with the new portal content editor](#)

## Self-service portal diagnostics

Dynamics 365 Portal helps organizations create websites in a simple and effective manner. As part of our investment to improve supportability of Dynamics 365 Portal, we are focusing on better diagnostics and providing customizers with the ability to resolve issues on their own using self-service diagnostic capabilities.

This feature provides a self-service diagnostic tool that looks at portal configuration and identifies potential configuration problems as well as provides solutions on how to resolve the issues. This tool can be used by portal customizers to quickly resolve common issues and reduce the amount of time spent on diagnosing any issues.

## Enable voting for status reasons

Currently, an idea is enabled for voting only when the **Status Reason** is set to **New**. This feature allows you to enable the voting on an idea for different status reasons. To enable voting for different status reasons, you must create the **Ideas/EnableVotingForStatusReasons** site setting and set its value to the required status reason values.

For example, if you want to enable voting for **New**, **Accepted**, and **Rejected** status reasons. You must create the site setting and set its value as:

- **Name:** Ideas/EnableVotingForStatusReasons
- **Value:** 1;100000000;100000002

### Resources

[Enable voting for status reasons](#)

## Overview of Dynamics 365 for Field Service October '18 release

Microsoft Dynamics 365 for Field Service helps organizations deliver differentiated field service experiences to their customers.

The latest release further empowers field service organizations to provide more advanced capabilities that match real-world scenarios:

- Work orders with multiple resources (crews) can be defined and scheduled.
- Customer expectations can be defined and met through entitlement and service level agreement (SLA) functionality.
- The organization can be more efficient through more accurate work durations based on actual historical results.
- Advanced pricing functionality now enables accurate cost tracking based on roles or other attributes.

Field Service technicians will now be more visible and effective with notification, chatbots, and real-time location tracking. This can all work seamlessly with the back office based on the available integration across Dynamics 365 for Finance and Operations.

### Scheduling

The Dynamics 365 resource scheduling capabilities now make it easier to embed scheduling experiences to find the right resource, in the right place, in the right time slot. This can occur within a customer support experience or it can be enabled in another customer-facing app such as a customer-built PowerApp leveraging the sample made available by Microsoft. Organizations now have more flexibility to manage resource availability in the scheduling process.

There are new capabilities within Resource Scheduling Optimization (RSO) as well. Enhanced objectives will take preferred resources and skills-matching into account. A new action is available to (re)optimize a specific resource as needed. Configuration of RSO to specific business needs is made easier in this release with the enhanced “what if” capability and statistics.

### Connected Field Service

The Internet of Things (IoT) continues to enable proactive and predictive service. Connected Field Service and Microsoft Azure IoT Central continue to evolve together to provide an intelligent software as a service (SaaS) for connected devices. Building on previous integration, bidirectional flows are now supported. For example, sending updates from Field Service through IoT Central to the device.

## Summary of what's new for Dynamics 365 for Field Service October '18

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

### Field Service business application

Feature	Release type	Date
<a href="#">Integration with Finance and Operations</a>	General Availability	November 30, 2018
<a href="#">Entitlement management</a>	General Availability	February 2019
<a href="#">Multi-resource scheduling (for work orders)</a>	General Availability	November 30, 2018
<a href="#">SLA management</a>	General Availability	December 15, 2018

### Field Service mobile app

Feature	Release type	Date
<a href="#">Background location sharing</a>	Public Preview	January 2019
<a href="#">Push notifications</a>	Public Preview	December 15, 2018
Geofencing	Public Preview	December 15, 2018

### Universal Resource Scheduling (URS)

Feature	Release type	Date
<a href="#">Define groups of requirements with conditional logic</a>	General Availability	August 15, 2018

Feature	Release type	Date
<a href="#">Multi-resource scheduling</a>	General Availability	August 15, 2018
<a href="#">Schedule predefined resource crews</a>	General Availability	August 15, 2018
<a href="#">Resource pools</a>	General Availability	August 15, 2018
<a href="#">Facility scheduling</a>	General Availability	August 15, 2018
<a href="#">Fulfillment preferences</a>	General Availability	August 15, 2018
<a href="#">Capacity scheduling</a>	General Availability	August 15, 2018
<a href="#">Schedule board split view</a>	General Availability	August 15, 2018
<a href="#">Extensible resource availability</a>	General Availability	March 2019
<a href="#">Quick scheduling</a>	General Availability	March 2019
<a href="#">Self-service scheduling APIs</a>	General Availability	March 2019
Resource Utilization View	General Availability	March 2019
<a href="#">URS customer-driven product enhancements</a>	General Availability	March 2019

### Connected Field Service (IoT)

Feature	Release type	Date
<a href="#">Enhanced IoT Central integration</a>	General Availability	November 30, 2018



## Resource Scheduling Optimization

Feature	Release type	Date
<a href="#">Enable more objectives</a>	General Availability	November 30, 2018
<a href="#">Single resource optimization</a>	General Availability	November 30, 2018
<a href="#">What-if analysis statistics</a>	General Availability	November 30, 2018
<a href="#">Other enhancements</a>	General Availability	November 30, 2018

## Integration with Dynamics 365 for Finance and Operations

This integration allows for master data (account, product, and pricelist) and work order data to be pushed to sales orders when work orders are marked as closed. It also offers warehouse, purchase order, and invoice integration.

## Entitlement management

With this release, the Field Service application includes the ability to define entitlements and associate them with work orders in field service scenarios. Entitlements help service agents understand the service terms that customers are eligible for.

This capability helps service organizations ensure customers receive the appropriate on-site support that aligns with their allowed entitlements, and that customers are charged according to their negotiated terms.

## Multi-resource scheduling

Multi-resource scheduling allows for multiple resources to be scheduled against a single work order. This has been a common request from customers who have complex work orders requiring more than a single resource to complete the work. Incident types will be able to be related to requirement group templates so that when you create a work order and select an incident type, a group of requirements can be added to the work order, lighting up multi-resource scheduling. The infrastructure for multi-resource scheduling was included in Universal Resource Scheduling (URS) in Spring '18 as a preview, October '18 GA, and is now being leveraged by Field Service starting with the October '18 release.



## SLA Management

Field Service also has enabled service level agreement (SLA) capability to establish SLAs for customers and populate SLA details into work orders. This enables the scheduling processes to take into account commitments based on SLAs.

## Background location sharing

Our mobile application now allows for technicians to share their current locations, which will result in a location data stream getting sent to Dynamics 365 for Field Service that surfaces a technician's location on the schedule board and allows for events to be triggered based on a technician's current location. For example, when technicians arrive on site, a push notification can be sent to remind them to update their status. This will also open scenarios where we can detect that a technician is going to be late to a work order based on current location and consequently reassign the work order to another technician nearby.

## Push Notifications

Out of the box, our mobile application now allows field service technicians to receive push notifications any time they are assigned a booking, one of their bookings has changed, or when they have arrived onsite for a work order (provided location is being shared). When and how push notifications are triggered is entirely configurable and can be customized for any use case. Push notification reminders can improve the timeliness of technicians and accuracy of logging.

## Create groups of requirements for scheduling

Create requirement groups consisting of multiple requirements and schedule teams of resources. For any given requirement group, resource requirements can be defined using a grid-based control that allows for requirements to be organized in a hierarchical manner and with all/any conditions.

The screenshot displays the Dynamics 365 Universal Resource Scheduling interface. The top navigation bar shows the path: Universal Resource Scheduling > Requirement Groups > One Day Hackathon Project. The main content area is titled 'REQUIREMENT GROUP One Day Hackathon Project'. Below the title, there are fields for 'Name' (One Day Hackathon Project), 'Owner' (First name Last name), and 'Requirement Group Template' (---). A table below these fields lists requirements with columns: Name, Select, From, To, Duration, Part of Same, Organizational Unit, Resource Categories, Characteristics, Preferred Resource, Sort Option, and Effort Required. The table is expanded to show a hierarchy: Hackathon (All, 7/16/2018 to 7/16/2018, 8 hours, Organizational Unit) containing PM and Facility (All), Engineers (All), and Design Engineer (Any). Under PM and Facility, there are PM (Agile Methodology; CRM, AM, BH) and Facility (None). Under Engineers, there are Engineer 1 (C#: CRM) and Engineer 2 (C#: Javascript). Under Design Engineer, there are Design Option 1 (Design: HTML) and Design Option 2 (CSS: HTML).

Name	Select	From	To	Duration	Part of Same	Organizational Unit	Resource Categories	Characteristics	Preferred Resource	Sort Option	Effort Required
▼ Hackathon	All	7/16/2018	7/16/2018	8 hours	Organizational Unit						
▼ PM and Facility	All										
PM								Agile Methodology; CRM	AM, BH	None	1
Facility										None	1
▼ Engineers	All										
Engineer 1								C#: CRM		None	1
Engineer 2								C#: Javascript		None	1
▼ Design Engineer	Any										
Design Option 1								Design: HTML		None	1
Design Option 2								CSS: HTML		None	1

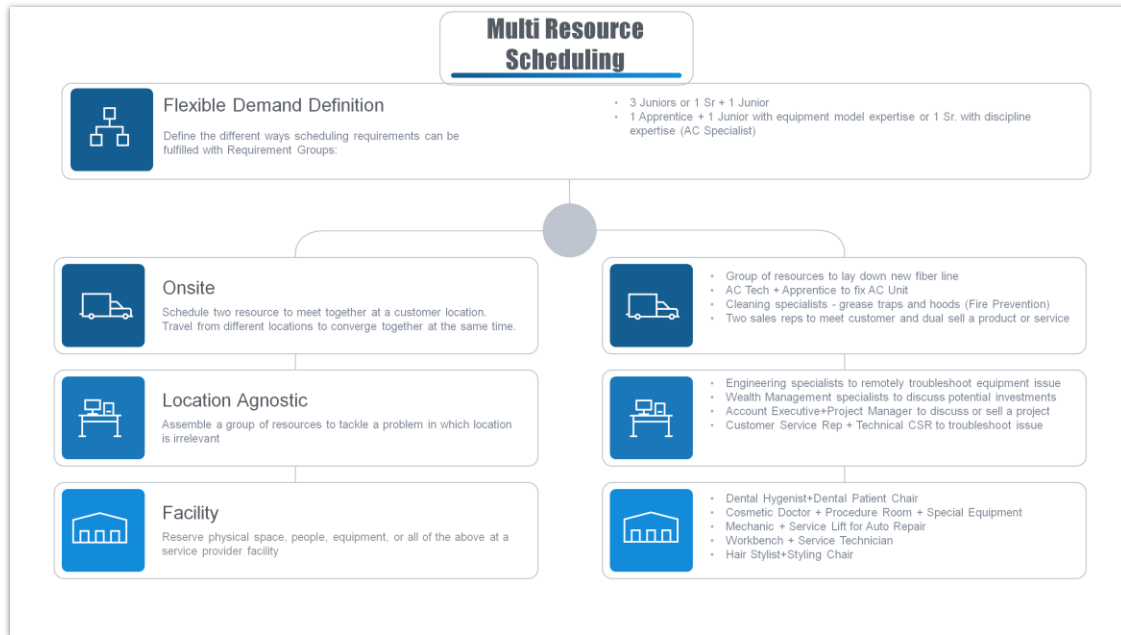
### Requirement group definition

## Multi-resource scheduling

Dynamically assemble a group of resources to converge at the same time for intraday scheduling. Resources can be teamed together to meet onsite at a customer location, work together remotely, or fulfill appointments at facilities.

- Search across the multiple configurations of how the team can be assembled, set up on the requirement group.
- Mix and match:
  - Pools and individual resources
  - Individuals and crews
  - People, equipment, and facilities

- Consider resource availability and current commitments.
- Predict travel time and assemble a team to meet onsite with a customer both for preassembled crews and dynamically putting a team together.
- Facility - Assemble a group of resources staffed at a specific location.



*Team scheduling scenarios*

Team	Team Photos	Start Time	End Time	Travel Time	Distance	Travel Start Time	Members	Excess Me...	Crew/Pool	Requirement
> Crew 1		07/12 9:00 PM	07/12 9:30 PM	---	---	-07/12 9:00 PM	3	0	---	---
> Crew 1		07/12 9:30 PM	07/12 10:00 PM	---	---	-07/12 9:30 PM	3	0	---	---
> Ashley Chinn, Bernadette Foley, Cheri C...		07/12 10:00 PM	07/12 10:30 PM	---	---	-07/12 10:00 PM	3	0	---	---
> Ashley Chinn, Bernadette Foley, Cheri C...		07/12 10:30 PM	07/12 11:00 PM	---	---	-07/12 10:30 PM	3	0	---	---
> Ashley Chinn, Bernadette Foley, Cheri C...		07/12 11:00 PM	07/12 11:30 PM	---	---	-07/12 11:00 PM	3	0	---	---
> Ashley Chinn, Bernadette Foley, Cheri C...		07/12 11:30 PM	07/13 12:00 AM	---	---	-07/12 11:30 PM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 12:00 AM	07/13 12:30 AM	---	---	-07/13 12:00 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 12:30 AM	07/13 1:00 AM	---	---	-07/13 12:30 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 1:00 AM	07/13 1:30 AM	---	---	-07/13 1:00 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 1:30 AM	07/13 2:00 AM	---	---	-07/13 1:30 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 2:00 AM	07/13 2:30 AM	---	---	-07/13 2:00 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 2:30 AM	07/13 3:00 AM	---	---	-07/13 2:30 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 3:00 AM	07/13 3:30 AM	---	---	-07/13 3:00 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 3:30 AM	07/13 4:00 AM	---	---	-07/13 3:30 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 4:00 AM	07/13 4:30 AM	---	---	-07/13 4:00 AM	3	0	---	---
> Abraham McCormick, Allison Dickson, ...		07/13 4:30 AM	07/13 5:00 AM	---	---	-07/13 4:30 AM	3	0	---	---

### *Finding availability for a team of resources*

## Predefined crews

Preassemble groups of resources that are always together for intraday scheduling. Crew scheduling allows you to define a group of resources who are scheduled for the same work during a period of time. Typically, a crew meets at a location in the morning, shares a vehicle, and is together all day from job to job. Companies focused on services that generally require teams of resources to accomplish jobs will often predefine a crew, a set of resources that stick together all day.

Sample scenarios:

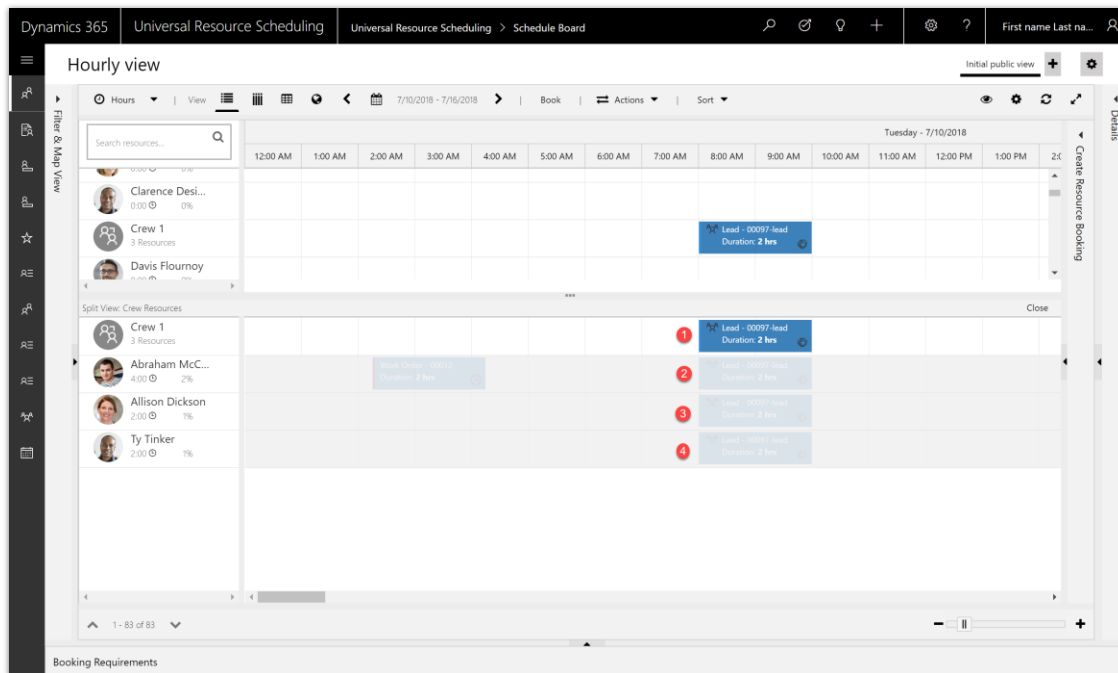
- Lead technician and apprentice (for example, HVAC)
- Maid services
- Sanitation services
- Moving services
- Landscaping
- Hood and grease trap cleaning

Crews are assembled with date effectivity, enabling a crew to be assembled for as long or as little time as you choose.

The screenshot displays the Dynamics 365 Universal Resource Scheduling interface. The main area shows a list of crew assignments with the following columns: Team, Team Photos, Start Time, End Time, Travel Time, Distance, Travel Start Time, Members, Excess Me., Crew/Pool, and Requirement. The data is organized into rows for different crews and time slots. For example, 'Crew 1' is shown for various time slots from 9:00 PM to 3:00 AM. Individual team members like Abraham McCormick, Allison Dickson, and Ty Tinker are listed under the 'Team Photos' column. The interface includes a top navigation bar with 'Dynamics 365', 'Universal Resource Scheduling', and 'Schedule Board'. A search bar and a 'Book' button are also visible. The bottom of the screen shows 'Schedule Assistant - Resource Team'.

Team	Team Photos	Start Time	End Time	Travel Time	Distance	Travel Start Time	Members	Excess Me.	Crew/Pool	Requirement
Crew 1		07/12 9:00 PM	07/12 9:30 PM	---	---	-07/12 9:00 PM	3	0	---	---
Abraham McCormick		07/12 9:00 PM	07/12 9:30 PM	---	---	07/12 9:00 PM	---	---	Crew 1	Position 3
Allison Dickson		07/12 9:00 PM	07/12 9:30 PM	---	---	07/12 9:00 PM	---	---	Crew 1	Position 2
Ty Tinker		07/12 9:00 PM	07/12 9:30 PM	---	---	07/12 9:00 PM	---	---	Crew 1	Position 1
Crew 1		07/12 9:30 PM	07/12 10:00 PM	---	---	-07/12 9:30 PM	3	0	---	---
Ashley Chinn, Bernadette Foley, Cheri C...		07/12 10:00 PM	07/12 10:30 PM	---	---	-07/12 10:00 PM	3	0	---	---
Ashley Chinn, Bernadette Foley, Cheri C...		07/12 10:30 PM	07/12 11:00 PM	---	---	-07/12 10:30 PM	3	0	---	---
Ashley Chinn, Bernadette Foley, Cheri C...		07/12 11:00 PM	07/12 11:30 PM	---	---	-07/12 11:00 PM	3	0	---	---
Ashley Chinn, Bernadette Foley, Cheri C...		07/12 11:30 PM	07/13 12:00 AM	---	---	-07/12 11:30 PM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 12:00 AM	07/13 12:30 AM	---	---	-07/13 12:00 AM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 12:30 AM	07/13 1:00 AM	---	---	-07/13 12:30 AM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 1:00 AM	07/13 1:30 AM	---	---	-07/13 1:00 AM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 1:30 AM	07/13 2:00 AM	---	---	-07/13 1:30 AM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 2:00 AM	07/13 2:30 AM	---	---	-07/13 2:00 AM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 2:30 AM	07/13 3:00 AM	---	---	-07/13 2:30 AM	3	0	---	---
Abraham McCormick, Allison Dickson, ...		07/13 3:00 AM	07/13 3:30 AM	---	---	-07/13 3:00 AM	3	0	---	---

*Book crew with schedule assistant*



### *Crew on Schedule Board*

## Resource pools

Associate resources to resource pools to enable schedulers to book requirements to a generic pool without needing to decide which resource will actually perform the work.

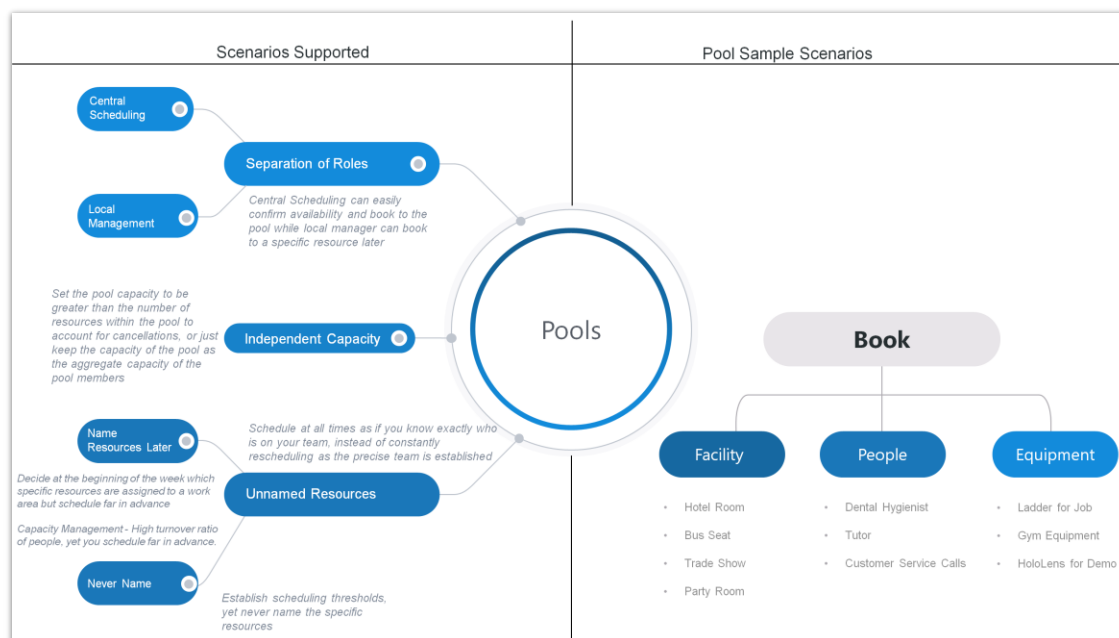
### Why

- Avoid being forced to book specific resources up front and instead book the “resource pool” while ensuring you are not overcommitting.
- Enable central schedulers to be shielded from details and leave the details to the local resource manager.
- Specific resources may not be named yet but capacity of the pool is established and resources will be named later. Schedulers can still schedule since capacity of the pool can be set as if all the resources were named (capacity management).
- Deliberately enable overbooking for expected cancellations.

## What

- Resource pools can be either pools of facilities, or pools of accounts/contacts/users, or pools of equipment. Pools are intended to be a set of homogenous resources.
- Pool members can be permanently or temporarily assigned to pools, date effective.
- Optionally derive overall pool capacity from pool members.

(Onsite requirements not planned to be supported with resource pools.)



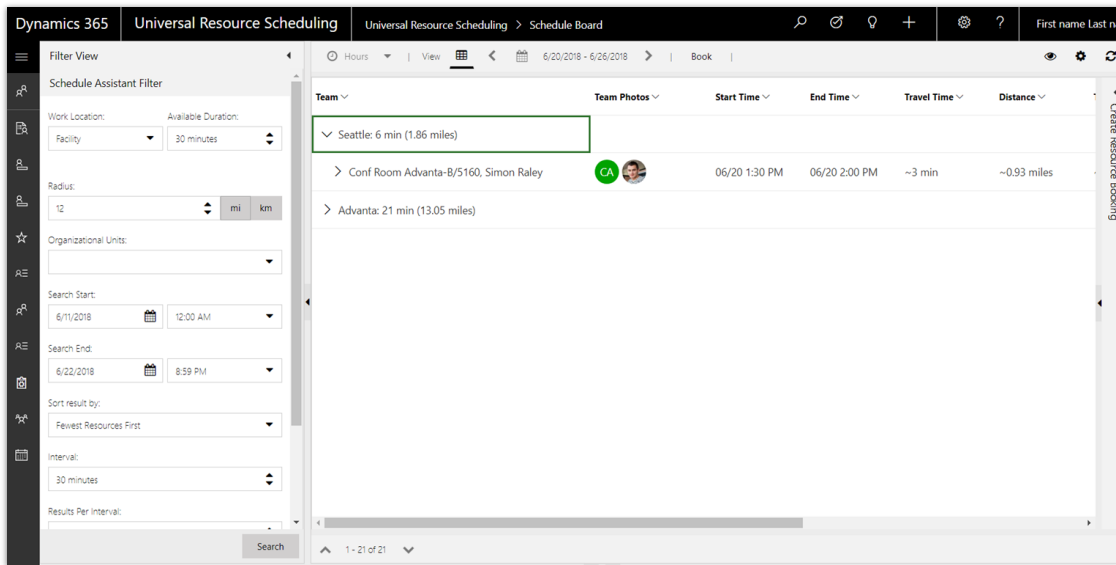
## Resource pool scenarios

### Facility scheduling

Provide service at service provider's location instead of customer's location.

- Sample scenarios
  - Reserve physical space
    - Reserve a room for an event or party
    - Reserve a room for an exercise class
    - Reserve a bay at mechanic shop
    - Reserve a boat

- Reserve an appointment with a person at a facility
  - Fix laptop at Microsoft retail store
  - Wealth management consultation at bank
  - Tutor in a focus room



### *Scheduling at a facility*

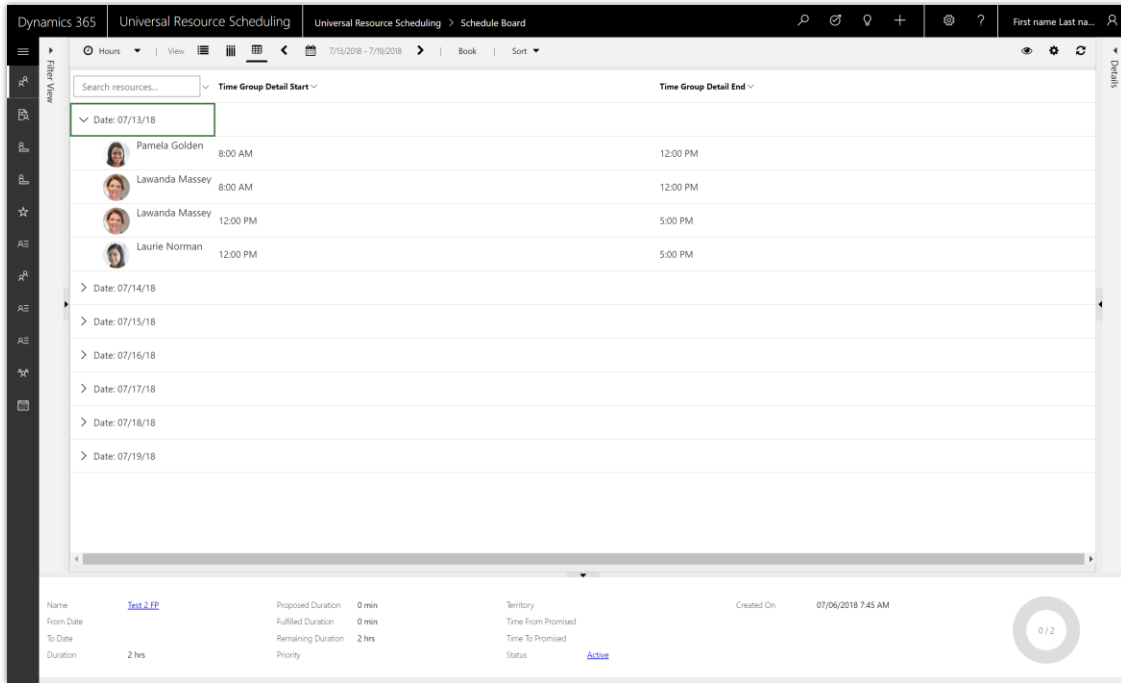
### **Fulfillment preferences**

Simplify the experience for your schedulers and customers while decreasing the amount of time it takes to book appointments.

- **Preset intervals** - Offer appointments every 15 minutes, on the half hour, the hour, or choose your own granularity.
  - Doctor appointments
  - Wealth management consultations
  - Scheduled phone calls
- **Time groups** - Present windows of availability to schedulers such as 9 to 12, 12 to 3, and 3 to 6.
  - Air conditioning repair
  - Doctor appointments



- **Hide specific time** - Hide extra data that is not relevant if scheduling to a window.
- **Display only the top results** - Declutter scheduling screen by limiting results you deem redundant per time group, or per interval.



*Schedule Assistant displaying results broken into windows*

Search resources...	Resource Type	Start Time	End Time	Distance	Estimated Travel Duration	Date
Jennifer Rivas	Contact	7/13/2018 8:00 AM	7/13/2018 8:30 AM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 9:00 AM	7/13/2018 9:30 AM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 10:00 AM	7/13/2018 10:30 AM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 11:00 AM	7/13/2018 11:30 AM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 12:00 PM	7/13/2018 12:30 PM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 1:00 PM	7/13/2018 1:30 PM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 2:00 PM	7/13/2018 2:30 PM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 3:00 PM	7/13/2018 3:30 PM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 4:00 PM	7/13/2018 4:30 PM	---	---	07/13/18
Jennifer Rivas	Contact	7/13/2018 5:00 PM	7/13/2018 5:30 PM	---	---	07/13/18
Tamra Riggs	Contact	7/13/2018 6:00 PM	7/13/2018 6:30 PM	---	---	07/13/18
Tamra Riggs	Contact	7/13/2018 7:00 PM	7/13/2018 7:30 PM	---	---	07/13/18
Tamra Riggs	Contact	7/13/2018 8:00 PM	7/13/2018 8:30 PM	---	---	07/13/18
Tamra Riggs	Contact	7/13/2018 9:00 PM	7/13/2018 9:30 PM	---	---	07/13/18

Name: [Appointment](#)      Proposed Duration: 0 min      Territory:      Created On: 07/12/2018 11:29 PM  
 From Date:      Fulfilled Duration: 0 min      Time From Promised:      0 / 0  
 To Date:      Remaining Duration: 0 min      Time To Promised:        
 Duration:      Priority:      Status: [Active](#)

*Schedule Assistant displaying results on the hour as part of interval scheduling*

## Capacity scheduling

Resource requirements can now specify how much effort a requirement needs from a resource. When scheduling, the Schedule Assistant will look at a resource's defined capacity on its work hours to check if the necessary effort is available. A resource's capacity can vary even within a day.

Capacity scheduling is exceptionally useful when booking a facility. By way of example, a van may require twice the space as a standard car. You can now create a facility with a certain capacity, but when booking time to work on a van, it consumes the capacity of the facility as if you were booking two cars or six motorcycles.

The Schedule Board will also offer a visual indicator when a resource has additional capacity even though there is a booking at a given time.

- Sample use cases
  - Staff augmentation where resources are unnamed.
  - Efficient resources.
    - Person can fix two bikes in the time a typical person can fix one.

- Physical space.
  - One workspace can fit two cars or one van.
  - Create a “class” as a resource, and allow up to 10 customers to be booked to the class.

Resources that perform onsite work cannot have a capacity of more than one.

Name	From Date	To Date	Duration	Proposed Dura	Fulfilled Dura	Remaining Duration	Priority	Territory	Time From Promise	Time To Promise	Status	Created On
<a href="#">Facility Sanitation</a>			2 hrs	0 min	0 min	2 hrs					Active	07/11/2018 10:28 AM
<a href="#">Test 1 LP</a>			2 hrs	0 min	0 min	2 hrs					Active	07/11/2018 10:19 AM
<a href="#">Test 2 LP</a>			2 hrs	0 min	0 min	2 hrs					Active	07/06/2018 7:45 AM
<a href="#">Test 1 LP</a>	07/10/2018	07/11/2018	2 hrs	0 min	0 min	2 hrs					Active	07/05/2018 5:27 PM

*Schedule Board showing a resource with additional capacity row expanded*

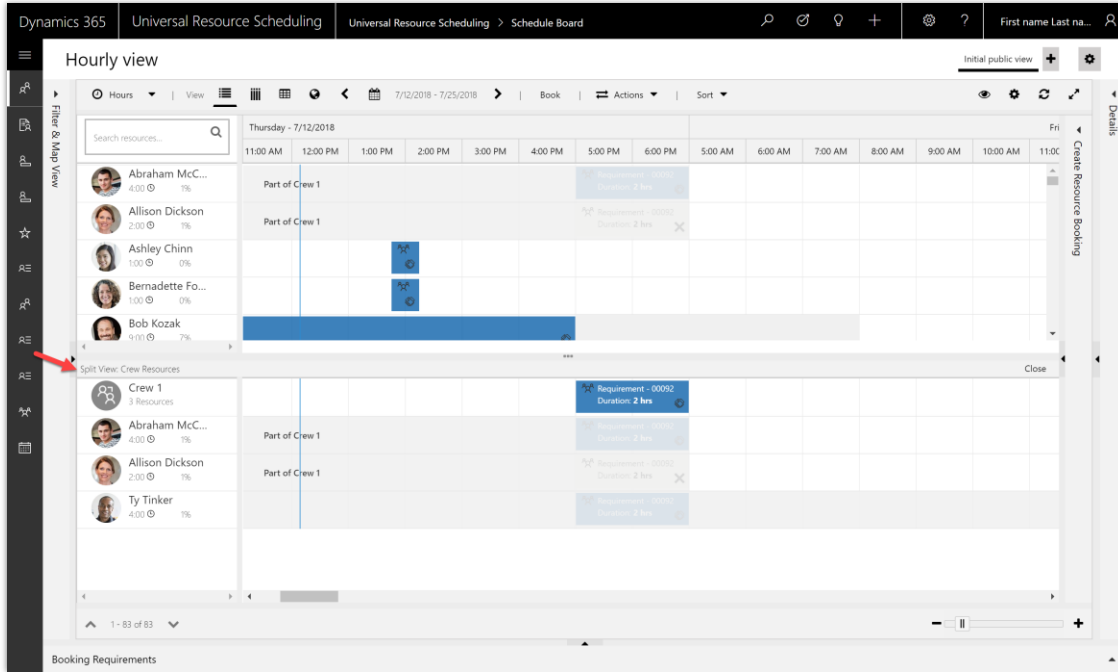
### Schedule board split view

There are scenarios where you may want to drill into information on the schedule board without needing to load new screens or lose context of where you are:

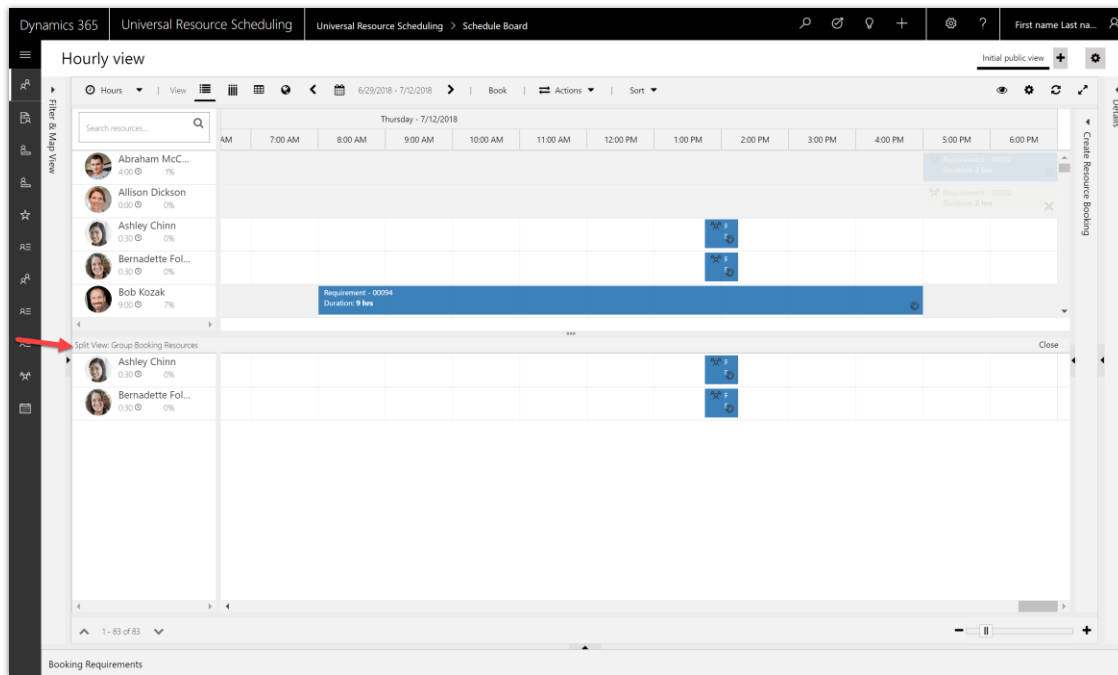
- Drill into a specific crew and manage the crew on its own.
- Local resource managers may want to focus on a specific pool of resources as they assign bookings at a more granular level.
- A dispatcher may quickly want to see all the resources assigned to a requirement group at once, without losing context of where they are on the board.

All three of these scenarios are covered with the schedule board split view.

Split the schedule board in two. The bottom half can be dedicated to display a crew and all of its members, a pool and its members, or a set of resources that are assigned to work on the same job.



*Schedule board with crew in split schedule board*



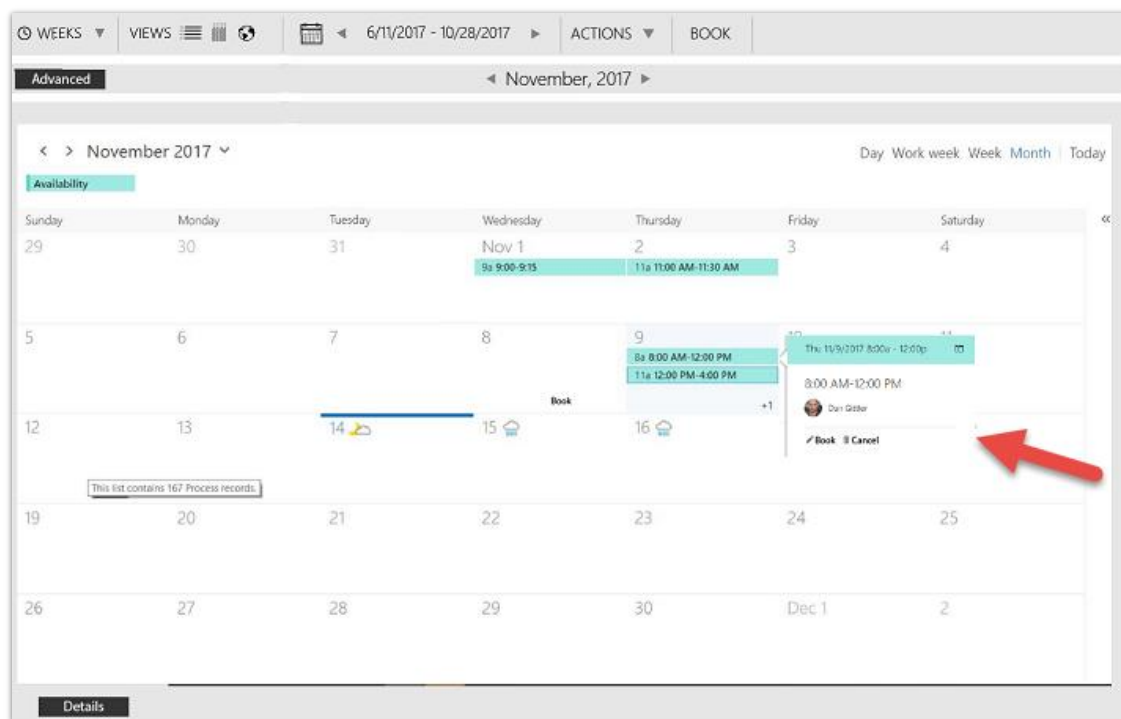
*Split schedule board with resources working on same requirement group*

### Extensible resource availability

As part of the Schedule Assistant search, customers can now decide if they want to override the availability of a resource before the search results are returned. For example, customers with different business closures for different organizational units can query a table that contains organizational units and the days they are closed, subsequently removing resource availability during the hours of business closure.

## Quick scheduling

Today we have a compelling capability around searching for and creating bookings with a flexible UI. However, in some cases, the full power of resource scheduling may not be needed for a casual user who is not a dispatcher or resource manager. A customer service representative on the phone with a customer may simply want a list of the top three bookings to choose from, while remaining in the context of their flow, instead of having to pop out a schedule board. Quick scheduling includes a lightweight widget where the user can select from the top options in a simple list or calendar view.



*Wireframe of calendar in-form booking control using OWA UI*

## Self-service scheduling APIs

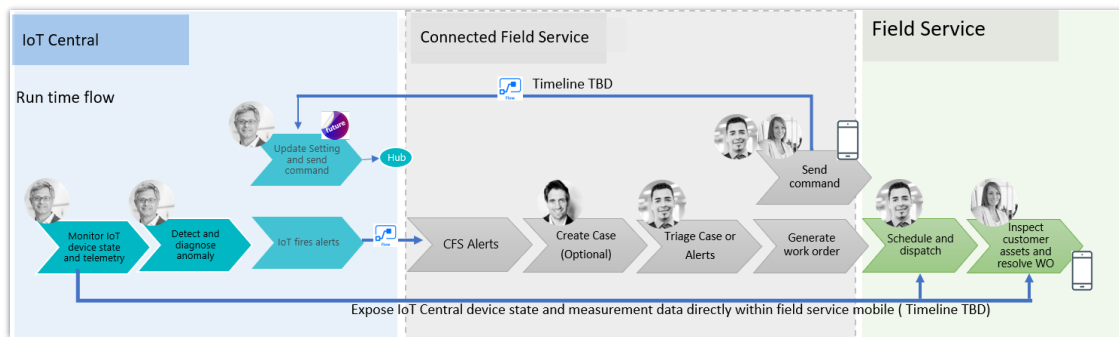
Universal Resource Scheduling's self-service scheduling APIs ultimately allow organizations to embed a scheduling widget on their own web application, enabling their customers to search for availability and book appointments. While we have goals of building the widget itself, the primary focus is to unleash the APIs to our partner and customer ecosystems, allowing them to build their own visuals.

## URS customer-driven product enhancements

- When inserting a booking between two bookings or reassigning a booking to another resource, the travel time of all associated bookings will be recalculated properly.
- Multi-resource scheduling, crew scheduling, and pool scheduling are major new feature sets being introduced. We will address market feedback and scenario completion after these features ship.

## CFS - Integration with IoT Central

For the first phase of integration, the focus of the integration solution will be through Microsoft Flow. This is a one-way communication from IoT Central to Connected Field Service. With IoT Central monitoring remote devices, any measurements that exceed thresholds defined in IoT Central will trigger an action to fire an alert in CFS. Field service managers can group these alerts by criteria such as customer asset and incident type.



### Enhanced IoT Central integration

For the October '18 release, technicians can be equipped with and act on insight from IoT devices when on site, with a few options depending on the state of IoT Central.

- Embed IoT Central device state and measurement visuals directly within the Field Service mobile application.
- Store telemetry data from IoT Central in an Azure blob and enable an embedded Power BI visualizing the data.
- Allow technicians to send commands from the Field Service mobile application back to IoT Central.

### Enable more objectives

- Support preferred resources as an objective: Businesses will be able to define preferred resources for requirements and the optimizer will assign bookings to preferred resources first while meeting other constraints and objectives.
- Support best/least matching skills as an objective: Different business have different goals for using the skills of resources. With best-matching skills, businesses can better meet SLA and customer satisfaction, while balancing cost and efficiency with lower matching skills.

### Single resource optimization

Single resource optimization provides a quick and simple way to re-optimize a selected resource to ensure that resource still has an optimal route after some schedule change happens during the day. For example, a resource may have overlapping bookings after getting assigned an emergency work order in the middle of the day or may not be able to make it in time for a booking due to traffic.

### What-if analysis statistics

RSO administrators can leverage simulation runs to adjust optimization scope (include/exclude more resources), objectives (re-order rankings of objectives), and other parameters to understand what optimization results look like before locking down the recurring schedule. Additionally, with an analytic statistic, administrators can better evaluate optimization and compare simulation runs versus existing bookings.

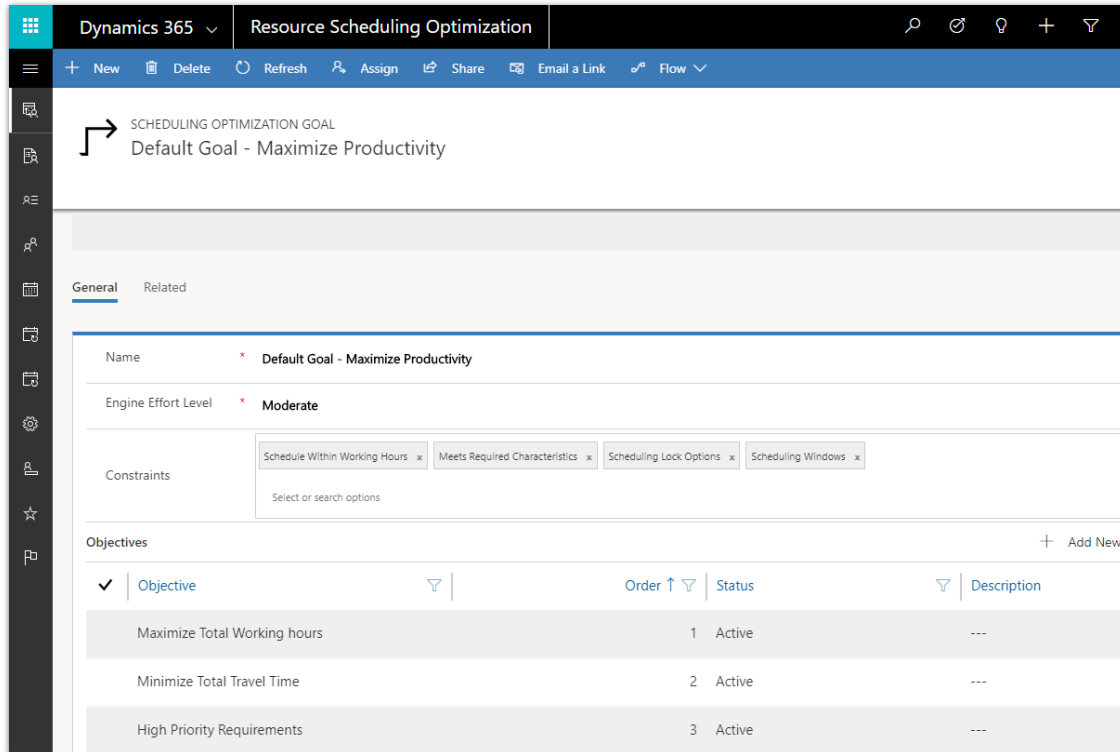
### Other enhancements to Resource Scheduling Optimization

#### Default optimization goal

When the Resource Scheduling Optimization solution is deployed, the system automatically creates a default goal with default constraints and objectives enabled.

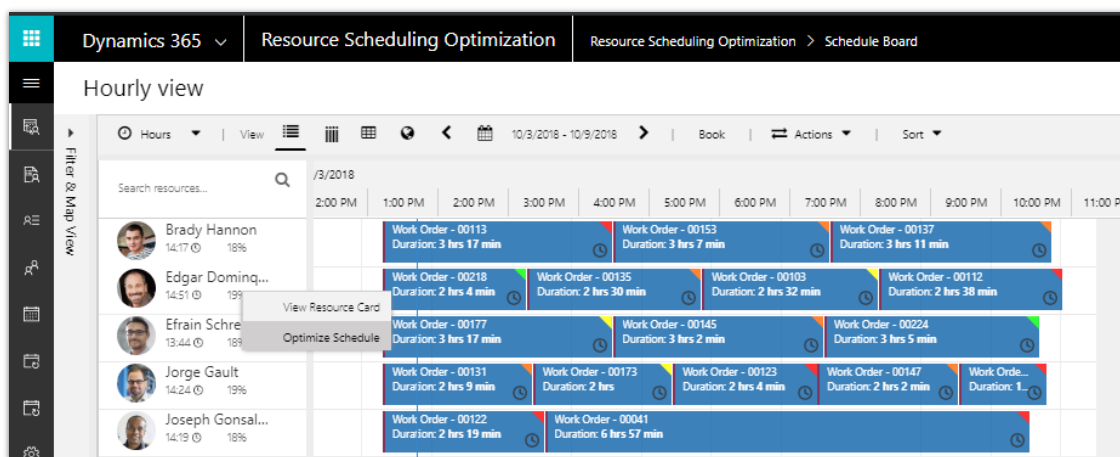


In the Resource Scheduling Optimization solution, a goal is what the solution optimizes. For example, two common goals are maximizing working hours and minimizing travel time. By default, a goal has constraints and objectives enabled. Any of these can be modified as needed.



*Screenshot of a default goal to maximize productivity*

The default goal is used when single resource optimization is selected from the schedule board. If needed, a user can create a new optimization goal and associate it as a default goal.



*Screenshot of default goal deployed with Resource Scheduling Optimization*

### New constraint for matching resource type

Resource Scheduling Optimization includes a new constraint called **Matches Resource Type**. A constraint is a resource and requirement attribute that the optimization solution considers when automatically assigning jobs.

With this constraint, the optimization matches the resource type between requirements and resources to decide which type of resource can fulfill a requirement. This capability aligns Resource Scheduling Optimization more closely with the functionality of resource availability search.

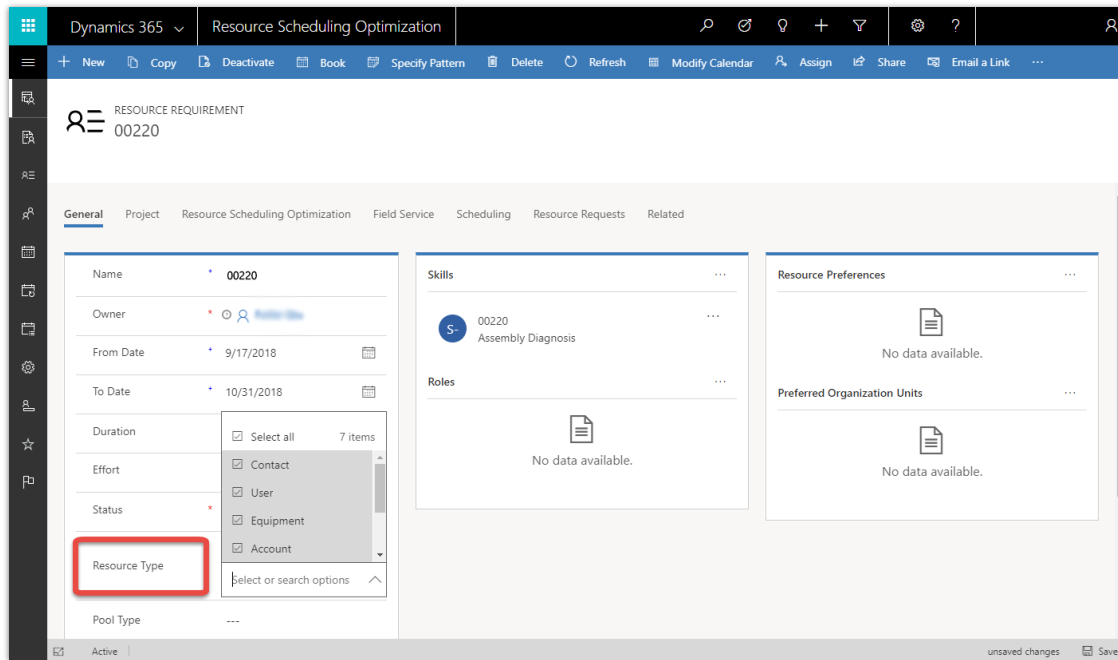
Bookable resources include these resource types:

- Generic \*
- Users \*
- Contacts \*
- Accounts \*
- Equipment \*
- Facility \*
- Crew
- Pool

\* Indicates resource types the optimization considers

In general, resource types define how the resource relates to the organization. As an example, resources with the resource type **Users** are usually employees, whereas the resource type **Contacts** or **Accounts** are usually contractors.

Additionally, requirements allow multi-select so you can specify which resource types are needed for a given requirement.

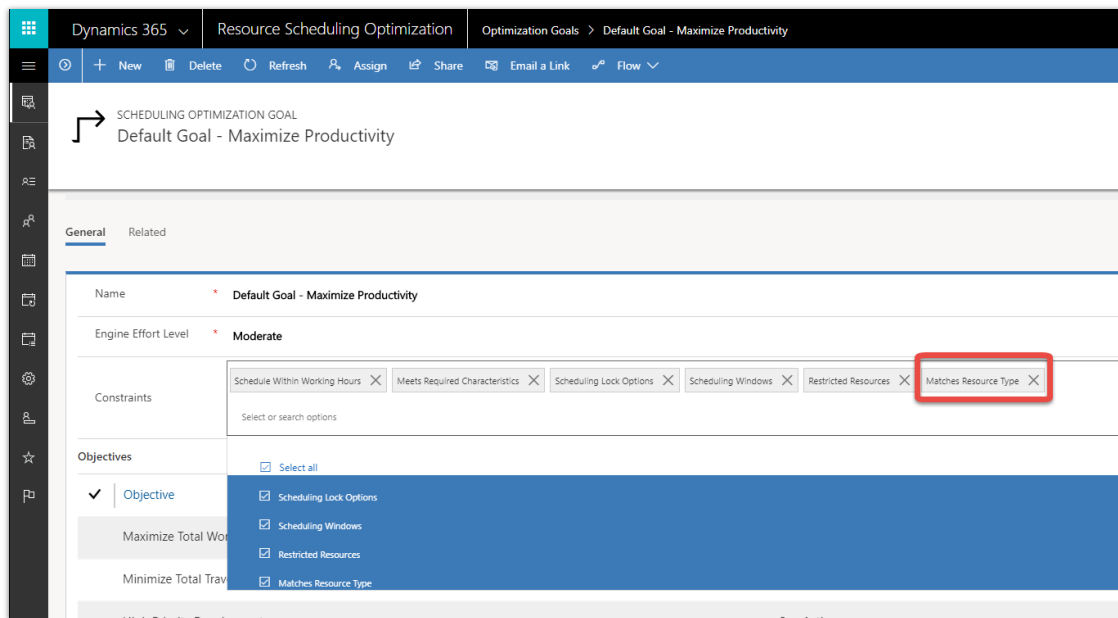


### *Screenshot of multi-select resource type attribute on requirement*

With this release, when assigning resources to requirements, the optimization now considers these resource types:

- Generic
- Users
- Contacts
- Accounts
- Equipment
- Facility

To enable the matching resource type capability, go to **Optimization Goals** and add it as a constraint.



#### *Screenshot of match resource type constraint in optimization setup*

If the Optimization Goal is related to an active Optimization Schedule, you will need to republish the schedule.

#### Additional notes

- Resource Scheduling Optimization ignores requirements with the pool or crew resource type.
- If a requirement includes the resource type **user** and **crew** (for example, if one resource type is considered by optimization and one isn't), the optimization attempts to find a user resource to fulfill the requirement.

## Overview of Dynamics 365 for Project Service October '18 release

The October '18 release of Project Service focuses on customer-driven enhancements, with practical and tactical functional and usability improvements. Among the enhancements:

- Adjustments to approved time, expense, and journal lines.
- Support for time unit on role price line.
- Ability to make copies of price lists by adding a markup percentage.
- Configurable unit of time for project work estimation to match org unit settings.

### Summary of what's new in Dynamics 365 for Project Service

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

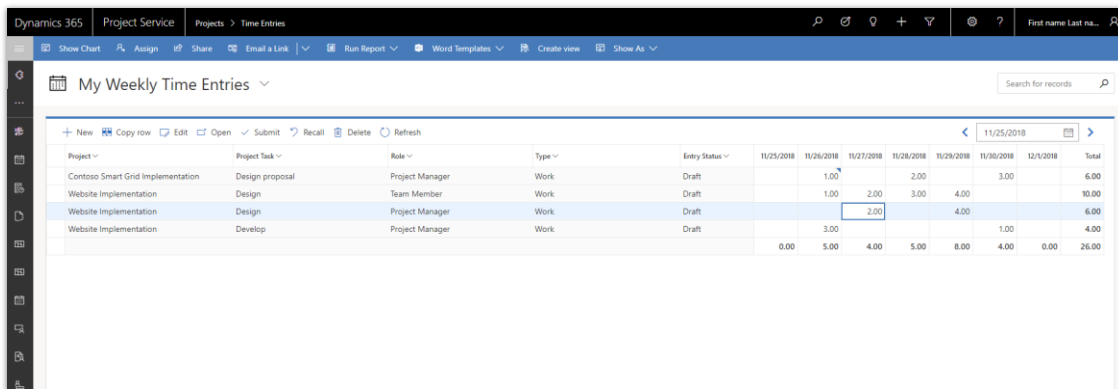
Feature	Release type	Date
<a href="#">Weekly time entry with support for customizations</a>	General Availability	December 2018
<a href="#">Adjustments to approved time, expense, and journal lines</a>	General Availability	March 2019
<a href="#">Unit-aware expense category pricing for setup, estimation, and actuals</a>	General Availability	December 2018
<a href="#">Use transaction filters to review invoicing backlog when creating invoices</a>	General Availability	December 2018
<a href="#">Date effectivity validation on price lists</a>	General Availability	March 2019

Feature	Release type	Date
<a href="#">Resourcing unit currency on role price lines for cost</a>	General Availability	March 2019
<a href="#">Support for multiple time units on a single price list</a>	General Availability	March 2019
<a href="#">Ability to make copies of price list by adding a markup percentage</a>	General Availability	December 2018
<a href="#">Resolution of multi-currency cost price list on projects</a>	General Availability	March 2019

### Weekly time entry with support for customizations

This feature enhances the time entry experience in Project Service Automation by providing the ability for project resources to enter time for the entire week at the same time. Resources will be able to quickly move between weeks to create and update time. The new and improved experience will also show total time entered by date (column), by project and task (rows), and the grand total of the time entered for the entire week. It will be possible to quickly duplicate a full row of time entries and update only required fields using the new **Copy Row** function.

With this update, it will be possible for system customizers to customize this view with custom fields or lookups to other entities. Customizers will also be able to implement custom business rules to support their organization's practices.

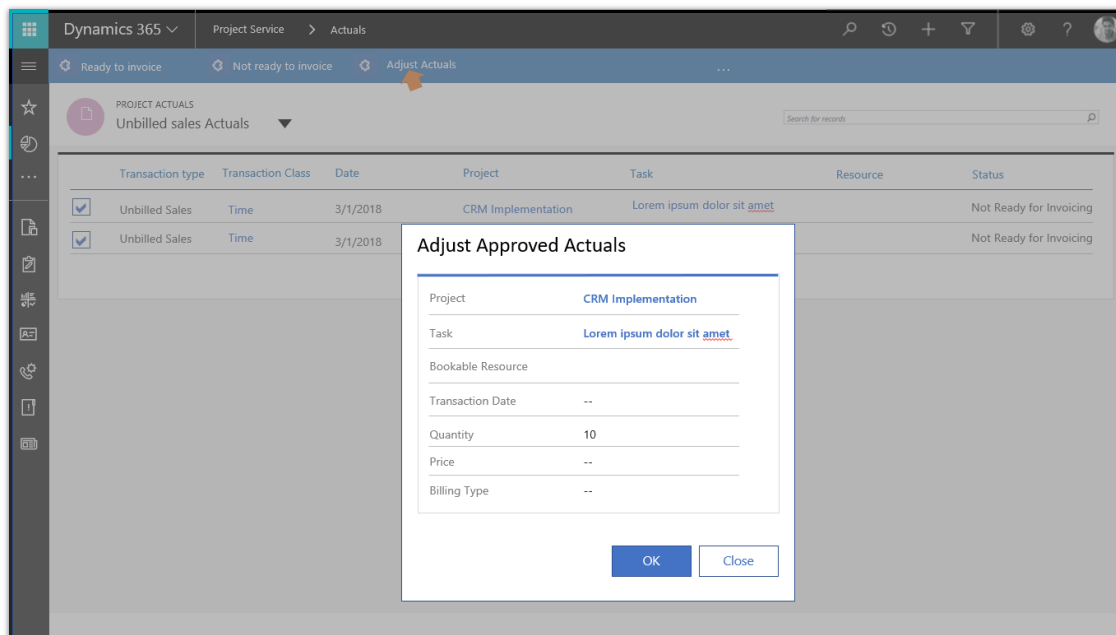


*Weekly time entry with support for customizations*

## Adjustments to approved time, expense, and journal lines

This feature will give the much-needed ability for project administrators to make changes to approved time and expense entries. Most project-based companies set up temporary codes for projects, tasks, and other attributes like work categories and have consultants log time against these interim references until the permanent codes are set up in the system.

It's also common to reclassify time on a task to another task on the same project or on a different project for the same customer. In a majority of such cases, changing of this reference data will also impact financial postings in the ERP or accounting system. This feature will allow these updates to approved actuals and handle the updates with a historical trail.



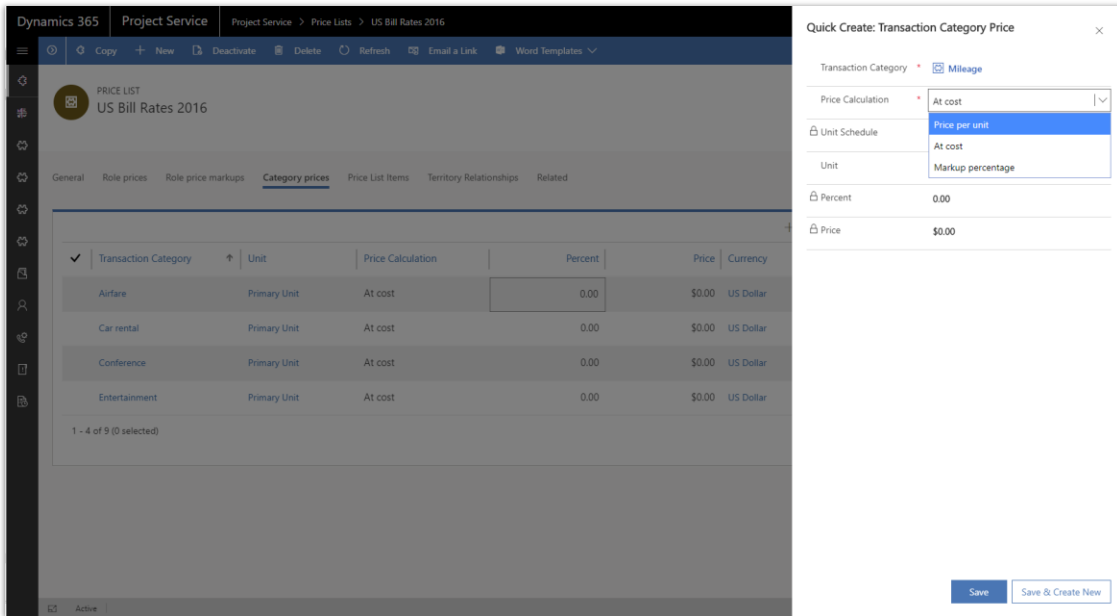
### *Adjustments to approved expenses*

## Unit-aware expense category pricing for setup, estimation, and actuals

With this feature, Project Service will support a unit-based pricing method for expense categories. This will enable scenarios such as the following:

1. Mileage reporting on projects by traveling consultants.
2. Pricing by project deliverables based on units of work. A number of industry verticals like accounting firms (where tax returns are priced by unit) and BPO firms (where support calls are priced by units of calls processed) will be able to leverage this capability to estimate and track projects costs and revenue closer to their business model.

3. Providing a way to price and cost for subcontracted deliverables as delivery units. When subcontracted work doesn't need to be tracked at the granularity of time or expenses incurred by the vendor but rather in terms of units of output completed and delivered by the vendor, the ability to model the vendor's delivery units as a category of expense that can be priced by unit will be a key capability.

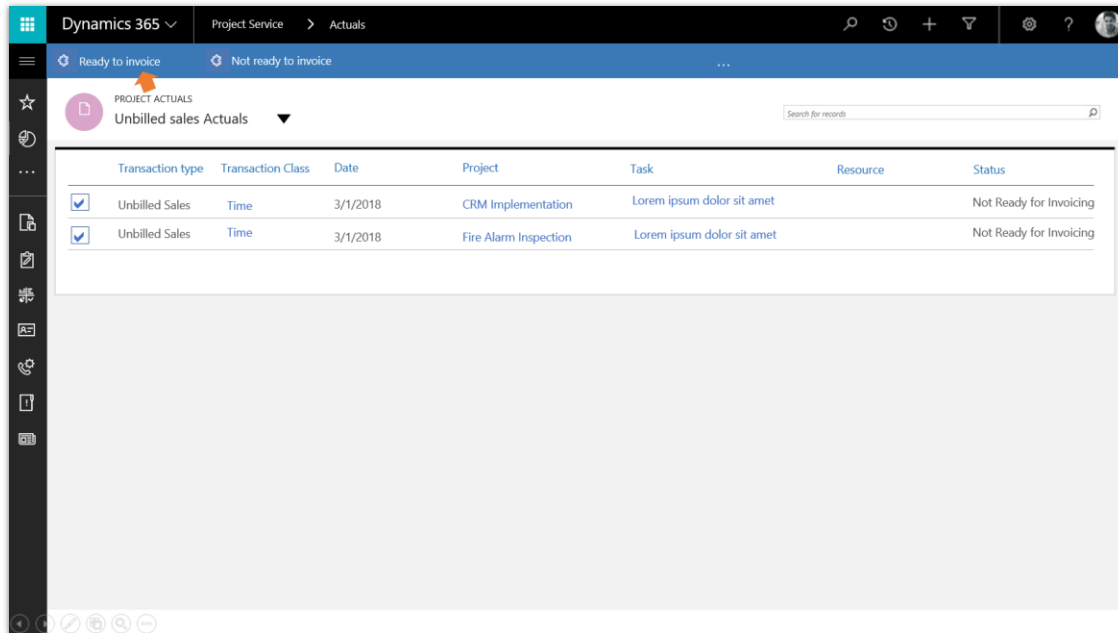


*Pricing per unit*



## Use transaction filters to review invoicing backlog when creating invoices

Project Service creates invoices from all unbilled sales actuals that were recorded on a project. This feature will introduce a view where you can filter actuals using the native XRM filter capabilities and mark the transactions that are ready for invoicing. This will provide better control for the project managers on what gets invoiced to the customer for each period.



*Use of transaction filters to review invoicing backlog*

## Date effectivity validation on price lists

This feature ensures that Project Service users avoid errors in price defaulting arising from having more than one price list effective for a certain date. As Project Service customers are aware, the product allows for multiple project price lists to be associated to quotes, project contracts, and organizational units. This is to allow for inflationary pricing changes represented by price lists with different date effectivities.

With this feature, the system will validate the price list setup to ensure no overlapping date effectivities given a single context such as a project or a contract. Also, the system will ensure that when an estimate on a quote or contract spans multiple price periods, the system is able to correctly price the work.

## Resourcing unit currency on role price lines for cost

Project Service allows only one currency per price list, which is specified on the price list header. The price list line for resource pricing has the same currency specified on the price list header. However, for globally operating project service companies that have centralized pricing across all of their divisions across countries, this can necessitate a data-intensive setup where they'll need to set up a price list for each distinct currency that they sell or incur costs in.

With this feature, Project Service will allow for a line-level currency for resource prices that differs from the price list header currency. Currency on the price list header will be used as a default on the resource price lines. This way, large global firms that would like more centralized pricing setup may work with one global price list that specifies resource prices in many currencies. This could also enable scenarios where prices managed by each resourcing unit come together as one master price list.

Using a single currency per price list will still function, which benefits companies that allow for more decentralized pricing and that track exchange prices for resources. This can be customized so that the resource prices on a price list follow the currency of the price list header.

Role	Resourcing Unit	Unit	Price	Currency	Description
Architect	---	Day	\$1500	US Dollar	---
Architect	Contoso France	France Working Day	€1800	Euro	---
Architect	Contoso India	India Working day	₹25,000	Rupee	---
Architect	Contoso US	US Working Day	\$1500	US Dollar	---

*Price list for cost with price list lines in multiple currencies*

## Support for multiple time units on a single price list

Project Service supports pricing resource time. Users may choose to set up prices in hours, days, or any other unit of time. One current limitation is that the unit of time is decided on the header of the price list, and can't be changed on individual price setup lines for resource time.

With this update, each price list will allow you to specify prices for multiple time units. This is particularly useful for companies that operate across geographies with different labor laws and practices.

For example: When expressing rates for a “working day,” each division of a multi-national project service company might have its own definition of a working day. Its India division might work 8-hour days, while its Scotland division might work 7.5-hour days. With this feature, companies will be able to set up prices per day using the day unit that is specific to each division.

The screenshot shows a 'PRICE LIST' for 'Active Transport rate card - 2018'. The table below lists role prices with columns for Role, Resourcing Unit, Unit, Price, Currency, and Description. The 'Unit' column is highlighted with a red box.

Role	Resourcing Unit	Unit	Price	Currency	Description
Architect	---	Day	\$150.00	US Dollar	---
Architect	Contoso France	France Working Day	\$160.00	US Dollar	---
Architect	Contoso India	India Working day	\$90.00	US Dollar	---
Architect	Contoso US	US Working Day	\$150.00	US Dollar	---

### *Cost rates for multiple time units on Price List*

## **Ability to make copies of price lists by adding a markup percentage**

Project Service allows you to make copies of price lists for ease of data creation and maintenance. You're currently able to make copies of price lists in the same currency and time unit, or convert a price list in one currency and time unit to another by making a copy, using a different currency or time unit.

In these scenarios, the new price list is created by converting the currency and/or the time unit on the source to the currency and/or time unit specified for the target. This feature goes one step further by allowing users to specify a markup percentage when creating a new price list from an old one. This will be useful when creating new price lists for a future period by applying inflationary price changes.

## **Resolution of multi-currency cost price list on projects**

Project Service resolves the price list for cost rates on projects by matching the currency of the organizational unit that owns the project to the price list currency. In the case where a price list may have prices in multiple currencies, it's expected that there would be one master price list with cost rate lines in multiple currencies, and that this price list would be used by all projects globally.

In that situation, resolving a cost price list for a project using the currency on the header of the price list would not work. With this feature, it will be configurable to set up the default

resolution of the project cost price list. The options available would be to match the project's cost currency with the header of the price list as it works today or to use the globally managed price list regardless of its header currency.



# Microsoft Social Engagement

## Overview of Microsoft Social Engagement October '18 release

Microsoft Social Engagement helps you harness the power of analytics on social data to achieve business results. By putting intelligence from social data at the fingertips of sales teams, customer service agents, brand marketers, and across your organization, your employees can gather insights, meet customers and prospects on the channel of their choice, and build a trusted social presence.

Give marketers and PR teams the tools to measure and manage brand reputation. Empower service agents to solve problems effectively on any channel. Help sales teams forge better relationships by sourcing new leads and engaging them with relevant content.

The October '18 release will continue to build on these strengths by adding new capabilities. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

The key themes for this release are:

- **Quick setup and instant insights:** For the first time, Social Engagement will guide users of newly created solutions to success. It's easy to access and set up and lets you start within minutes. Users will get instant value with intelligent insights.
- **New start page for the app:** After signing in to Social Engagement, the app presents a new start page called **Home**. It provides helpful resources and additional information in one spot. We'll be adding more features to the start page in future releases.
- **Enhanced user guidance:** Get the most value out of Social Engagement with an enhanced user guidance experience that will help you quickly learn how to get around and use the app effectively.
- **Additional languages:** Microsoft Social Engagement will add support for several additional languages, significantly expanding our availability for customers in new markets and regions. Additional languages will be added for both the UI as well as for data acquisition.
- **Social Insights in Dynamics 365 for Marketing:** Get contextual social insights from Microsoft Social Engagement in your Dynamics 365 for Marketing app. Track your campaigns and events and find out how they are performing on social media. Analyze your brand's reputation with customizable dashboards. Configuring and getting started with Social Insights in Dynamics 365 for Marketing will be a simple and fast process.

## Summary of what's new in Microsoft Social Engagement

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<a href="#">Quick setup and instant insights</a>	General Availability	October 24, 2018
<a href="#">Social Insights in Dynamics 365 for Marketing</a>	General Availability	October 31, 2018
<a href="#">Additional languages</a>	General Availability	December 2018

## Quick setup and instant insights in Social Engagement

Social media has become an intrinsic part of every successful marketing, customer service, and community management organization. Monitoring, measuring, and managing how a brand is perceived on social media is critical to the success of that brand. Starting to care professionally about the social presence of your brand can be challenging for companies. A lot of professional tools depend on consulting and training to get started.

The upcoming changes to Microsoft Social Engagement will address that. Accessing and getting started will be quick and easy with:

- **Quick setup:** The simple first-run experience guides you to set up your first search topics for your brand with just a few clicks.
- **Instant insights:** Historical data is acquired and loaded for your brands right after the quick setup, giving you instant insights for your brand from social media. You can then immediately start exploring with our interactive analytics.

## Social Insights in Dynamics 365 for Marketing

Social Insights are a set of widgets that show data from Social Engagement in other Dynamics 365 apps. In October '18, Social Insights will be available to track campaigns in Dynamics 365 for Marketing.

For more details about this feature, see [Social Listening for your campaigns \(Dynamics 365 for Marketing\)](#)

## Additional languages

Microsoft Social Engagement is expanding with listening capabilities into new markets by adding more languages for data acquisition, sentiment analysis, and custom tags:

- Bahasa
- Czech
- Hindi
- Hungarian
- Korean

The Social Engagement UI will be localized in additional languages:

- Bahasa
- Bosnian
- Croatian
- Czech
- Hindi
- Hungarian
- Korean
- Serbian
- Slovenian
- Thai

# Finance and Operations

## Overview of Dynamics 365 for Finance and Operations October '18 release

This topic describes the theme areas for the October '18 release of Finance and Operations. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

### Focus on fundamentals

The October '18 release continues to expand supportability efforts for the community. This allows the community to build extensible solutions integrated with the Finance and Operations application. Microsoft manages the continuous updates of the platform and financial reporting with no costly upgrades required. Customers can opt for a fully data-resident online Finance and Operations subscription. All customer data and code will be contained in the data region of their choice. Data residency will be made available in Europe and then expanded to other regions.

- **Improving the business user experience.** Business users see fundamental day-to-day productivity gains by being able to save and share optimized views of data, group data based on a list of values, filter by date, and allow for Excel-like filtering by column headers. Business users want control of their experience. Personalization capabilities empower them to add/remove columns from a grid and hide any field to simplify and increase the speed of data entry.
- **Increasing productivity, control, and auditability.** Customers increase the speed and accuracy of their work with data entry enhancements. Additional controls for new master data provide companies insight into and tracking of their key business processes. Customers gain improved reporting, auditability, and drill-back with additional subledger data translated in multiple currencies.
- **Extending global coverage.** Global or regional customers with offices in United Arab Emirates (UAE) and Russia can start using Finance and Operations; this release supports regulatory requirements for these countries.

**NOTE** Russia localization is available for on-premises deployments only. The October '18 release covers several major Russia localization areas. The remaining Russia localization areas are targeted for general availability by the end of calendar year 2018. The plan for Russia Retail localization and Russian Payroll is not available yet. In the October '18 release, we also make several enhancements in our global electronic reporting (GER) and global tax engines (GTE) to provide a better regulatory feature configurability experience for power users.



## Intelligence and insights

Bringing intelligence and insights to the forefront for business users increases efficiencies and productivity for the organization. Microsoft has launched several new experiences that can stand alone or work better together with Finance and Operations.

### Better together

Microsoft is improving the digital workspace by streamlining the power and experiences of business applications, allowing business users to be more efficient while navigating across applications.

- **Sales and service integrations.** Seamless integrations leverage the CDS data integrator support scenarios for Customer Service and Finance and Operations. These integrations continue to bring new experiences such as project-based travel expenses, work breakdown structure support to manage planning, and billing to support project managers. Field technicians using Field Service have insight to the inventory information stored in Finance and Operations, allowing them to update inventory levels and complete material transfer. In addition, companies installing or servicing sold goods will benefit from visibility to the full sales and service process.
- **Dynamics 365 for Talent integration.** The CDS data integrator provides two-way integration for employees who are using Finance and Operations and Dynamics 365 for Talent. Employees will experience a seamless transition as data is shared between these systems.
- **Regulatory configuration service.** The regulatory configuration tool (known as Electronic Reporting) is now an independent service. This service allows partners and customers using multiple versions of Finance and Operations and earlier Microsoft Dynamics AX versions (such as AX 2012 and AX 2009, for India only) to configure regulatory features only once and use one common service for various versions. The regulatory configuration service targets a no-code programming approach, allowing power users to configure frequently changed legal requirements for regulatory reports, e-invoices, payment formats, and tax rules, rather than writing code in multiple applications. Regulatory configuration service is the first component of regulatory services, providing regulatory functionality that can be integrated with any business application. This service allows developers building applications to focus on their core functionality rather than worrying about meeting the increasing number of legal requirements around the globe.

## Summary of what's new in Finance and Operations

This topic lists the features that are planned for release in Microsoft Dynamics 365 for Finance and Operations between October 2018 and March 2019. These release notes describe functionality that might not have been released yet. Delivery timelines might change, and projected functionality might change or might not be released (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

**Note** Finance and Operations can be deployed in the cloud or on-premises. The following tables indicate whether a feature can be used in cloud environments, on-premises environments, or both. Keep in mind that the cloud and on-premises releases of a specific version of Finance and Operations may not be available at the same time. The on-premises release of a specific version is most often available shortly after the cloud release of the same version.

### Financial management

Feature	Release type	Cloud or on-premises	Date
<a href="#">Dual currency</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">View settlement transactions</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Vendor and customer approvals for specific fields</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Data entry dimension values</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Consistent validation actions</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018

Feature	Release type	Cloud or on-premises	Date
<a href="#">Change cash discounts</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Reporting currency in financial reporting</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Public sector enhancements</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Operating unit user-defined values</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Settle remainder</a>	General Availability	Both	January 2019
<a href="#">Global number sequences for customers and vendors</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">IBAN number validation</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Global customer and vendor transactions list pages</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Collection letters</a>	General Availability	Both	January 2019

## Service industries

Feature	Release type	Cloud or on-premises	Date
<a href="#">Mobile project timesheets</a>	General Availability	Both	Undetermined

## Supply chain management

Feature	Release type	Cloud or on-premises	Date
<a href="#">Warehouse enhancements</a>	General Availability	Both	Undetermined
<a href="#">Master planning performance improvements</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Consolidation of planned orders during parallel firming</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Unit of measure</a>	General Availability	Both	Undetermined (may release after March 2019)
<a href="#">On-hand inventory report performance</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Customize number of decimals for prices, quantities, and weight</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Resume master planning</a>	General Availability	Both	December 14, 2018

## Globalization

Feature	Release type	Cloud or on-premises	Date
<a href="#">Russian localization</a>	General Availability	Both	Functionality - October 1, 2018 Cloud / on-premise deployment options-December 14, 2018
<a href="#">Globalization – enhanced configurability</a>	General Availability	Both	October 1, 2018
<a href="#">Regulatory Services Configuration service</a>	General Availability	Cloud	October 1, 2018

## Platform

Feature	Release type	Cloud or on-premises	Date
<a href="#">Export up to 1 million rows to Excel</a>	General Availability	Both	January 18, 2019
<a href="#">Improved behavior of non-replacing lookups</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Improved usability of the navigation pane</a>	General Availability	Both	December 14, 2018
<a href="#">Legal entity filtering using grid column headers</a>	General Availability	Both	January 2019
<a href="#">Optimized "is one of" filtering experience</a>	General Availability	Both	December 14, 2018
<a href="#">Paste lists from Excel into filter fields with the "is one of" operator</a>	General Availability	Both	December 14, 2018



Feature	Release type	Cloud or on-premises	Date
<a href="#">Personalization improvements</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Restyled personalization toolbar</a>	General Availability	Both	December 14, 2018
<a href="#">Sticky default actions in grids</a>	General Availability	Both	November 16, 2018
<a href="#">Suppressing hyperlinks</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Test automation support</a>	General Availability	Cloud	October 1, 2018
<a href="#">Troubleshooting for the document routing agent</a>	General Availability	Cloud	January 2019
<a href="#">Upgrade automation</a>	General Availability	Cloud	December 10, 2018
<a href="#">On-premises deployment</a>	General Availability	On-premises	November 6, 2018
<a href="#">Manage batch jobs</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018
<a href="#">Data entity regression testing using data task automation</a>	General Availability	Cloud	October 1, 2018
<a href="#">Platform extensibility</a>	General Availability	Cloud On-premises	October 1, 2018 November 6, 2018

Feature	Release type	Cloud or on-premises	Date
<a href="#">Platform extensibility wave 2</a>	General Availability	Both	November 16, 2018
<a href="#">Platform extensibility wave 3</a>	General Availability	Both	December 14, 2018
<a href="#">Platform extensibility wave 4</a>	General Availability	Both	January 18, 2019

## Integration

Feature	Release type	Cloud or on-premises	Date
<a href="#">Integration with Field Service: Inventory and Projects</a>	General Availability	Cloud	December 2018
<a href="#">Extend analytical workspaces by mashing up external data with Power BI</a>	Public preview	Cloud	April 2019

## Analytics

Feature	Release type	Cloud or on-premises	Date
<a href="#">Bring your own database</a>	Public preview	Cloud	March 2019
<a href="#">Edit analytical workspaces</a>	Public preview	Cloud	March 2019
<a href="#">Pin Power BI dashboards to workspaces</a>	General Availability	Cloud	October 1, 2018
<a href="#">Real-time embedded Power BI Reports</a>	Public preview	Cloud	March 2019
<a href="#">Expense management Power BI</a>	General Availability	Cloud	October 1, 2018



## Lifecycle Services

Feature	Release type	Cloud or on-premises	Date
<a href="#">Dynamics Translation Service support for multi-language translation requests</a>	General Availability	Both	December 10, 2018
<a href="#">Dynamics Translation Service usage metrics</a>	General Availability	Both	Undetermined

## Dual currency

The reporting currency will be repurposed into a true second accounting currency. From a general ledger perspective, the reporting currency will continue to be calculated for every transaction posted to a general ledger. Some general ledger processes will be enhanced, and a new journal will be added to post transactions in only the reporting currency. For various subledgers, such as fixed assets, there will be larger changes. For fixed assets, we will start to maintain all transactions in the subledger for the reporting currency. When running depreciation, it will depreciate the reporting currency amounts using the depreciation methods, just as it does the accounting currency. Other subledger modules impacted will be Accounts payable, Accounts receivable, and Cash management.

For more information, see [Dual currency](#).

## Productivity to view settlement transactions

Improve the viewing of settlements by showing all related transactions for a settlement. Maintain multiple tabs so users can see the original context of the transaction, the settled transactions, and the related vouchers on a single form. This enhancement will alleviate the pain of users needing to have multiple forms open to see the correlated information.

## Vendor or customer approvals for specific fields

Enable approval of customers and vendors when specific fields are edited. You will be able to select from a list of fields that can be approved. Once the field is edited, you can submit the changes to workflow. When the changes are approved, they will be applied to the customer or vendor record.



## Ease of data entry for dimension values

When a dimension has a backing entity such as customer or vendor, the dimension value will default to the value entered in the associated form. For example, the customer dimension would be automatically set to the customer value used when a customer is created. New options are available to enable one or more dimensions to be defaulted. For example, a business unit can be defaulted when the cost center is entered.

## Simulate posting

The validation for journals will be improved to check for the exact same validations that are done at time of posting. For more information, see [Simulate posting](#).

## Change cash discounts

When editing a due date or base date in the customer or vendor transactions form, the user can be prompted to update the discount date. The due date and base date will be added in the transaction form and there will be a parameter that enables the prompt for a discount date change when the base date or due date is modified.

## Public sector enhancements

The following new capabilities for Public Sector are being added for accounting and finance professionals in the October '18 release:

- New encumbrance inquiry and report to allow easier reconciliation of general budget reservation and encumbrance balances.
- New budgeting functionality that allows you to copy compensation grids to save time in budget planning setup for the next budget cycle.
- The ability to default and select the bill-to address on purchase orders so that vendor invoices are sent to the proper location if your agency has distributed accounts payable.
- The ability to set the Purchase Order status to draft when generated from a requisition. This will allow you to send purchase orders through workflow without needing to create a change order.
- Vendor collaboration improvements, such as bidding guidance, bid alternates, and other enhancements to improve solicitation requests with external vendors.
- Dormant user accounts report to assist you in disabling or removing users who have not accessed the system for a period.

- Validation of duplicate vendors by Federal Tax ID to avoid duplicate records on your vendor file.
- Ability to post advanced ledger entries and general budget reservations as prior year transactions for entities that segregate their fiscal year carry-forward budgets from current year operating budget.
- ACH electronic payment number to provide a reference for payments made to vendors and employees not paid by check.

## Reporting currency in financial reporting

The reporting currency from the Ledger setup in General ledger will be available as a currency display in the column definition in Financial reporting. This will allow users to either take advantage of the powerful currency translation capabilities of Financial reporting, report on the reporting currency from Finance and Operations, or both. The Currency Display drop-down labels will change to more accurately describe what the user is reporting on: Accounting currency from Ledger setup, Reporting currency from Ledger setup, Transaction currency, or Translate to.

## Operating unit user defined values

The **Operating unit ID** field is now an editable field allowing users to define their own unique values for the operating unit ID. This is a key change for operating units used as **financial dimensions** as the value shown in the full account field is allowed to be a user-defined value instead of a predefined numeric value.

## Settle remainder

You can settle the amount remaining from settlement activity by applying that amount to a ledger account or another customer. You can settle the remainder when you are settling amounts entered into a journal or when you are only settling open transactions. For more information, see [Settle remainder](#).

## IBAN number validation

IBAN numbers will be validated to ensure that the bank account number in the IBAN number matches the account number on the bank account form.

## Global customer and vendor transactions list page

The customer and vendor list page will show multiple companies for a single customer. This provides visibility to the customer's activity without changing the active company, saving the users time on their research.

For more information, see the following topics:

- [Customer transactions list page](#)
- [Vendor transactions list page](#)

## Global number sequences for customers and vendors

Global number sequences for customers and vendors and customer groups and vendor groups allow business users to use a single number sequence across many legal entities.

The global number sequence also enables you to copy a customer or vendor from one legal entity to another where the same global number sequence is used. When you create a new customer or vendor, you can search for a customer or vendor in the address book and copy the customer or vendor information into the new customer, creating a copy of it. This improves usability for inter-company scenarios.

For more information, see the following topics:

- [Copy customers by using shared number sequences](#)
- [Copy vendors by using shared number sequences](#)

## Collection letters

You can now set up collection letters at the customer level, so that the collection letter code for each transaction is tracked but the collection letter processing will be based on a single collection letter level that is stored for the customer. For more information, see [Process collection letters](#).

## Warehouse enhancements

This release includes improvements to the warehouse area, including:

- Identifying and preventing data inconsistencies
- Performance improvements
- Enhancements of various flows
- Reviews of possible configurations that block non-optimal combinations
- Activities that focus on consistent functionality

Additionally, we have improved the inventory updates used for managing inventory on hand.

## Master planning performance improvements

The performance and predictability of master planning will be improved through multiple, incremental enhancements.

### Consolidation of planned orders during parallel firming

Master planning will be enhanced to support consolidation of planned orders—for example, by a vendor—when the automatic firming of orders is configured to run in parallel using multiple threads.

### Unit of measure conversion for variants

Unit of measure (UoM) conversions at the product variant level have previously been supported only in a select set of warehouse management scenarios. This functionality has now been expanded to provide support for UoM conversions at the product variant level throughout the application.

### Customize number of decimals for prices, quantities, and weight

With the October '18 release, developers can now extend the decimal point precision for prices, quantities, and weights. As an example, developers can customize the decimal point precision of the following EDTs: UnitAmountCur and UnitAmountMST to extend prices and line discount amounts, ProductQuantity to extend quantities, and WeightBase to extend weight information.

For more information, see the [Extensibility home page](#).

### On-hand inventory report performance

Customers with large volumes of products and transactions find it a challenge to ensure prompt on-hand inventory information, given that the current design requires significant real-time processing. Refactoring the approach to calculating and reporting on-hand inventory allows for a far more responsive experience.

### Resume master planning

Enhanced planning engine functionality ensures that master planning batch jobs automatically resume in the case where the main thread stops unexpectedly. This can happen if, for some reason, the batch server connection is lost during the master planning run. Before this feature was implemented, a complete rerun of master planning was needed. Now the master planning batch jobs automatically resume and continue at the place where they were interrupted. From the **Master planning history log**, the planner can see that the main thread was stopped unexpectedly and that the process was resumed.

Resume will only happen once, so if the main thread is stopped unexpectedly again, during the resume, it will mark it as failed in the log and not try to resume again. Also, resume is only applied to regeneration and jobs that have reached at least the coverage state of the master planning calculation. In case a helper thread stops unexpectedly, planning will continue with the remaining helpers.

## Mobile project timesheets

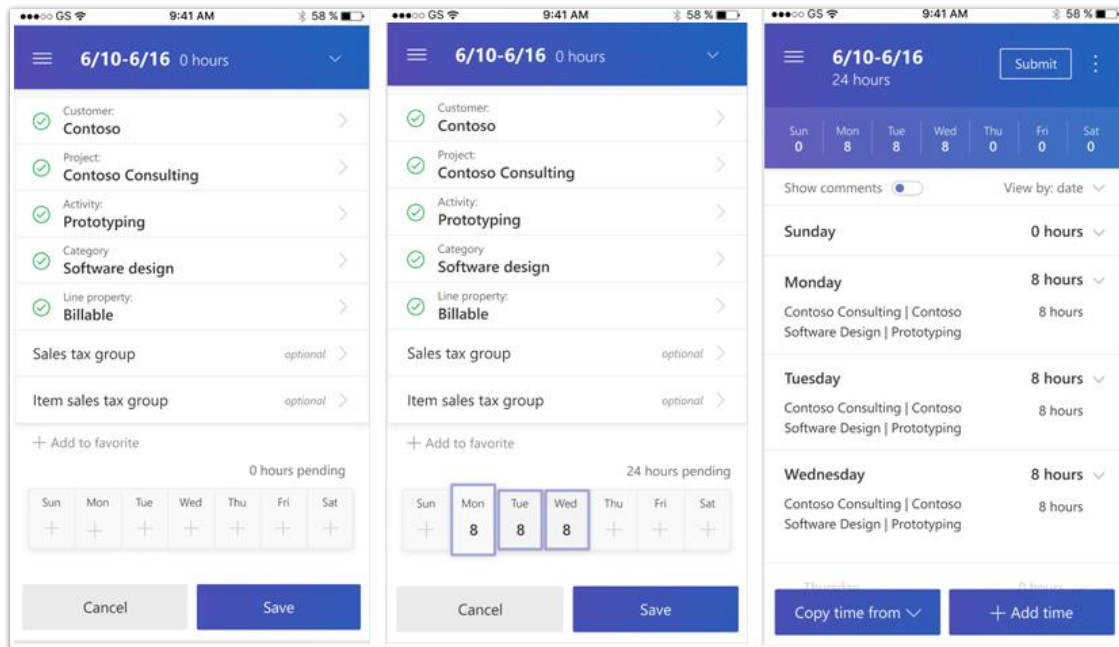
The solution allows an employee to manage their project timesheets on a mobile device. An employee can create and submit a project timesheet. The solution also allows an employee to approve project timesheets if they have been designated as an authorized approver. The application surfaces the Dynamics 365 for Finance and Operations timesheet functionality that resides in the Project management and accounting area of the product on a mobile device.

Key benefits:

- Speedy, accurate entry through use of copying from previous timesheets, copying from saved favorites, and copying from the employee's assigned projects.
- Ability to copy time for a project from one day to the next, enabling efficiency and reducing mistakes.
- Employees can include internal comments, which would be used to communicate to the reviewer, or customer comments, which will be surfaced on the customer's invoice.
- Lookups showing recently used and assigned project information speed data entry for the employee.
- Reviewers have the ability to approve, return or delegate the timesheets to another reviewer.
- Employee comments are readily visible to the approver, allowing for timely approval review.

## Example

An employee creates their timesheet for the work week of June 10–June 16 on their mobile device, using the new app. When the employee signs in to the application, the system creates a new timesheet for the work week:



*Three mobile screenshots that show how to create a timesheet for a work week*

## Russian localization

Microsoft Dynamics 365 for Finance and Operations supports localization for Russia as of October 2018. Customers with non-Russian tenants can create legal entities with a Russian address, which enables the Russian localization features, and customers can start reviewing Russian localization functionalities for their implementations.

## October '18 features

The October '18 release of the Russian localization covers the following functional areas:

- Accounts payable and accounts receivable
- [Advance holders](#)
- [Bank](#)
- Cash



- [Fixed assets](#)
- General ledger and general ledger reporting
- [Electronic reporting for financial reports](#)
- Inventory
- Addresses/FIAS
- VAT
- Profit tax registers in areas of cash movement, goods movement, rated expenses, deferred expenses, exchange difference, and WIP

### Monthly planned features

The following Russian localization features are targeted for general availability in the monthly updates of the October 1, 2018, release:

Month	Features
November 2018	<ul style="list-style-type: none"> <li>- Third-party miscellaneous charges</li> <li>- Electronic format of VAT declaration</li> </ul>
December 2018	<ul style="list-style-type: none"> <li>- Inventory management               <ul style="list-style-type: none"> <li>- Bailment</li> <li>- Goods in transit</li> <li>- Optional posting of transfer orders</li> <li>- Inventory owner</li> </ul> </li> <li>- Profit tax registers in areas of assets</li> <li>- Sales, purchase books, additional sheets, invoice-factures journal in electronic format</li> </ul>
January 2019	<ul style="list-style-type: none"> <li>- Profit tax registers in areas of:               <ul style="list-style-type: none"> <li>- Accounts receivable debts</li> <li>- Accounts payable liabilities</li> </ul> </li> <li>- Client-bank interface and reconciliation procedure</li> </ul>
<a href="#">April '19 release notes</a>	<ul style="list-style-type: none"> <li>- Cash flow management</li> <li>- Localization of process industries</li> <li>- Other incomes and expenses profit tax registers</li> <li>- Journal of alcohol sales</li> </ul>

Month	Features
	<ul style="list-style-type: none"> <li>- Electronic format of accounting reporting</li> <li>- Electronic format of profit tax declaration</li> <li>- Transport tax registers and electronic format of declaration</li> <li>- Land tax registers and electronic format of declaration</li> <li>- Assessed tax registers and electronic format of declaration</li> <li>- Indirect taxes declaration on import of goods in electronic format</li> <li>- Alcohol sales declaration in electronic format</li> </ul>

### Frequently asked questions about the Russian localization availability

#### When will the cloud deployment option of Dynamics 365 for Finance and Operations be generally available for Russia?

Microsoft made the cloud deployment option generally available for Russia in December 2018.

For cloud “go live” in Russia, customers must comply with the Russian personal data localization law. The Federal Law No. 242-FZ amendments, effective from September 1, 2015, imposes a data localization requirement on data “operators” in Russia that collect “personal data” of Russian citizens. Those operators must ensure that “collection, recording, systemization, accumulation, storage, correction (updating and changing) and extraction” of that personal data takes place in databases located in Russia before that data can be transferred outside of Russia. Customers implementing cloud deployments for Russia need to work with local partners providing solutions to allow the local storage of the personal data before that data can be transferred abroad to comply with the Russian Federal Law No. 242-FZ amendments.

#### When will the on-premises deployment option of Dynamics 365 for Finance and Operations be generally available for Russia?

Microsoft made the on-premises deployment option generally available for Russia in December 2018.

#### Will the Russian Retail localization and Russian Payroll be released within the October '18 release timeframe?

The Russian Retail localization and Russian Payroll will not be available in the October '18 release timeframe (October 2018 – March 2019). The plans for the Russian Retail localization and the Russian Payroll will be published in the release notes when those plans are finalized.

For more information, see the [help content for Russia localization](#).



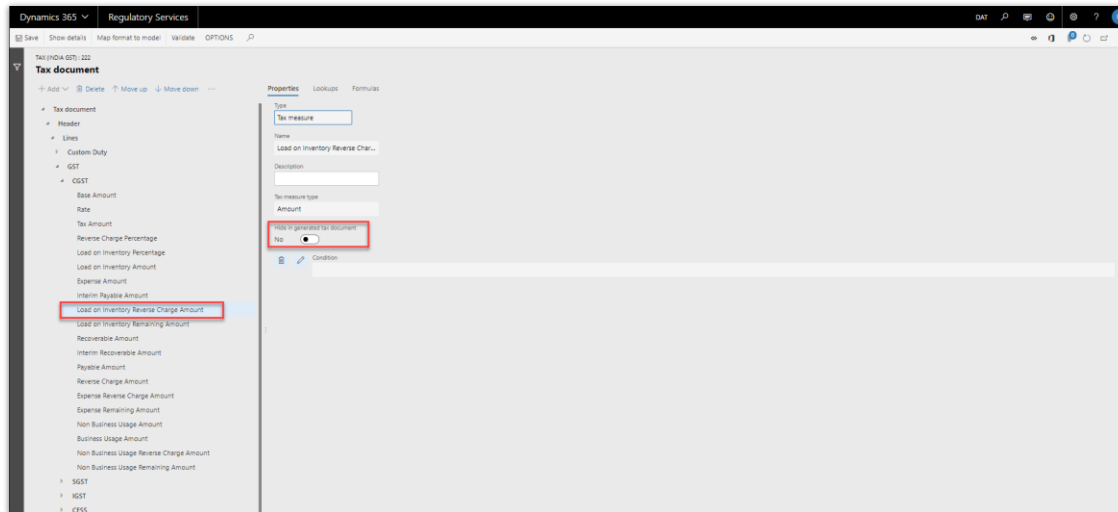
## Globalization – enhanced configurability

Configurability of features lets partners and customers do extensions and customizations without coding. We continue to extend both the depth and the breadth of configurability and added the following new capabilities in this area:

- **Static validations and dynamic performance rules for configuration** - This feature prevents performance degradation when partners or customers customize configurations and guide users while doing such customizations.
- **Automatic comparison of electronic reporting format executions with baselines defined in task guides** - This feature provides us and our partners and customers with automatic test capabilities. These tests focus on business users rather than engineers.
- **Relative paths in electronic reporting formulas** - This feature allows quick remapping of the format if you need to switch to another data entity or XML node with a similar structure.
- **Out-of-the-box configurable free text invoice templates** - These templates are for customers and partners around the globe so they can easily modify them to meet their local requirements.
- **Configuration-specific parameters for format configurations** - This feature allows you to configure any electronic reporting (ER) format to be dependable at the execution stage on master data and settings of the current application. User interface is updated to associate format artifacts and the data of the current application is configured as part of the ER format. Using this user interface, the business user can specify required associations as business data lookups and can store completed lookups separately from the ER format configuration, which does not require knowledge of ER from this kind of business user. These lookups can be migrated from one application instance to another and used at run-time to generate application-specific business documents.
- **Support of user defined arguments for calculated fields of ER expressions** - This feature allows you to configure ER expressions for any calculated field in the ER format to be dependable on certain parameters. It allows you to reuse this expression many times by calling it with different arguments. Using this feature, the number of expressions in format mapping can be significantly reduced, which simplifies the maintenance of ER configurations.

- **Batch import of data** - Using this feature, locations of incoming files can be specified as SharePoint folders for ER formats that were designed to parse incoming documents for data import. Such ER formats can now be executed in batch mode. If included in a batch, the ER format takes appropriate files from configured source of files and repeats the data import in the background. Results of exactions are logged for each ER format. Processed files can be moved to different SharePoint folders depending on the results of data import.
- **Separated model mapping from taxable documents** - This feature allows you to share a set of taxable documents between different Finance and Operations versions.
- **Linear equations solver for tax calculation** - This requires users to create tax calculation formulas with linear equations. The result will be performance improvements in tax calculation.
- **Improving tax configuration usability with reduced number of lookups** - While configuring tax in Global Tax Engine (GTE), users can define multiple tables to look up for tax rates, non-deductible percentages, tax components, tax periods, and more. In the real business practice, users want to reduce the number of lookup tables by combining them. For example, data model properties such as Country/Region of Origin, Consumption of Country/Region and Product type determine the nature of the tax transaction, which can be reused in multiple places. In this release, users can add a string-type measure at the line level that can be a lookup, and this measure can be further used in other lookups. It can dramatically reduce the number of lookups users need to maintain and can improve the tax configuration usability. This line-level string-type measure will also be shown in the tax document user interface.
- **Simplifying tax setup maintenance with Excel integration** - Maintaining tax setup parameters (tax rates, non-deductible percentages, and so on) for tax configurations can be a very effort-intensive task for some countries and types of businesses. Now users can maintain these parameters in Excel files automatically generated based on tax lookup tables and integrated with the tax setup.
- **Enabling tax configuration with tax currency and sales tax codes** - Companies with multiple tax entities need to maintain different tax currency for tax components used in different tax entities. With the release of this feature, users can define the tax currency for tax components in lookup tables. Users can also maintain the sales tax code in tax setup, map the tax component to the sales tax code in lookup tables, and maintain periods and reporting codes of these sales tax codes.

- **Enable configuring the visibility of tax measures in tax documents** - Tax formulas may use some intermediate tax measures that do not need to be shown on the Tax document page in Dynamics 365 Finance and Operations, so it is possible to hide these tax measures.



### *Configure the visibility of tax measures in tax documents*

For more information, see [Electronic reporting](#) and [Tax engine overview](#).

## **VAT reporting functionality for United Arab Emirates**

Value added tax (VAT) was introduced in the United Arab Emirates on January 1, 2018. The issued Federal Decree Law No. (8) of 2017 on Value Added Tax outlines the tax scope, rate, responsibility for tax, and supply of goods and services in all cases. For more details on VAT regulations, see [Federal Tax Authorities of United Arab Emirates](#).

Customers using the October '18 release of Microsoft Dynamics 365 for Finance and Operations will be able to configure the UAE legal entity with country-specific functionality related to VAT reporting in the country.

The following country-specific enhancements have been added to UAE localization to align with the requirements of VAT reporting:

- Legal entity configuration has been extended with additional fields required in VAT reports.
- VAT reverse charge functionality has been enabled for ARE country context to properly record taxable domestic operations within GCC territory.
- UAE country-specific sales invoice and credit notes printout layouts have been added with additional columns and VAT summary information.



- Sales invoice and credit notes for UAE are printing in two languages, including ar-AE Arabic and user interface language.
- VAT return declaration report is printed to electronic file format ready for uploading to the e-TAX FTA portal.
- Standard audit file functionality has been shared with UAE local functionality. Required by Federal Tax Authorities, FTA VAT audit file (FAF) can be exported accordingly to required CSV format.

All companies in UAE are responsible for carefully documenting their business income, costs, and associated VAT charges and sending regular VAT reports to federal tax authorities. The VAT reporting functionality will be adopted by all customers of Dynamics 365 for Finance and Operations.

### **Microsoft Dynamics 365 for Finance and Operations - Regulatory Services, Configuration service**

The Microsoft Dynamics 365 for Finance and Operations - Regulatory Services, Configuration service is the evolution of the regulatory configuration tool (also known as Electronic Reporting). The Configuration service allows partners and customers using multiple versions of Microsoft Dynamics 365 for Finance and Operations and earlier Microsoft Dynamics AX versions (such as AX 2012 and AX 2009 for India only) to configure regulatory features only once using a common service. The Configuration service targets a no-code programming approach, allowing power users to configure frequently changed legal requirements for regulatory reports, e-invoices, payment formats and tax rules, rather than writing code in multiple applications.

The Configuration service is the first component of Regulatory Services to be released. Regulatory Services will provide functionality that can be integrated with any business application. This service allows developers building applications to focus on their core functionality rather than worrying about meeting the increasing number of legal requirements around the globe.

The Configuration service provides the following capabilities:

- Access to visual designers to configure regulatory reports, e-invoices, payment formats, tax rules, and other regulatory features.
- Metadata that provides the ability to either import a description of the target application's artifacts, such as data tables, enumeration, and classes, or use connected applications for accessing metadata. Metadata is used at design time to define data sources of a data model mapping version.

- Support for regional deployments to enable users to select what region their data is held in. There will be a limited set of countries available with the initial GA release, but these will be added to over later releases.

## Regional availability

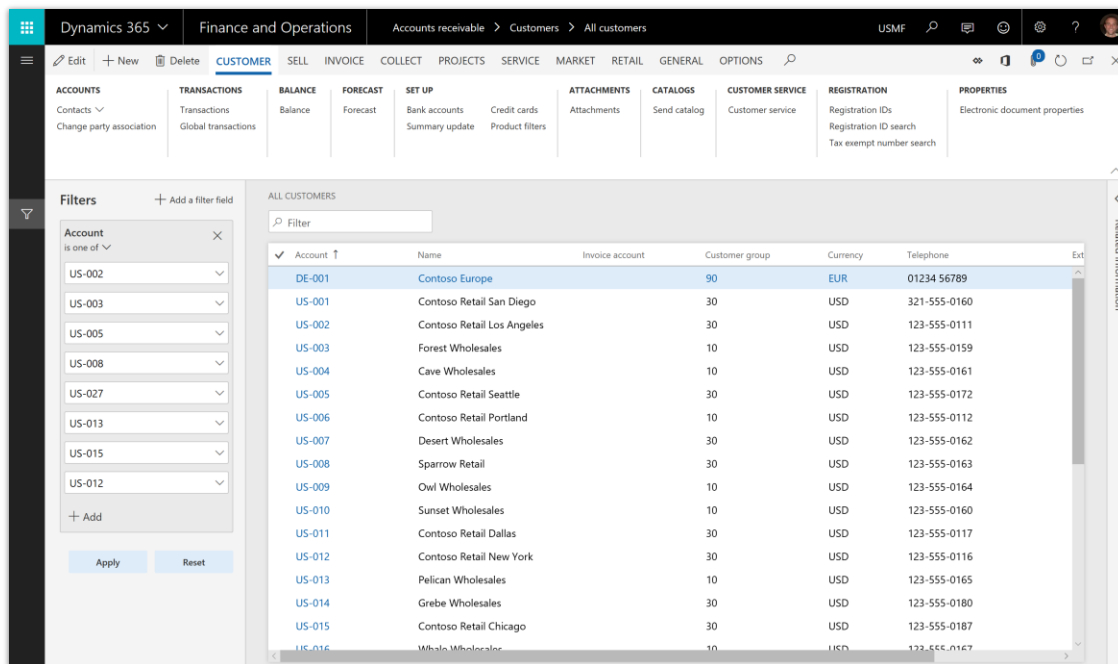
When the Configuration service is generally available, it will be available in all regions in which Finance and Operations is available. However, data will be initially hosted only in a US datacenter.

For a complete list of regions, see the [Dynamics 365 International Availability Guide](#).

## Optimized "is one of" filtering experience

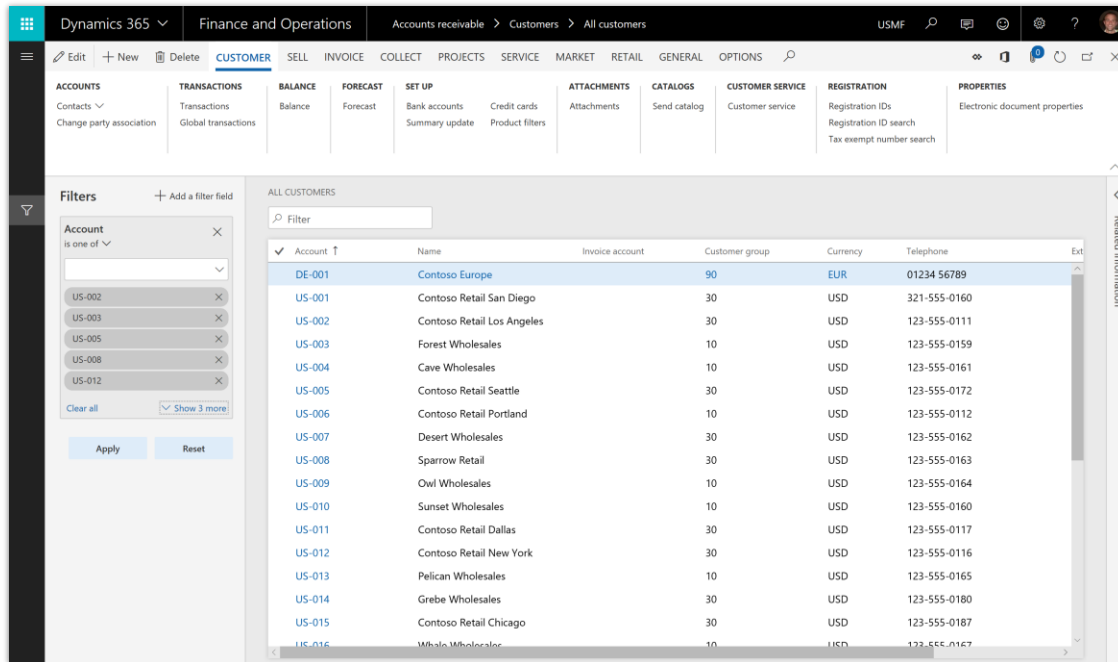
The "is one of" filtering operator is available for most fields when using the Filter Pane and grid header drop-down lists. This operator allows a user to filter a field based on multiple, different values. A new and improved experience for the "is one of" operator is available in Platform Update 22. To better understand the improvements, consider the following images.

This image shows the "is one of" filtering experience prior to Platform Update 22.



*The "is one of" filtering experience before Platform Update 22*

The following image shows the "is one of" filtering experience in Platform Update 22.



### *The "is one of" filtering experience with the Platform Update 22*

The optimized "is one of" filtering experience includes the following enhancements:

#### 1. **Easier to enter multiple filter values**

With the new experience, fewer keystrokes are needed to enter multiple filter values. You enter filter values from a single input field. Once the value is set (by pressing **Enter**, leaving the field, or selecting a value from a lookup), the filter value is transitioned into a read-only control and the input box is cleared for the next value to be entered. This is much faster than having to press an **Add** button and tab to a new field for each filter value you need to enter.

Additionally, you can type multiple, comma-separated values directly into the input field, or [paste in a list copied from Excel](#).

#### 2. **More compact and intuitive visualization of filter values**

The new visual representation of the filter values for the "is one of" operator is more compact, and has rounded corners. This gives the user more room to see other filters in the Filter Pane.

### 3. Simpler mechanism to remove individual or all filter values

The optimized "is one of" filtering experience also provides a one-click mechanism for clearing filter values. Each control contains an **x** button that can be used to remove a single filter value from the list. There is also a **Clear all** button that clears the list of filter values for that field.

#### Enabling the optimized "is one of" filtering experience

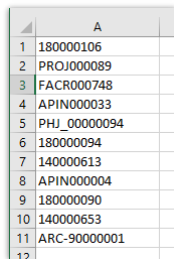
With Platform Update 22, the optimized "is one of" filtering experience is turned off by default, but a system administrator can enable it for an environment. To turn this feature on, navigate to the **Client performance options** page under **System administration** and find the **Optimized "is one of" filtering experience** switch.

#### Paste lists from Excel into filter fields with the "is one of" operator

For some tasks, users might have a list of values in Excel that they'd like to use to filter data in Finance and Operations. As an example, a finance user might have identified a set of vouchers from a report that need additional research in the system, and it would be ideal for this user to be able to copy the list directly from Excel into a filter field in Finance and Operations.

Starting in Platform Update 22, the "is one of" operator in the Filter Pane and grid column filtering now recognizes lists copied from Excel so that they can be pasted directly into a filter field. This includes a collection of values copied from different rows and columns in Excel.

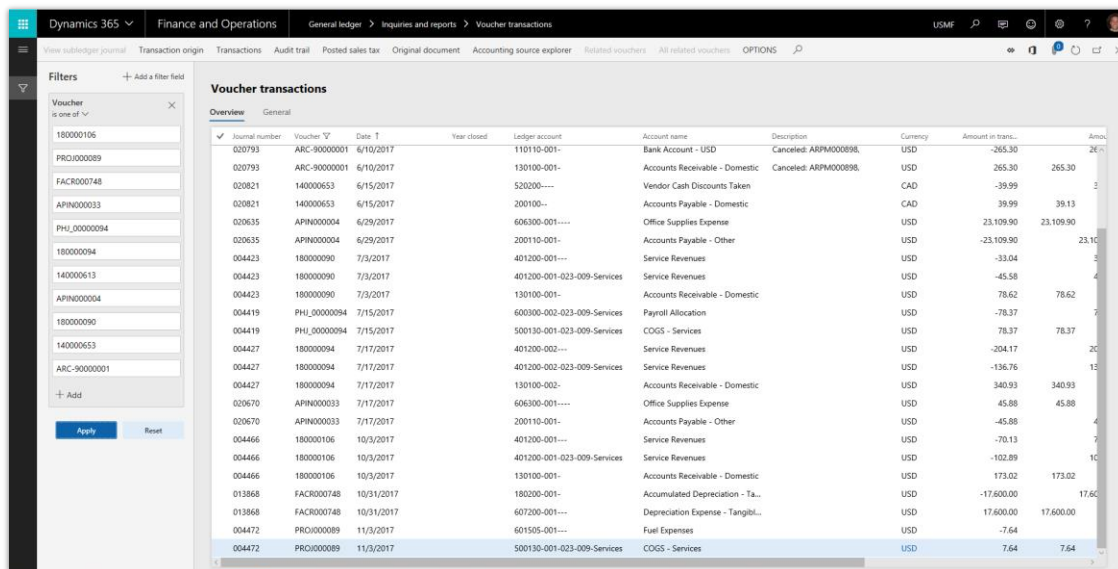
So for example, consider this list of voucher numbers in Excel:



	A
1	180000106
2	PROJ000089
3	FACR000748
4	APIN000033
5	PHJ_0000094
6	18000094
7	140000613
8	APIN000004
9	18000090
10	140000653
11	ARC-90000001
12	

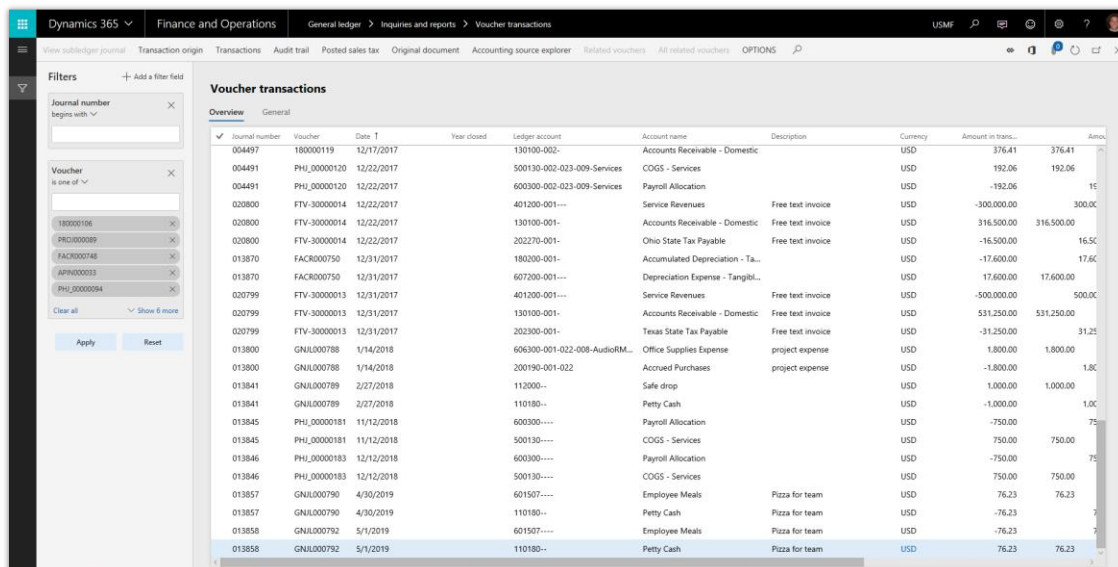
*List of voucher numbers in Excel*

If you want to filter Finance and Operations based on this list, simply copy the list from Excel, find the **Voucher** field filter in the Filter Pane on the **Voucher transactions** page, ensure the filter operator is set to **is one of**, and then paste the clipboard contents into the filter field. The list from Excel will get expanded in the filter field as shown:



*Voucher filter field after pasting in a list of values from Excel*

If you've enabled the [Optimized "is one of" filtering experience](#) that is also available in Platform Update 22, the visualization is even nicer, as shown in the following image.



*Optimized voucher filter field after pasting in a list of values from Excel*



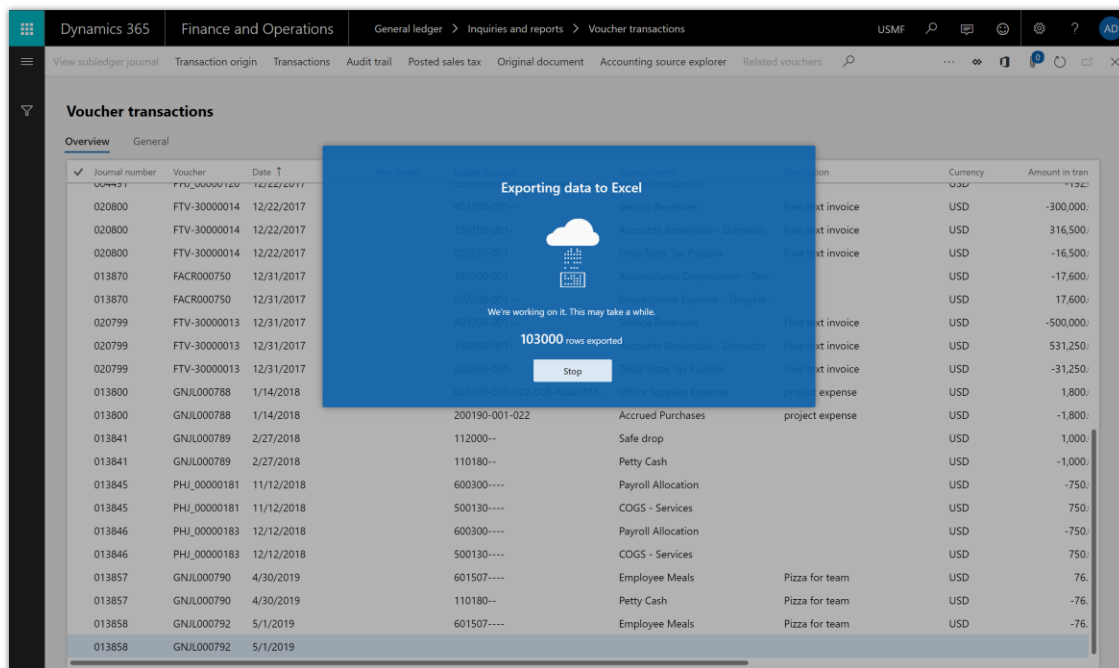


## Export up to 1 million rows to Excel

The Export to Excel feature can now be configured to allow users to export up to 1 million rows from a grid in Finance and Operations, a substantial increase from the previous 10,000-row limit. By default, the export limit is set to 50,000 rows, but through the **Client performance options** page, system administrators can adjust the export limit as high as 1 million rows.

Because Finance and Operations can now allow much larger datasets to be exported to Excel, two adjustments have been made to the user's experience with the Export to Excel feature.

- A new dialog is shown during the export that provides the user with feedback and progress. The dialog also allows the user to stop the export at any point and get a file containing the data exported so far. The speed of the export will vary by dataset and will be dependent on the number of rows exported, the number of columns in the grid, the presence of display methods (calculated columns), and the presence of dimension fields in the grid. This feature is available in Platform update 22.



### Export progress dialog

- After the export completes, users receive a notification in the Action center alerting them that the export has finished. The notification includes a link to download the Excel file containing the exported data. The link and notification are accessible for roughly three days after the export completes. This feature is available in Platform update 23.

For more information, see [Troubleshoot the Office integration](#).

## Sticky default actions in grids

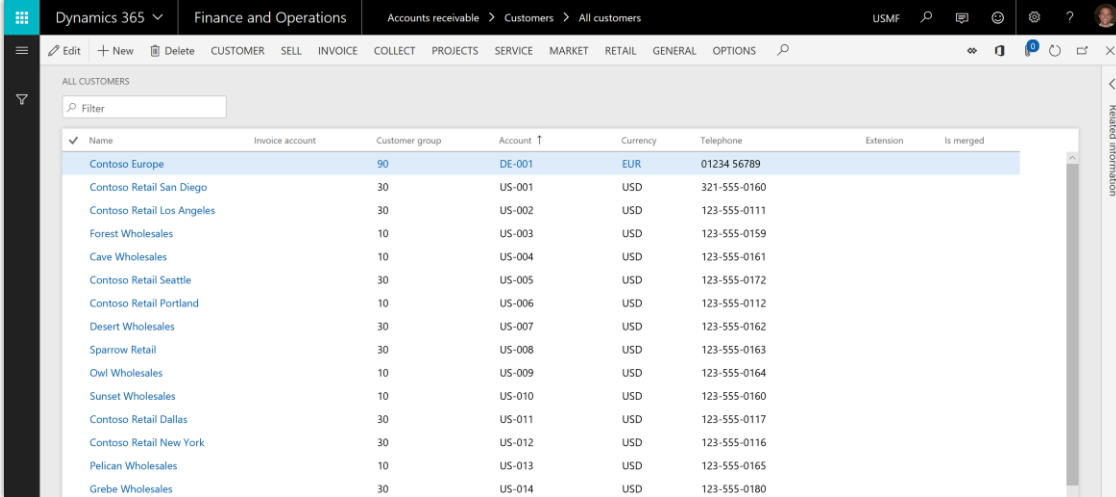
Many grids in Finance and Operations have a defined *default action*. This is a single column in the grid where the value in every row always appears as a hyperlink, as opposed to other columns where only the value in the active row appears as a hyperlink. To date, in Finance and Operations, this default action always appears on the first textual column in a grid before any user personalization is applied. As an example, consider the **Account** column in the **Customer** list below.

Account	Name	Invoice account	Customer group	Currency	Telephone	Extension	Is merged
DE-001	Contoso Europe		90	EUR	01234 56789		
US-001	Contoso Retail San Diego		30	USD	321-555-0160		
US-002	Contoso Retail Los Angeles		30	USD	123-555-0111		
US-003	Forest Wholesales		10	USD	123-555-0159		
US-004	Cave Wholesales		10	USD	123-555-0161		
US-005	Contoso Retail Seattle		30	USD	123-555-0172		
US-006	Contoso Retail Portland		10	USD	123-555-0112		
US-007	Desert Wholesales		30	USD	123-555-0162		
US-008	Sparrow Retail		30	USD	123-555-0163		
US-009	Owl Wholesales		10	USD	123-555-0164		
US-010	Sunset Wholesales		10	USD	123-555-0160		
US-011	Contoso Retail Dallas		30	USD	123-555-0117		
US-012	Contoso Retail New York		30	USD	123-555-0116		
US-013	Pelican Wholesales		10	USD	123-555-0165		
US-014	Grebe Wholesales		30	USD	123-555-0180		

### Customer list

The **sticky default action** feature, which is available starting in Platform Update 21, controls where the default action column appears in the grid after personalizations are applied that change the order or visibility of columns.

With sticky default actions off, which corresponds to how default actions work prior to Platform Update 21, the default action hyperlink would change to whatever column is the first textual column after personalizations are applied. For example, if you move the **Account** column to be the fourth column in the grid (or alternatively if you hide the **Account** column), the hyperlink representing the default action moves to the **Name** column.

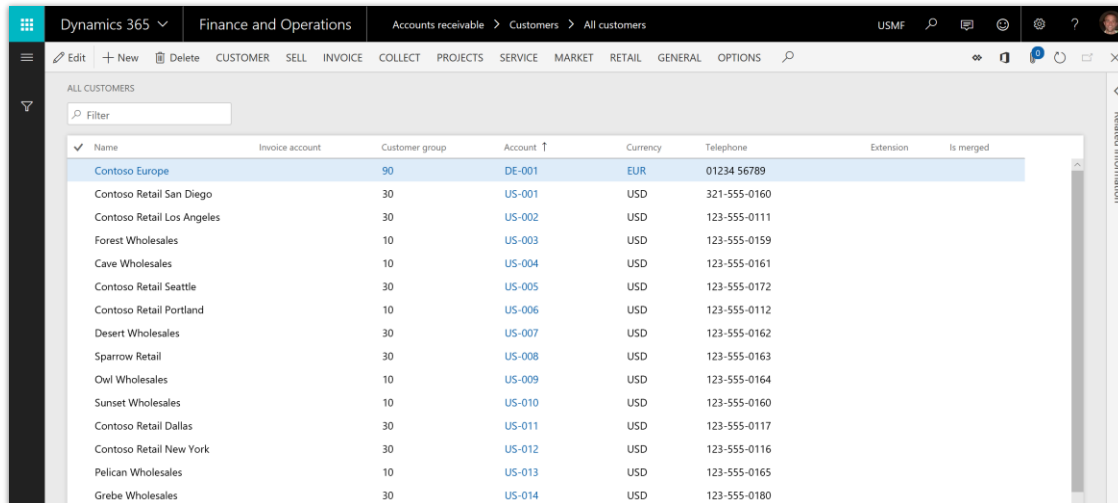


Name	Invoice account	Customer group	Account ↑	Currency	Telephone	Extension	Is merged
Contoso Europe	90		DE-001	EUR	01234 56789		
Contoso Retail San Diego	30		US-001	USD	321-555-0160		
Contoso Retail Los Angeles	30		US-002	USD	123-555-0111		
Forest Wholesales	10		US-003	USD	123-555-0159		
Cave Wholesales	10		US-004	USD	123-555-0161		
Contoso Retail Seattle	30		US-005	USD	123-555-0172		
Contoso Retail Portland	10		US-006	USD	123-555-0112		
Desert Wholesales	30		US-007	USD	123-555-0162		
Sparrow Retail	30		US-008	USD	123-555-0163		
Owl Wholesales	10		US-009	USD	123-555-0164		
Sunset Wholesales	10		US-010	USD	123-555-0160		
Contoso Retail Dallas	30		US-011	USD	123-555-0117		
Contoso Retail New York	30		US-012	USD	123-555-0116		
Pelican Wholesales	10		US-013	USD	123-555-0165		
Grebe Wholesales	30		US-014	USD	123-555-0180		

### *Sticky default actions off*

*With sticky default actions off, the Name column becomes the default action column if the Account column is moved out of the first column position*

With sticky default actions on, the default action hyperlink will be on the same column regardless of any personalizations applied to the form. This means for this customer list, the **Account** column will continue to be the default action column regardless of whether the **Account** column is moved or is hidden.



Name	Invoice account	Customer group	Account ↑	Currency	Telephone	Extension	Is merged
Contoso Europe	90		DE-001	EUR	01234 56789		
Contoso Retail San Diego	30		US-001	USD	321-555-0160		
Contoso Retail Los Angeles	30		US-002	USD	123-555-0111		
Forest Wholesales	10		US-003	USD	123-555-0159		
Cave Wholesales	10		US-004	USD	123-555-0161		
Contoso Retail Seattle	30		US-005	USD	123-555-0172		
Contoso Retail Portland	10		US-006	USD	123-555-0112		
Desert Wholesales	30		US-007	USD	123-555-0162		
Sparrow Retail	30		US-008	USD	123-555-0163		
Owl Wholesales	10		US-009	USD	123-555-0164		
Sunset Wholesales	10		US-010	USD	123-555-0160		
Contoso Retail Dallas	30		US-011	USD	123-555-0117		
Contoso Retail New York	30		US-012	USD	123-555-0116		
Pelican Wholesales	10		US-013	USD	123-555-0165		
Grebe Wholesales	30		US-014	USD	123-555-0180		

### *Sticky default actions off*

*With sticky default actions on, the Account column is still the default action column despite any personalizations*

With Platform Update 21, the sticky default action feature is off, but a system administrator can turn it on for an environment. To turn on this feature, navigate to the **Client performance options** page under **System administration** and find the **Enable sticky default action** switch.

## Personalization improvements

To aid business users in creating simpler, more targeted views of forms, a number of enhanced personalization capabilities have been added, including:

- Promoting common personalization tasks (for example, adding and removing columns from a grid) into the context menu.
- Allowing users to expand or collapse sections or change tabs while in personalization mode. No longer will users have to repeatedly exit personalization mode, expand a section or change a tab, and then re-enter personalization mode to make all the desired form modifications.

- Permitting users to hide any field via personalization, specifically now including mandatory fields. This allows a user to create a simplified experience where mandatory fields that are defaulted by business logic are not shown. Hidden mandatory fields are also temporarily made visible if they are empty when a save is attempted.

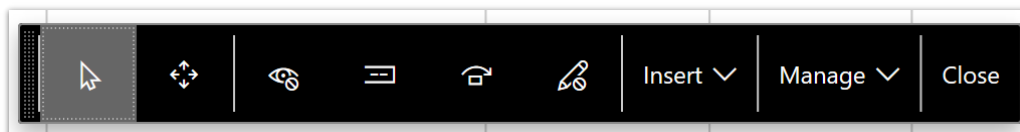
For more information about these enhancements, see [Personalize the user experience](#).

## Restyled personalization toolbar

The personalization toolbar has been restyled in Platform Update 22 to help users more easily tailor their own experiences in Finance and Operations. The following changes were made:

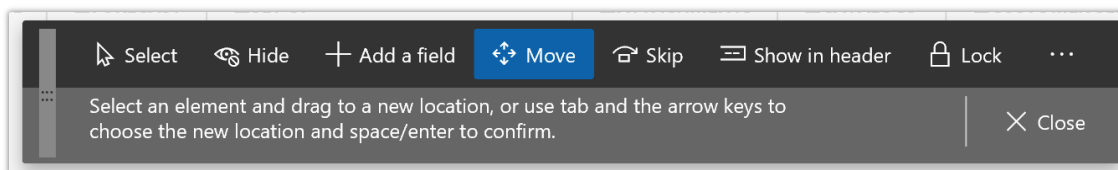
- The name of each personalization tool is now shown along with an icon, which helps users quickly recognize the tool they are interested in using.
- The description for how to use the current tool is also now shown, which helps users understand how to make the desired personalizations.
- The entire personalization toolbar can be moved across the screen by dragging and dropping on a specific region at the far left of the toolbar. This allows users to personalize elements that were previously obscured by the toolbar.

The following image shows how the personalization toolbar appeared before Platform Update 22.



### *Personalization toolbar before Platform Update 22*

The following image shows how the personalization toolbar appears in Platform Update 22.



### *Personalization toolbar in Platform Update 22*

## Improved behavior of non-replacing lookups

Some lookups in Finance and Operations are *non-replacing*, meaning that when a value is selected from the lookup, it doesn't replace what was already in the field, but instead it appends the selected value into the field. As an example, the lookups in the **Advanced filter/sort** dialog are non-replacing by default.

The behavior of non-replacing lookups has been improved in the following ways:

- Type-ahead behavior has been turned off for non-replacing lookups.
- Only characters typed after the lookup has been opened are used to position in the lookup grid.
- The selected value from the lookup is appended to what was in the field before the lookup was opened (that is, any characters typed while the lookup was open are replaced when appending the selected value from the lookup).
- A new icon now appears on non-replacing lookups to visually differentiate them from regular lookups.

These adjustments make it easier for users to filter data using the **Advanced filter/sort** dialog.

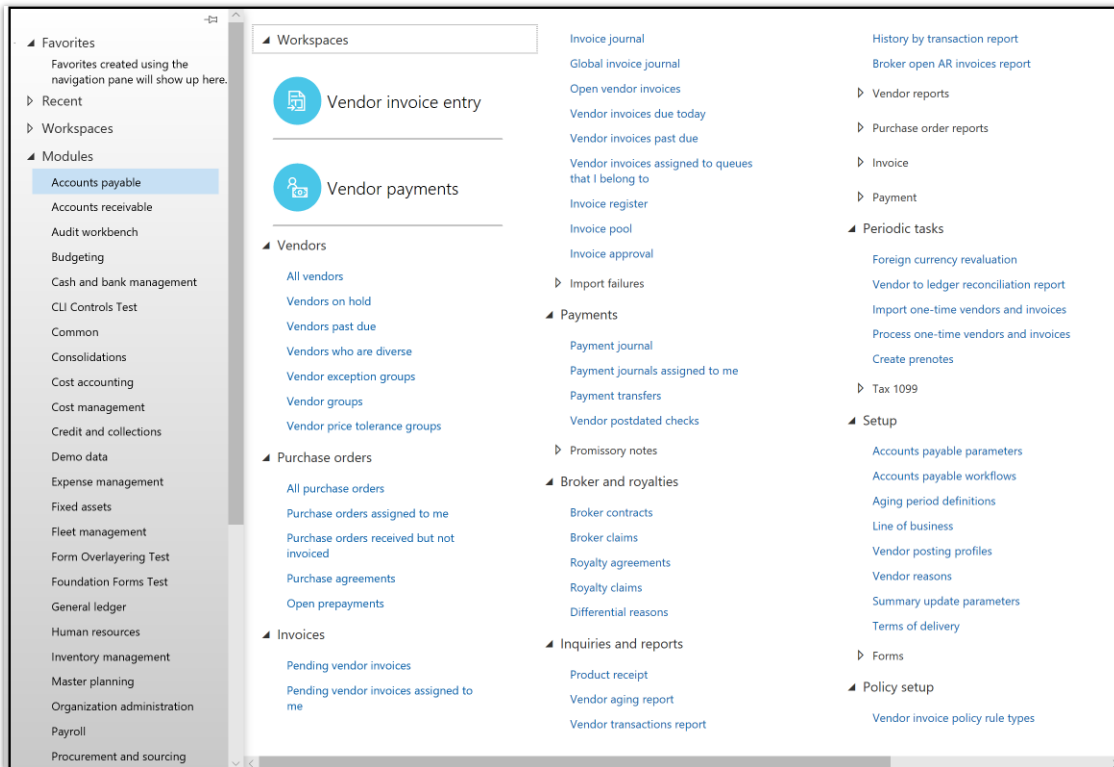
## Improved usability of the navigation pane

The navigation pane is a highly used navigation mechanism in Finance and Operations that provides access to favorites, recently opened pages, workspaces, and the main menu. Because of its high usage, the navigation pane has been enhanced in a few ways to improve its usability. These changes are available starting in Platform Update 22.

### 1. Improved visual styling

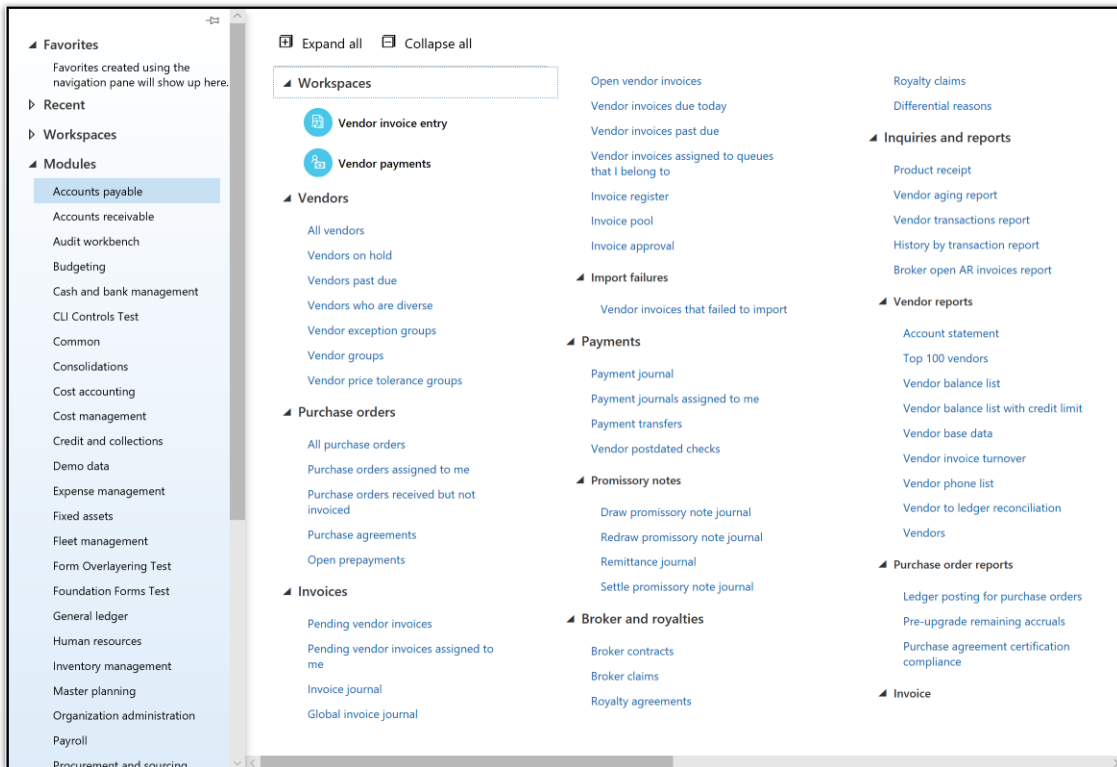
Targeted styling changes have been applied to the navigation pane to better distinguish the different hierarchical levels in the menu structure and to make workspace tiles fit better visually inside the menu hierarchy.

For example, the following image shows the navigation pane in Platform Update 21 and earlier. Notice that the workspace tiles take up a lot of room.



*Navigation pane in Platform Update 21 and earlier*

The following image shows the navigation pane in Platform Update 22. Notice that the workspace tiles fit better.

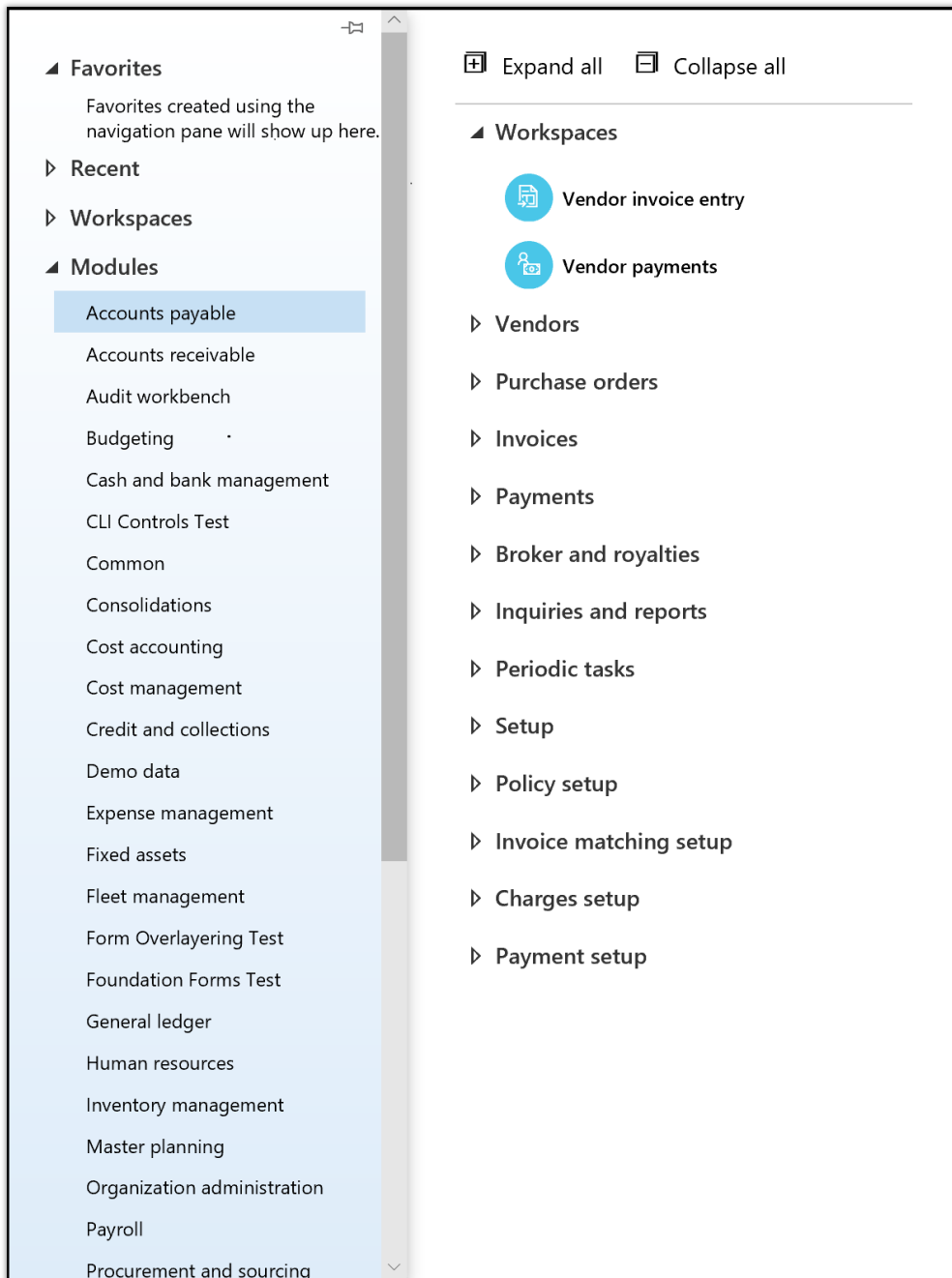


*Navigation pane after Platform Update 22*



## 2. Collapsed menus by default

To make our module menus more approachable and less overwhelming to users, we are now starting each user off with almost completely collapsed module menus; only the **Workspaces** folder is expanded by default, as shown in the following image.



*Menus now start out almost completely collapsed*

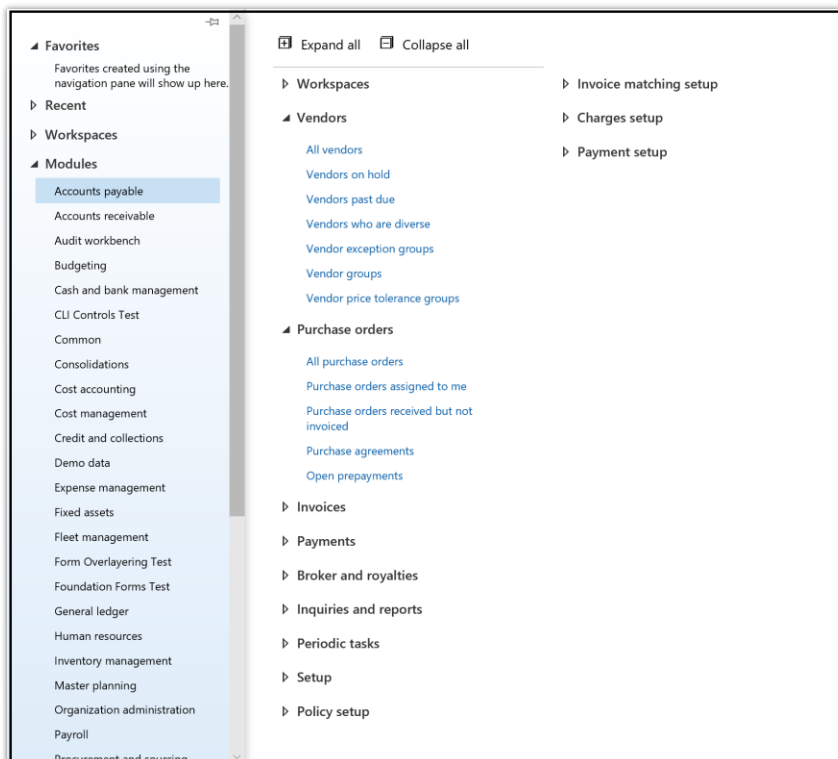
### 3. Quickly expand and collapse an entire menu

**Expand all** and **Collapse all** buttons have been added to the top of each module's menu to allow users to fully expand or collapse the menu with a single click. The **Expand all** button is particularly useful for browsing scenarios where users aren't exactly sure what they're looking for, but would like an easy way to see the full module menu. The **Collapse all** button lets users quickly return to a base starting point.

### 4. Remembering menu states

The most exciting enhancement to the navigation pane is that the system now remembers the expand/collapse state of each menu, so that the next time you open a module, the menu will be in the same state that you left it in. This allows users to keep the folders they never or rarely use collapsed all the time, while at the same time the folders with links they frequently use stay expanded.

For example, if the **Vendors** and **Purchase orders** folders contain the menu items you use most often, you can expand those two folders, and they will be expanded for you the next time you open this menu.



*The next time*

## Legal entity filtering using grid column headers

Starting in Platform update 23, for grids with cross-company queries, users are able to filter the *Legal entity* column using the column drop-down menu, similar to other columns in the grid. For example, if a user is looking at the global transactions for a specific customer, they might want to find the transactions within a small subset of companies. Prior to this feature, they had to filter using the Customer range tab on the Advanced filter or sort dialog box, or use page-specific custom filters.

Voucher	Customer account	Legal entity	Transaction type	Date	Invoice	Description	Amount in transaction curr...	Balance	Currency	Amount	Balance	Amount
INV-10000523	US-001			7/16/2016	CVI-000524		319,366.90	0.00	USD	319,366.90	0.00	
ARPM000556	US-001			7/31/2016			319,366.90	0.00	USD	319,366.90	0.00	
INV-10000552	US-001			8/15/2016	CVI-000553		319,406.58	0.00	USD	319,406.58	0.00	
ARPM000605	US-001			8/28/2016			319,406.58	0.00	USD	319,406.58	0.00	
INV-10000610	US-001			9/16/2016	CVI-000611		14,862.70	0.00	USD	14,862.70	0.00	
INV-10000581	US-001			9/17/2016	CVI-000582		319,406.58	0.00	USD	319,406.58	0.00	
ARPM000630	US-001			9/28/2016			134,269.28	0.00	USD	134,269.28	0.00	
ARPM000627	US-001			10/10/2016			200,000.00	0.00	USD	200,000.00	0.00	
INV-10000638	US-001			10/15/2016	CVI-000639		347,962.97	0.00	USD	347,962.97	0.00	
ARPM000660	US-001		usp1f	10/31/2016		Payment	347,962.97	0.00	USD	347,962.97	0.00	
INV-10000000	US-001		usp2	11/7/2016	CVI-000001	Sales order	63,507.00	0.00	USD	63,507.00	0.00	
INV-10000007	US-001		usp2	11/14/2016	CVI-000008	Sales order	63,507.00	0.00	USD	63,507.00	0.00	
ARPM000001	US-001		usp2	11/17/2016		Payment	63,507.00	0.00	USD	63,507.00	0.00	
INV-10000014	US-001		usp2	11/21/2016	CVI-000015	Sales order	63,507.00	18,000.00	USD	63,507.00	18,000.00	
ARPM000021	US-001		usp2	11/28/2016		Payment	63,507.00	0.00	USD	63,507.00	0.00	
INV-10000021	US-001		usp2	11/28/2016	CVI-000022	Sales order	63,507.00	63,507.00	USD	63,507.00	63,507.00	
INV-10000667	US-001		usp1f	11/30/2016	CVI-000668	Sales order	356,969.82	0.00	USD	356,969.82	0.00	
ARPM000026	US-001		usp2	12/6/2016		Payment	20,000.00	0.00	USD	20,000.00	0.00	

*Filter legal entity columns in the same way as any other column*

## Suppressing hyperlinks

Developers are able to suppress hyperlinks on form controls by setting the **EnableFormRef** property to **No**. This property can be set on both forms and form extensions. When a hyperlink is suppressed, the corresponding **View details** option in the right-click context menu is also suppressed.

Currently when users click on some hyperlinks, it results in an attempted navigation and then an error message, as there is no target form to open. Suppressing hyperlinks in these scenarios will improve the user experience by removing these confusing hyperlinks.

## Test automation support

An administrator or functional power user can author, run, and manage an automated test regression suite, based on task recordings, that greatly reduces the impact and cost of validating updates to Dynamics 365 for Finance and Operations environments. These tests can run against any web browser-accessible test environment.

For more information, see [Create user acceptance test libraries by using task recordings and BPM](#).

## Troubleshoot document routing agent

Document routing agent is used to manage large print jobs being sent to on-premise printers. Troubleshooting print issues is now easier. Extensive error reporting and diagnostics enable IT administrators to detect and fix issues without having to call Support.

## Upgrade automation

If you are a customer operating Dynamics 365 for Finance and Operations, Enterprise edition, you will be able to apply a major version upgrade (such as 7.1 to 7.2) without involvement from the Microsoft operations team. Orchestration of upgrade steps, including preparation of a staging area, data upgrade, and applying new versions, are performed via an automated process. While the Microsoft operations team is available on a stand-by basis to assist with queries or exceptions, you can schedule and carry out the entire process with minimal downtime and at your convenience.

For more information, see the [LCS \(December 2018 - release 1\) release notes](#) blog post.

## On-premises deployment enhancements

The on-premises deployment option for Dynamics 365 for Finance and Operations has been enhanced in many areas, with a focus on simplifying setup, operations, monitoring, and servicing.

The Finance and Operations 8.1 release is now available for on-premises deployments. This release includes all feature improvements available in 8.1 for the cloud. Retail is also available with this release. For more information, see the following content:

- [On-premises deployments home page](#)
- [Set up and deploy on-premises environments \(Platform update 12 and later\)](#)
- [Features that aren't implemented in on-premises deployments](#)
- [Retail capabilities that are available in on-premises deployments](#)
- [Installation steps for Retail channel components in an on-premises environment](#)
- [Configure, install, and activate Retail Modern POS \(MPOS\)](#)
- [Configure and install Retail Store Scale Unit](#)

## Managing batch jobs

Starting with the October 2018 release, Finance and Operations administrators will be presented with a set of new features in managing batch jobs. These features will be incrementally delivered as a part of monthly platform updates.

Productive tools that help manage batch job creation, execution, and investigations are crucial in helping administrators manage the performance and efficiency of the system.

Administrators will be able to perform common tasks in a more productive manner. They will be able to easily copy batch jobs, assign co-administrators, and specify time ranges during which jobs within a batch group can start execution. There will also be improvements to the batch management user interface to simplify investigations.

We also started working on designing a new framework that provides scalable and dedicated batch job processing units that are not shared with user interactive sessions or integration endpoints.

## Data entity regression testing using data task automation

Data task automation in Microsoft Dynamics 365 for Finance and Operations lets users easily automate many types of data tasks including regression testing of data entities. For more information about data task automation, see [Data task automation](#).

## Platform extensibility enhancements

Enhanced extensibility capabilities in Platform update 16 through Platform update 20:

- Enable changing a form to use a custom pattern using a form extension. This is to enable ISVs to add tabs and other form parts that do not fit the original pattern. Developers now have actions to **Set pattern to custom** and **Restore original pattern**.
- Allow an extension to change **TableField.AssetClassification** so General Data Protection Regulation (GDPR) data classification information can be provided.
- Enable form extension methods to call methods and controls added via other extensions. For example, now when a form has a button and some methods added via extension, then future extensions to that form will be able to call the new button and methods.
- Add query object support for set-based update statements via an **update\_recordset** method.
- Allow a query extension to add a root datasource to a union query.
- Enable the addition of ranges into a view using an extension.

- Enable setting **SupportsSetBasedSqlOperations** on data entity view extensions. Yes can only be set if all extensions have it set to Yes including the base element. If any extension or the base element has the value set to No, then runtime result will be No.
- Allow a form extension to add workflow to a form by editing **WorkflowEnabled**, **WorkflowDataSource**, and **WorkflowType**.
- Enable Chain of Command for form methods. In particular this allows an extension to add workflow to a form by overriding the **canSubmitToWorkflow** method. Note that if the targeted form method is a kernel method without an X++ override, then a recompile of the target form will be needed.
- Enable Chain of Command for data entities.
- Enable Chain of Command on nested types within forms including datasources and controls.

For more information about extensibility capabilities, see the [Extensibility home page](#).

## Platform extensibility enhancements wave 2

Enhanced extensibility capabilities in Platform update 21:

- Chain of command methods now support **try-finally** or **unchecked** blocks around the next clause to facilitate resource cleanup or security check adjustments (Ref# 215266, 223822).
- Allow changes to **ShowZero** on EDT Reals (Ref# 198765).
- Allow changes to **DisplayLength** on EDT Strings (Ref# 198766).
- Allow changes to **Status** on query ranges (Ref# 198835).
- Allow changes to **UseCaptionFromMenuItem** on forms (Ref# 198793).
- Allow changes to **NeedsRecord** and **SaveRecord** on buttons (Ref# 198762).
- Allow changes to **AllowEdit** and **NeededPermission** on form controls (Ref# 149754, 198836).
- Updated **DictClass.getAllAttributes** to return the attributes defined on extension classes (Ref# 216149).

- Made the **DiagnosticsArea**, **DocuFilePlace**, and **DocuTypeGroup** enumerations extensible (Ref# 223436, 241335, 238162).
- Add query object support for set-based delete by using a **delete\_from** method (Ref# 185500).

Ref numbers correspond to specific extensibility request IDs that are used internally and available externally. For more information about all extensibility capabilities, see the [Extensibility home page](#).

### Platform extensibility enhancements wave 3

Enhanced extensibility capabilities in Platform update 22:

- Enable Chain of Command to target method overrides that have not been implemented to tables and data entities (Ref# 198772).
- Allow setting the target field values in a query **insert\_recordset** method to literal values (Ref# 198849).
- Allow changes to **StartPosition** on form datasources (Ref# 198821).
- Allow changes to **Visible** and **CountryRegionContext** on table fields (Ref# 198809, 198776).
- Add the ability to skip the Write and ValidateWrite form datasource methods on extended datasources so they can be made read-only (Ref# 198754).

Capabilities originally planned but not added after further investigation:

- Allow changes to **AllowEdit**, **AllowEditOnCreate**, **Mandatory**, and **IgnoreEDTRelation** on table fields (Ref# 199206) – The ability to change these properties on Table Fields would result in breaking changes to the behavior of the field. Instead, add new fields as needed.
- Allow changes to **TimeZone** on extended data types (Ref# 237002) – If the timezone preference is changed for a field's EDT, then it changes the way that fields are stored. "Auto" means convert the value to UTC timezone. "NoConversion" means store the value as entered. Changing the TimeZonePreference for an existing EDT is a breaking change on the functionality currently leveraging that EDT. Instead, use a different EDT if needed.

Ref numbers correspond to specific extensibility request IDs that are used internally and available externally.

For more information about all extensibility capabilities, see the [Extensibility home page](#).

## Platform extensibility enhancements wave 4

Enhanced extensibility capabilities in Platform update 23:

- Allow adding new relations to query datasources (Ref# 198819).
- Allow ability to change field properties (Mandatory, AllowEdit, AllowEditOnCreate) on existing fields in data entity extensions (Ref# 198818).
- Ability to adjust the fieldgroup order of new fields added via table extension (Ref# 198798).
- Enable support for DataMemberAttribute on extension classes (Ref# 199219).
- Allow adding table permissions into a security role using an extension (Ref# 198823).
- Add the ability to use AND and OR APIs with SysDaQueryExpression and adjust extensibility of SysDa\* classes (Ref# 269067).

For more information about all extensibility capabilities, see the [Extensibility home page](#).

## Integration with Dynamics 365 for Field Service – inventory and projects

Integration with CDS data integration will be provided to support scenarios where Field Service activities are done outside of Dynamics 365 for Finance and Operations.

This phase focuses on giving field technicians insight to the inventory information from Finance and Operations, allowing them to update inventory levels and do material transfers. In addition, companies installing or servicing sold goods will benefit from better control and visibility to the full sales and service process with integration from projects.

Functionality includes integration of:

- Warehouse information
- On-hand inventory information
- Inventory transfers
- Inventory adjustments
- Dynamics 365 for Finance and Operations projects connected with Dynamics 365 for Field Service work orders

The CDS data integrator synchronizes data by using customizable projects. Standard templates can be used to create custom integration projects, where additional standard and custom fields and entities can be mapped to adjust the integration and meet specific business needs. The field service integration builds on top of the existing prospect-to-cash functionality.



## Extend analytical workspaces by mashing up external data with PowerBI.com

While report visuals and layout changes can be done in the client, for extension scenarios such as mashing up external data or creating calculations, power users can deploy the analytical workspace into their own PowerBI.com subscription. They can use the full power of Power BI to make customizations to reports, including use of the Power BI mobile app and the Power BI Q&A feature.

## Bring your own database using Azure Data Lake and Power BI data pools (BYOD)

This new offering combines the best features of the entity store and Bring your own database into one service. You can choose data - Entity store schemas or Entities, and the service keeps the data refreshed. No need to schedule or monitor export jobs. Data can be stored in Azure Data Lake. Because the data is visible to Power BI as data pools, you can create rich data mash-ups by combining data from Finance and Operations with other sources. Now you can import your own data into Azure Data Lake and build your cloud data warehouse. Since the data is in your own Azure subscription, the data is accessible using other Azure services such as Azure Data Factory, Azure Machine Learning, Databricks, and Hadoop.

## Configure Bring your own database timeouts from the UI

When you are exporting data to Bring your own database and you encounter timeouts, you don't need to create a support case with Microsoft to increase the timeouts. Instead, you can reconfigure the timeouts by navigating to **Data management > framework parameters > Bring your own database**.

## Export data from all companies to another Microsoft Azure SQL database by using a single job

When you create a data project for exports, there is an option available on the entity level to export data from all companies in Finance and Operations to the target database, or BYOD. By default, this feature is not enabled. You must contact Microsoft to enable this feature for your environment if you would like to use it.

## Edit analytical workspaces in the client

End users can modify ready-made analytical workspaces (including financial reports) themselves without leaving the client or hiring developers. This capability extends to all ready-made financial reports as well as all other reports in analytical workspaces.

## Pin Power BI dashboards to Finance and Operations workspaces

You will soon be able to pin Power BI dashboards to Microsoft Dynamics 365 for Finance and Operations workspaces for ease of access. You can author dashboards by combining data from Finance and Operations as well as other systems. Dashboards that contain natural language-based queries as well as rich visualizations from many different systems can now be added to workspaces to provide comprehensive visibility into business processes.

## Real-time Power BI reports

If you are a customer who is currently running Microsoft Dynamics 365 for Finance and Operations version 7.3 or 8.0 or later, most analytical workspaces and embedded Power BI reports in the product are updated in real-time when you update your platform. The entity store is refreshed “hands free,” so your administrator does not need to manage the entity store refresh schedule. Microsoft will manage the refresh for you.

The system makes an effort to refresh models (or parts of models) in real time. Administrators can see the refresh status of entity store data including warnings from models that are refreshed on a nightly basis (as opposed to real time). Models that are refreshed overnight by default can also be refreshed on demand.

If you are a developer, you can turn on best practice warnings to make the compiler show a list of entities and tables in aggregate measurements (such as analytical models) that will be refreshed on a nightly basis. You can customize entities and tables to support real-time updates.

## Expense management Power BI

The Expense management workspace has been enhanced with Power BI content for individuals with personal expense analytics as well as for the finance team with admin expense analytics.

The Personal expense analytics content is a single page containing metrics on unsubmitted and submitted but not paid expenses as well as insights into all previous expenses for the current user.

The Admin expense analytics content is three pages containing:

- An overview page with key metrics on expense amounts and insights into draft, in-process, and completed expense reports.
- An employee statistics page to review an individual employee in detail by time, cost type, and statistics group.
- An employee comparison page to compare multiple employees against others over time.

## Translation service

Dynamics Translation Service (DTS), hosted in Lifecycle Services (LCS), allows partners to translate Dynamics solutions and products (ERP only) in existing and new languages, taking advantage of their own linguistics assets and Microsoft linguistic assets. In addition to supporting user interface translation, this service supports user assistance translation in Microsoft Word and HTML formats (.docx, .html).

In an LCS release in December, we will add support for multi-language translation requests and usage metrics functionality to DTS.

For more information, see [Microsoft Dynamics 365 Translation Service](#).

# Talent

## Overview of Dynamics 365 for Talent October '18 release

The Dynamics 365 for Talent update for October '18 includes applicant tracking system (ATS) capabilities, departmental onboarding support, and new benefits, workforce, and organization management capabilities. This latest release opens the door for Dynamics partners to extend Talent and bring additional capabilities to the Common Data Service for Apps. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

### Streamlined, intelligent, and compliant recruiting

Dynamics 365 for Talent: Attract is winning over recruiters and streamlining their workflow by bringing together Dynamics, Office 365, Skype and LinkedIn in ways that no other provider has. Dynamics 365 for Talent consolidates sourcing, screening, scheduling, offer management, and onboarding activities into one modern and extensible suite.

Intelligent recruiting is now a reality. Attract uses Azure Machine Learning to highlight qualified candidates by comparing their profiles to your job requirements.

Hiring templates can be customized per job to enable global customers to account for regional hiring differences. Attract can also connect to market-leading electronic signature providers to capture digital signatures that are legally binding in nearly every country.

### Create a personalized onboarding experience for every new hire

Dynamics 365 for Talent: Onboard enables organizations to leverage the experiences of their best managers. Easily drive onboarding consistency through improved templates and distribution options. Integrate department or team onboarding with administrative onboarding into a single modern experience. Measure reach and content effectiveness with Power BI reporting.

### Workforce management that works for you

Core HR now provides an intuitive way for employees to submit and track their time off. Democratization of time logging enables more accurate schedules, helping managers to make better scheduling and resourcing decisions. Employee satisfaction is improved with minimized last-minute schedule changes.

HR professionals now have tools to create flexible leave and absence rules and policies to meet company compliance expectations while simplifying the time-off process. Through the extensibility in the Common Data Service for Apps, partners can provide solutions to deliver seamless time entry and tracking that meets regional and regulatory compliance needs.

## Digital transformation of HR at your own pace

Many companies struggle today to transform their HR experiences, especially since they currently run on a multitude of disparate systems. Customers can now bring all their systems together to the Common Data Service for Apps to transform their employee experiences and HR processes. Talent is designed to enable flexible and scalable solutions that adapt to a business' continuing evolution. Create intuitive solutions for employees by leveraging common data services and use Microsoft PowerApps, Microsoft Flow, and Microsoft Power BI to extend and analyze data. Companies can also integrate their third-party systems, such as payroll and time and attendance with Talent to provide employees with a seamless experience.

## Summary of what's new in Dynamics 365 for Talent

This topic lists the features planned for release in Microsoft Dynamics 365 for Talent between October 2018 and March 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

### Attract

Feature	Release type	Date
<a href="#">Candidate profile</a>	General Availability	October 8, 2018
<a href="#">Dashboards and notifications</a>	General Availability	October 8, 2018
<a href="#">Extensibility</a>	General Availability	October 8, 2018
<a href="#">Job and process management</a>	General Availability	October 8, 2018

Feature	Release type	Date
<a href="#">Offer management</a>	General Availability	October 8, 2018
<a href="#">Sourcing with LinkedIn Recruiter</a>	General Availability	October 8, 2018
<a href="#">Talent pools</a>	General Availability	October 8, 2018
Email template library and branding	General Availability	October 8, 2018
<a href="#">Relevant jobs and candidates</a>	Public Preview	October 8, 2018
<a href="#">United Kingdom region</a>	General Availability	February 2019

## Onboard

Feature	Release type	Date
<a href="#">Managed activities</a>	Public Preview	October 8, 2018
<a href="#">Bulk guide updates</a>	Public Preview	October 8, 2018
<a href="#">Assignee placeholders</a>	General Availability	December 10, 2018
<a href="#">Import activities from other guides or templates</a>	General Availability	November 12, 2018
<a href="#">Share and manage access to guides or templates</a>	General Availability	November 19, 2018
<a href="#">Onboarding teams</a>	General Availability	February 5, 2019
<a href="#">Auto-save</a>	General Availability	March 4, 2019
<a href="#">Core HR checklist integration</a>	General Availability	January 2019
<a href="#">United Kingdom region</a>	General Availability	February 2019



## Core HR

Feature	Release type	Date
<a href="#">Extended Core HR entity scope on Common Data Service for Apps</a>	General Availability	October 1, 2018
<a href="#">Leave and absence: Proration updates</a>	General Availability	October 8, 2018
<a href="#">Leave and absence: Accrual updates</a>	General Availability	October 8, 2018
<a href="#">Leave and absence: Updating time off</a>	General Availability	October 21, 2018
<a href="#">Leave and absence: Booking future time off</a>	General Availability	January 2019
<a href="#">Employee benefits enhancements</a>	General Availability	December 2018
<a href="#">Compensation enhancements</a>	General Availability	November 2018
<a href="#">Advanced compensation access</a>	General Availability	November 2018
<a href="#">Deep links</a>	General Availability	October 31, 2018
<a href="#">United Kingdom region</a>	General Availability	February 2019

## CDS for Apps

Feature	Release type	Date
Onboard on CDS for Apps	General Availability	October 2018
Attract on CDS for Apps	General Availability	October 2018
Core HR entity sync to enable Finance and Operations integration	General Availability	October 31, 2018

## Attract

Based on customer feedback, Attract has been enhanced with applicant tracking system capabilities to support an organization's sourcing and hiring needs.

- Activity rules:
  - Enhanced options for completion of activities, including an overview of status, setting up activities for all personas, creating mandatory activities, and dependent workflow in execution of activities.
- Sourcing:
  - Enables recruiters and hiring managers to have visibility into the upper pipeline of sourcing with the tracking of prospects, ability to push prospects from LinkedIn (using LinkedIn Recruiter), and the bringing together of a unified profile for a candidate with the information that is known from LinkedIn (candidate opt-in), HR, and Office Graph (productivity for internal candidates).
- External job posting and career site:
  - Enables recruiters to post jobs to the Talent Career Site, LinkedIn Recruiter, as well as other major job boards.
  - Fresh, modern, and branded company career site. Candidates can search and apply for jobs on the site, and the site allows for an extensible application process using YouTube, iframes, and more.



- Koru
  - Identify the best fit for your company's culture early in the assessment process.
- Email template library and branding:
  - Create a library of predefined, brandable content using placeholders, save templates and define template rules including enforcing use of templates for specific scenarios or allow selection from template library, as well as ability to strictly enforce template or allow override of template text.
- Talent pools:
  - Manage all current and past candidates and prospects in shared and personal talent pools.
- Role enhancements:
  - Ability to assign Hiring Manager or Recruiter roles to all your Azure Active Directory users. Then, when participants are added as hiring team members, they can only be assigned those roles for a job as per the role definition done by the admin.
  - Create view-only users for an application as well as Super users who can manage all aspects of any job.
- Interview scheduling:
  - Enabling faster interview scheduling for internal candidates. Interview schedulers will now be able to view the calendar availability and status for all the internal candidates. They will also have an option to include the internal candidate's availability into the schedule recommendation.
- Offer management:
  - Admins will be able to create offer package templates and associate rules for defining the boundaries of offer values. An offer creator can create the offer package for the candidate, send for approval as necessary, and then share the offer with the candidate. Candidates can digitally accept the offer using electronic signature providers.
- EEO & OFCCP support:
  - Enable EEO & OFCCP questionnaires for candidates applying for US jobs. Admins would be able to extract compliance reports as well.

## Dashboards and notifications

Dashboard will guide recruiters and hiring managers to relevant actions. Notifications will provide the user with supplemental information to streamline the recruitment process.

The dashboard will provide deeper insight into the recruiting process for recruiters and hiring managers. The dashboard will provide easily identifiable and actionable items that can be acted upon quickly to keep the recruiting process moving. New search capabilities will provide the ability to quickly find information by intelligently understanding key words and phrases. Notifications will deliver usable calls to action and bring relevant information to the forefront.

The new dashboard in Attract will surface relevant data for the various Attract roles. It will provide guidance to the user on items needing attention, trends, and relevant information. Notifications will provide calls to action within the application, in addition the existing notifications received in email today.

## Extensibility

We know that each organization's hiring process is unique and designed to highlight the distinctiveness of the organization. Having the ability to extend the native application is key to supporting these needs. We are bringing extensions that allow organizations to incorporate PowerApps, Microsoft Flow, Power BI, Office Forms, Microsoft Stream, and more. This will allow for specialized activities and the extension of the core data and process.

Organizations will be able to set up the system to meet their needs and maintain their uniqueness throughout their hiring process. This will enable larger customers or customers with unique business needs to tailor the hiring experience. Customers will also be able to use the extensibility to support their regulatory compliance needs.

Extensions will allow customers to do the following:

- Extend the data model and pages to capture custom data for jobs and candidates.
- Configure the current hiring process with custom activities using PowerApps, Microsoft Flow, Office Forms, Microsoft Stream, web pages (iform), and more.
- Through the connectivity of CDS, allow for extensions to various processes using custom logic through Microsoft Flow, Logic Apps, Azure Functions, and more.

## Offer management

Recruiters and hiring managers can create and approve offers using their organization's defined package templates. They also can provide candidates with the industry standard electronic signature provider capabilities to view and accept their offers and begin their onboarding into the organization.

Organizations, as part of their digital transformation story, are looking for a centrally managed and standardized offer processes. Organizations can create configurable and reusable offer package templates, saving a lot of time and effort when every new offer needs to be created. Candidates also have a simplified experience in terms of how they can view and accept the offers, which arguably is the highest emotional point in their job hunt journey so far.

With offer management:

- Talent admins can create and manage their organization's offer document templates and offer package templates.
- Talent admins can manage the offer data sets applicable for their offers. These offer data sets provide the guardrails to the offer values.
- Offer creators can send the offer for approvals and make changes as necessary. All these changes are versioned to understand how an offer changed during its creation process.
- Offers can be shared with candidates, and can be signed digitally. Offer creators have an option to include an offer expiration date and also ask for more documents from the candidate as part of the offer acceptance process.
- Ability for offer packages to be sent and signed using Adobe Sign and DocuSign

## Talent pools

Recruiters can organize and maintain their list of candidates and prospects in talent pools. Talent pools can be private or shared among recruiters.

In addition to sourcing new prospects, recruiters look at previous applicants who might be a good fit. Recruiters can use talent pools to track previous applicants and re-engage them when relevant opportunities become available.

Among the benefits of this feature:

- Recruiters can create talent pools and organize them to fit their recruiting process.
- Candidates can be imported directly into those talent pools or moved from jobs where they have applied.
- Search and filter make it easy to find the right candidates from your talent pools.
- When viewing a candidate profile, it's easy to see their past application history.
- The right candidates can be easily added as prospects to your open positions.
- You can manage your silver medalists for a job by pushing them directly into a Talent pool from a job as well.

## Relevant jobs and candidates

Recruiters and hiring managers can use intelligent recommendations from Attract to streamline the sourcing process and triage prospects and applicants efficiently. These recommendations surface the candidates and prospects whose profiles (resumes, LinkedIn profiles) are the best match for a particular job. The recommendation engine is retrained based on explicit (user provided) and implicit feedback (the types of candidates that have secured positions in the past), and is refining itself constantly.

Candidates are also shown recommendations for jobs they might be interested in based on their application history as well as their profile.

## Candidate profile

Selecting the right candidate for the job is critical, and information is key. Having as much information as possible about a candidate in a compliant, ethical way is important to understanding their background and fit for the role. Enhancements to the candidate profile will help bring about the right level of information. Further expansion of the candidate profile will allow for more information to be tracked and managed. This will also enable the candidate data to be used by other features, such as relevance and search.

## Job and process enhancements

Job and process management will formalize the recruit process by enhancing the structured data needed to track an opening from creation to fulfillment. Furthermore, these features will provide a deeper integration between core HR systems and Attract by leveraging data that is published to Common Data Service for Apps.

Having control within the recruit process is a critical part of organizational growth. This involves having formalized structured data with added approval capabilities to ensure that proper controls are in place within the recruitment process. Also, with deeper integrations to core HR systems, there is less data duplication, which will result in fewer data entry errors. The deeper integration to core HR systems also ensures that recruiters and hiring managers are viewing the same data as HR administrators, therefore reducing questions and gaining efficiency in the process.

New capabilities include tracking more data on a job within Attract to formalize the recruitment process. The introduction of an approval process for job management will enhance collaboration and provide further definition to the recruitment process. Leveraging Common Data Service for Apps will bring job- and position-related data from the core HR system into Attract and reduce duplicate entry and ensure accuracy.

## Sourcing with LinkedIn Recruiter

This feature enables recruiters and hiring managers to have visibility into the sourcing pipeline by providing the ability to track prospects, push prospects from LinkedIn Recruiter, and create a unified profile for a candidate including the information that is known from LinkedIn (with candidate opt-in).

Recruiters will now be able to maintain a consolidated list of all candidates that they are considering from all sources. Further, recruiters who use both Attract and LinkedIn Recruiter will have a streamlined experience and will be able to see Attract data within LinkedIn Recruiter, allowing them to stay focused on sourcing without having to jump between applications. This will enable recruiters to move quickly and efficiently in identifying candidates who would be a potential fit for the role.

New capabilities include an area in which to manage prospects for a job separately from applicants. Recruiters who are licensed users of LinkedIn Recruiter will be able to identify candidates in their search results from within LinkedIn Recruiter for whom they already have a profile in Attract. For these candidates, recruiters will be able to see information about past application history within LinkedIn Recruiter without having to jump between applications. They can view the InMail history with the candidate in Attract and their interview feedback and notes will be synced with LinkedIn Recruiter as well.

## United Kingdom region

The United Kingdom region will be available for Microsoft Dynamics 365 for Talent starting in February 2019. This means you can create environments in the United Kingdom, and all Talent data will be maintained solely within the United Kingdom. You can create an environment in the United Kingdom region by selecting that option in the **New environment** dialog.

## Dynamics 365 for Talent: Onboard

Based on customer feedback, Onboard has been enhanced with collaborative capabilities to allow more individuals to create and implement onboarding experiences. Onboard now also includes template authoring workflows to enable template updates to be rolled out to all instances instantiated from the template. Onboard data now resides in CDS for Apps, along with the rest of a customer's Microsoft Business Applications data.

## Managed activities

Department leaders can dynamically update templates that they have distributed to their managers to ensure the latest content and policy are part of every employee's onboarding guide. Creating a consistent onboarding experience for every new employee is critical for new

hire success. By allowing department leaders to manage content centrally, they can ensure a baseline level of consistency for every new hire.

With this feature, department leaders create and share templates using the existing workflow. When other managers use or import their templates, the update permissions are retained, allowing the original leaders to “push” updates into them dynamically.

### **Bulk update guides**

Managers can bulk update already sent guides by “pushing” out updates from the origin template.

Managers are realizing that keeping onboarding content fresh is an effective way to keep new hires engaged before they start and throughout their first weeks or months. For example, university students have 6-8 months before they start—so recruiters like to push fresh content periodically through the school year to keep them engaged.

Instead of manually updating each template, managers can centrally edit, add, or delete content from their templates and push out updates to already sent guides. Guide recipients will be automatically notified when they have new onboarding content to review.

### **Assignee placeholders**

Templates at the department level are made as general as possible to allow for maximum reuse. For example, due dates are set relative from the new hire’s start date (for example, two weeks after start date). Assignees can also be generalized in the same fashion by allowing tasks to be assigned to a placeholder to be mapped at runtime.

Managers can insert assignee placeholders in their template, to be filled out later. For example, a group of tasks can be assigned to “business administrator” in a template. Then, when the someone uses that template, they specify who “business administrator” is. This allows for more flexibility and template reuse.

### **Import**

Hiring managers can import content from other guides or templates to ensure that the latest content is always reflected. This helps their hires get started quickly and makes it easier to include the latest content from their manager or department leader.

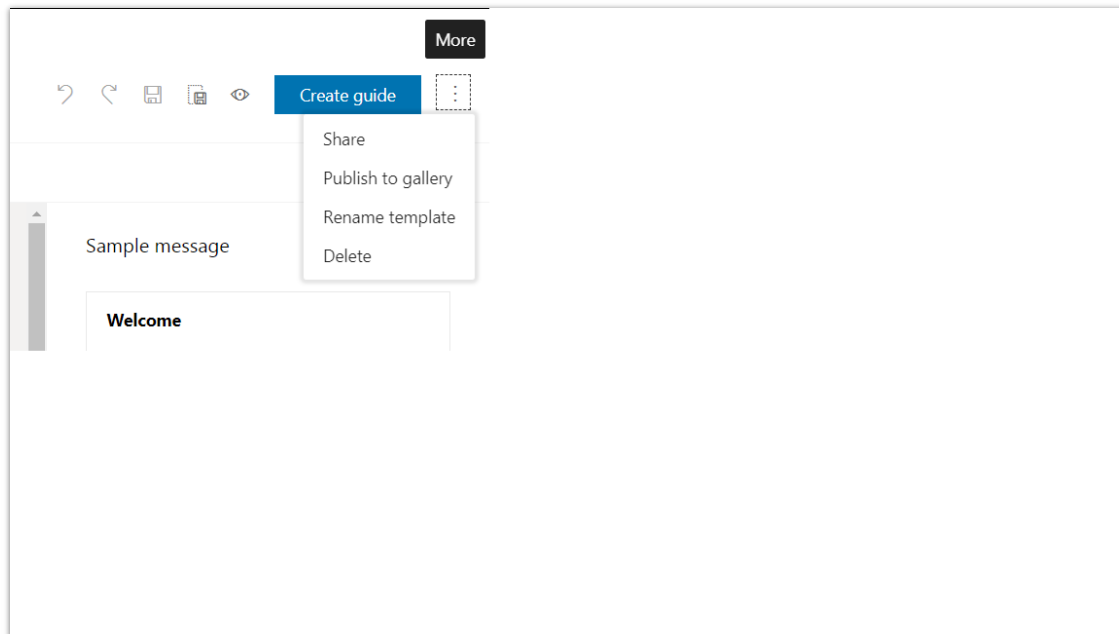
### **Share and manage access to guides or templates**

Users can share their guides and templates with others currently in two ways, by sharing or adding contributors. But these two sharing flows might create confusion about what access is granted to which users.

To make the sharing process simpler, we've consolidated both of these flows into a unified "share" experience. Using this new experience, users can choose who they'd like to share their templates and guides with. Once shared, they can use the **Manage Access** tab to adjust "View/Edit" access to all the shared members.

## Discovery

The share experience can be found within the ellipsis (...) drop-down menu inside a template or a guide.



*A screenshot showing the share option*

## Onboarding teams

Department leaders can define their team or department members to streamline reporting, collaboration, and content sharing.

Department leaders want visibility into onboarding progress and manager engagement, but defining a department can be difficult as it's not always based on organizational reporting structure. With this feature, department leaders can invite managers to their team. Upon opting in, the department leaders get visibility into the guides and templates that each team member creates. Team owners also get a special dashboard that shows overall onboarding progress and manager engagement.

## Auto-save

Don't worry about saving or losing your work again. Your onboarding guides and templates will be automatically saved as you work.

## CoreHR checklist integration

HR professionals can now ensure that administrative checklist items in CoreHR are automatically included in every new hire's onboarding guide.

This feature provides comprehensive company, department, and team-level onboarding surfaced through a single onboarding experience for new hires.

Checklist items are stored with employee records in Common Data Service. When a new onboarding guide is created, checklist items from CDS are automatically included in the guide as a managed activity.

Checklists remain visible in employee self-service and the completion status remains synchronized.

## United Kingdom region

The United Kingdom region will be available for Microsoft Dynamics 365 for Talent starting in February 2019. This means you can create environments in the United Kingdom, and all Talent data will be maintained solely within the United Kingdom. You can create an environment in the United Kingdom region by selecting that option in the **New environment** dialog.

## Employee benefits enhancements

Offering competitive employee benefits is a key component when recruiting and retaining top talent. Benefits administrators need to easily configure a variety of benefits offerings while meeting compliance requirements.

## Streamline compliance

**ACA reporting** – HR can print and distribute 1095B and 1095C forms to employees and the IRS.

## Extended Core HR entity scope on Common Data Service for Apps

Customers need efficient means to drive the digital transformation of their HR and Talent experiences to attract and retain critical talent. Having a single and coherent view of people is one of the critical foundations to achieve this. Most Core HR entities are already available in Common Data Service for Apps. The remaining areas will now also be made available to drive this digital transformation.



Customer and partners have more data available for the unmatched palette of tools to extend, customize, and integrate provided by Common Data Service for Apps. This includes tools such as Power BI, PowerApps, and Microsoft Flow. Integration to (for example) payroll and benefits providers can now be enabled.

### **Available areas**

The following areas will be made available on the Common Data Service for Apps:

- Compensation entities
- Benefits entities
- Custom field support in CDS for Core HR entities

### **Leave and absence management**

Effective leave and absence management is key to not only being compliant, but also to having an engaged workforce. Enhancements in this area of Talent allow for organizations to continue streamlining the administration of leave and absence plans, allow managers to take care of time-off schedules, and help employees to balance work and home life.

Each organization and region has unique business requirements related to leave and absence management. These might include policies on how employees can take time off or accrue time off. Allowing organizations to configure leave and absence to fit their unique business needs helps them stay compliant and streamlines the leave and absence management process.

Employees sometimes struggle to know how much time off they have and if they will lose any time-off awards. By enabling employees to see their forecasted time off, they can plan how to balance their work and home life.

### **Configure how employees are awarded time off**

When awarding employees leave, the organization may have different policies related to what determines an award and when that award should occur. Talent enables HR professionals to choose how this time is awarded by providing options on the leave plan for which dates to use when awarding time off and whether awards are hours-based or tenure-based.

## Configure how employee time off is prorated

Organizations award time off differently based on when employees join or leave the company. For employees leaving the organization, some might need to end the award on the termination date, while others rely on the last day worked to stop the accrual process. They also might award employees their full allocation at their start date, while others prorate the award. Talent provides HR professionals the flexibility to choose, when creating leave plans, what type of proration should occur when employees join and leave the organization. HR professionals also have the flexibility to pick the enrollment end date for an employee and choose when the awards for an employee leaving the organization should end.

## Compensation enhancements

### Advanced compensation access

In organizations, specialized roles might exist for managing compensation. This new role-based access provides for specialization when managing compensation and the processing of compensation. Fixed and Variable plans can be defined to be available only to named roles. Only the roles specified will have access to the plans and the employee data related to the plans (salary, bonus records, and so on).

Organizations can define the roles that will be able maintain and view compensation for different employee groups. Compensation for the general employee population can be managed by one role while compensation for executives can be managed by a second role. Each compensation plan can be assigned one or more roles to manage and only those roles will have visibility into creating, viewing, and processing compensation for those employees.

### Multiple compensation levels per job

Compensation ranges can vary by location/region and company. This is true within a single job. Examples might include consultants in Boston, MA, having different compensation ranges than consultants in Fargo, ND. This new functionality makes it easy to configure scenarios like the one above without creating additional jobs to account for the compensation ranges needed.

## Deep links

Integration and extensibility are critical to businesses with multiple systems. Deep links functionally allows for Talent to link directly to Finance and Operations, giving context to the link as you navigate. For example, you might want to navigate from an employee in Talent to the same employee in Finance and Operations to continue to set up projects or expenses. Deep links enables this and other scenarios.

## United Kingdom region

The United Kingdom region will be available for Microsoft Dynamics 365 for Talent starting in February 2019. This means you can create environments in the United Kingdom, and all Talent data will be maintained solely within the United Kingdom. You can create an environment in the United Kingdom region by selecting that option in the **New environment** dialog.



# Retail

## Overview of Dynamics 365 for Retail October '18 release

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

The October '18 release of Dynamics 365 for Retail includes the following themes:

- A comprehensive omni-channel solution that is flexible, extensible, and easily updatable.
- With the October '18 release, Dynamics 365 for Retail will provide an **on-premises deployment option** for retailers who are unable to move to the cloud due to organizational policies or regulatory requirements.
- Retailers want to leverage standard applications while being able to customize a solution to meet their business needs, but have historically struggled to customize in a sustainable way that meets their long-term needs. Retailers are often left with a custom solution with a very high cost to maintain and upgrade. Dynamics 365 for Retail is a cloud-ready, **completely sealed application** with extension points across HQ and front offices to support various business processes. The October '18 release includes an **expanded set of extension points and capabilities** across the entire solution footprint.
- Retailers require systems that are scalable, reliable, and highly performant to manage their business operations. Moreover, they need the ability to isolate and service their customer-facing channels (stores, e-commerce, and so on) with no downtime, ensuring no loss of sales and providing a superior customer experience. The October '18 release introduces the **Retail Cloud Scale Unit**, which can help improve serviceability and reliability to business operations.
- Improvements to core business processes and employee empowerment.
- End-of-day processing capabilities are critical so that retailers can manage their daily operations in stores as well as their integrated financials in the back office. Moreover, retailers need fast, reliable, and secure payment processing capabilities that work across their channels of engagement with customers, enabling cross-channel scenarios like buy online and pick up in store with ease. With the October '18 release, Dynamics 365 for Retail has enhanced the **integrated end-of-day processing** capabilities, providing a more reliable, performant, and scalable solution. In addition, the solution now incorporates a more **comprehensive, secure, and reliable omni-channel payment solution** that can be leveraged by customers and partners around the world, while providing an out-of-box

native payment connector for North America that supports a wide variety of processors and acquiring banks.

- Dynamics 365 for Retail is designed to increase sales and productivity for retailers with fast and assisted selling, whether on the go or on the phone. The solution is designed to work seamlessly across tablets and phones from all major platforms (Windows, iOS, and Android). In addition, retailers can choose the right device and form factor that suits their needs.
- Enhanced Unified Commerce through distributed order management.
- Through **distributed order management** capabilities, Dynamics 365 for Retail provides the ability to intelligently source and fulfill orders across channels with a single, global view of inventory, locations, customer, and fulfillment options through configurable business rules. In addition, the fulfillment processes at stores are significantly enhanced, allowing retailers to convert them into micro-warehouses that help drive down costs while improving customer service.
- In addition, Dynamics 365 for Retail has improved core business processes including inventory management and visibility at stores, data distribution from HQ to stores, offline capabilities of POS, shifts, receipts, returns and exchanges, and omni-channel workflows as well as embedded business intelligence capabilities in HQ.

## Summary of what's new in Dynamics 365 for Retail

This topic lists the features planned for release in Microsoft Dynamics 365 for Retail between October 2018 and March 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

## Planned features

Feature	Release type	Cloud vs on-premises	Date
<a href="#">Support for upgrade and N-1</a>	General Availability	Cloud	October 2018
<a href="#">Store hours</a>	General Availability	Both	December 29, 2018
<a href="#">Distributed order management (DOM)</a>	General Availability	Cloud	October 1, 2018
<a href="#">Upgrade and N-1 support for India</a>	General Availability	Cloud	October 1, 2018
<a href="#">Retail localizations for Eastern Europe</a>	General Availability	Cloud	November 2018
<a href="#">Fiscal printer integration sample for Italy</a>	General Availability	Cloud	November 2018
<a href="#">Suspend/resume improvements</a>	General Availability	Cloud	November 2018
<a href="#">Mobile POS improvements</a>	General Availability	Cloud	November 2018
<a href="#">Payment reliability and usability improvements</a>	General Availability	Cloud	November 5, 2018
<a href="#">Retail Cloud Scale Unit</a>	General Availability	Cloud	November 6, 2018
<a href="#">Support for on-premises (LBD) deployments</a>	General Availability	On-premises	November 6, 2018

Feature	Release type	Cloud vs on-premises	Date
<a href="#">Payment connector</a>	General Availability	Cloud	November 30, 2018
<a href="#">Improved extensibility</a>	General Availability	Cloud	November 30, 2018
<a href="#">Loyalty enhancements wave 2</a>	General Availability	Both	December 10, 2018
<a href="#">POS journal improvements</a>	General Availability	Both	December 2018
<a href="#">Payment method restrictions for returns without a receipt</a>	General Availability	Both	January 21, 2019
Omni-channel auto-charges	General Availability	Cloud	January 21, 2019
<a href="#">Support for sample orders in Ecommerce channel</a>	General Availability	Cloud	January 21, 2019
<a href="#">Order attributes</a>	General Availability	Cloud	January 21, 2019
<a href="#">Improved omni-channel order processing</a>	General Availability	Cloud	February 2019
<a href="#">Cash out gift card balance for a retail customer</a>	General Availability	Both	January 21, 2019

## Enhanced performance and scalability

Investments have been made to identify and improve slow-running queries in the following key areas: sales transactions, customer order and purchase histories, customer order creation, posting, and virtual catalog.

## Improved extensibility

We added many new extension points to support different extension scenarios. More user interface and API extensions have been added to the POS and Commerce run-time (CRT). Developers can now extend the user interface with custom controls, app bar buttons, and custom columns, or build custom views. POS Operation framework is enhanced to support custom configurable parameters on new operations. Many new overridable requests and triggers have been added in the POS to support different extension scenarios. We added support for custom comment in cart and journal view, and more dialog controls and POS controls to simplify the POS UI extensions. Also, the POS screen layout designer has been enhanced to support custom columns on the deliverable tab, and custom controls and custom fields in the totals panel.

**For the full list of new extension points, please see the below docs:**

[POS APIs](#)

[POS Views](#)

[POS Triggers](#)

[CRT Services](#)

[POS Custom column](#)

[POS Custom field](#)

More user interface and API extensions have been added to the Retail headquarters, POS (Retail Modern POS and Cloud POS, and Commerce run-time (CRT), allowing environments with customization to easily be serviced and updated without impacting the core application.

Developers can now extend the user interface with custom controls and add or hide sections or app bar buttons. Requests and triggers can be overridden to allow custom logic before or after core operations.



## Payment connector

A new omni-channel “out of the box” payment connector is available for preview, providing credit/debit (EMV) “card present” payment processing for Retail Modern POS and Cloud POS (through hardware station), and “card not present” payment processing for e-commerce/call center. The shared omni-channel token enables seamless flows such as buy online and pick up or return in store.

The payment connector is available globally, including the following markets:

Australia, Austria, Belgium, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Hong Kong, Iceland, Ireland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Singapore, Slovakia, Slovenia, Switzerland, Spain, Sweden, Switzerland, United Kingdom, United States

In addition, the extensibility scenarios for payments have been significantly enhanced so that partners/ISVs can write reliable and secure third-party payment connectors.

## Payment processing

Payment processing flows and integration touchpoints have been refactored to increase reliability and stability between in-store applications (Retail Modern POS and hardware station), and payment devices.

## Retail Cloud Scale Unit

Retail deployment topologies now include the Retail Cloud Scale Unit (RCSU), which separates the Retail Server, Cloud POS server, Commerce run-time (CRT), and channel database components from the core back office. This improves performance across all aspects of the system by distributing the channel-specific workloads into a separate scale unit. In addition, the channel components can now be serviced independently, reducing downtime and allowing for coordination based on back-office or channel requirements.

## Support for upgrade and N-1 (AX 2012)

Existing Dynamics AX 2012 retailers can now upgrade their back-office headquarters components to the latest Dynamics 365 for Retail, while allowing their distributed store systems to remain on the AX 2012 R3 version (N-1). This allows staged roll-outs, upgrading the store systems over time, during optimal scheduled downtimes. In addition, retailers deploying new (non-upgrade) Dynamics 365 back-office systems can now take advantage of the N-1 capabilities.

Moreover, enhancements have been made to improve the experience and reliability of the end-to-end upgrade process of customers running Dynamics 365 for Retail and Dynamics 365 for Finance and Operations (7.0, 7.1, 7.2, and 7.3), including improved support for backward and forward compatibility between minor version updates.

## Suspend/resume improvements

This feature is intended for store associates. It improves their ability to suspend and resume transactions in the POS. This feature also adds additional auditing capabilities in the POS journal and back office transaction history.

This feature helps a POS cashier or sales associate who needs to suspend an in-progress transaction and resume it later, possibly from a different device/register within the store.

### Improvements and capabilities

The existing suspend/resume functionality in the POS has been enhanced to include the following improvements and capabilities.

#### Ability to print a “Suspend transaction” slip

Retailers can now configure a receipt template, so POS will print a slip each time a transaction is suspended. The template can include header and line-level transaction information as well as a unique receipt number and barcode.

#### Quickly recall suspended transactions by scanning barcodes

POS users can scan the barcode printed on the “Suspend transaction” slip to quickly and easily recall the transaction.

#### View suspended transactions in the POS journal

Suspended transaction information including header and line-level detail will now be saved in the POS journal, providing additional in-store audit capabilities.

#### View suspended transactions in back office inquiries

Suspended transaction entries will now be replicated to the back office and displayed in the Retail store transaction inquiry. Users can view details about where and when the transaction was suspended. In addition, resumed transactions that are either completed or voided can be linked back to the original suspended transaction.

### **Automatically void suspended transactions at the end of each shift**

Retailers can configure POS to automatically void suspended transactions at the end of each shift to prevent accumulation of abandoned suspended transactions. Each voided transaction is journaled and replicated to the back office for audit purposes.

### **Ability to bulk select and void suspended transactions**

In addition to optionally voiding suspended transactions when closing shifts, users with permission can multiselect and void suspended transactions from within the POS.

### **Distributed order management**

Retailers can now take advantage of intelligent Distributed Order Management (DOM) algorithms to optimize their order fulfillment operations across their enterprise. DOM automatically determines the best possible fulfillment location across warehouses, distribution centers, or even stores based on user-definable profiles containing the rules, scope, and delivery methods.

Enhanced order fulfillment capabilities within Retail Modern POS and Cloud POS help turn each retail store location into a micro-warehouse, which ensures orders are filled in the most efficient, cost-effective manner.

### **Support for on-premises (local business data) deployments**

Dynamics 365 for Retail allows retailers to use flexible deployment options (on-premises or in the cloud) across the entire system—from brick-and-mortar stores to the retail headquarters. The local business data (LBD) deployment option has been enhanced to include support for the following components: Retail Modern POS (MPOS), Cloud POS, Retail Server, Channel database, Hardware station, and third-party e-commerce integrations.

### **Loyalty enhancements**

Earning customer loyalty is an important goal of most retailers. To gain customer loyalty, it is crucial that customers have a great experience on all touch points with the retailer's brand, starting from the time the customer begins searching for a product, to when the customer calls customer care with any questions, to when the customer interacts with the brand on social media.

Starting with the November '18 release of Dynamics 365 for Retail, we enhanced the loyalty capabilities to enable a retailer to have a flexible reward program. The enhancements will be released in three parts, with the first made available in November and the second and third to be released in December 2018 and January 2019.

Here are the features released in November:

- Configure the group of customers—for example, wholesalers or employees—that shouldn't participate in loyalty programs.
- Configure different earning and redemption rules for certain groups of people, such as veterans, high-value customers, or employees.
- Automatically generate loyalty card numbers in MPOS/CPOS.
- Define the vesting period of the loyalty points so the points become active after the predefined vesting period.
- Block a customer and their cards, so that this customer cannot re-enroll in any loyalty program through any channel.
- Easily find the loyalty cards associated with a customer.
- Capture the loyalty enrollment source and loyalty enrollment date of the loyalty cards.
- Hide certain affiliations in user-facing channels, but still enable their effect on pricing and promotions.
- Define the maximum reward points, of a certain type, that can be available for any loyalty card during a given time.
- Provide extension points to enable retailers to offer one-time rewards, such as free products on reaching a loyalty tier and bonus points on making a certain number of transactions.

## Loyalty enhancements wave 2

The effort to enhance the loyalty capabilities of Dynamics 365 for Retail started with the 8.1 release and we're continuing to invest in it. As a part of the December monthly update, we're adding the capability to enable retailers to reward customers for any activity with the brand—for example, filling out an online survey, visiting a store, liking the retailer on Facebook, tweeting about the retailer, and more.

Additionally, we've improved the user experience of paying by loyalty balance in MPOS/CPOS by displaying the maximum amount of the transaction value that can be covered by the loyalty points, thus enabling the cashier to easily apply an appropriate amount to the transaction. We've also enhanced the loyalty balance view in MPOS/CPOS to show the loyalty balance that will expire in the next 30 days. This helps the cashier or store associate to upsell and cross-sell items, as the customers might be motivated to use the loyalty balance before it expires.

Lastly, we've released the capability to save the earned and redeemed loyalty points at the sales line level so that, in case of returns, you can undo or take back the exact number of points that were used or awarded in the original transaction.

For detailed information on these features, see [Loyalty overview](#).

## Store hours

The new store hours feature provides the ability to capture and maintain multiple sets of store operating hours for a retailer. Dynamics 365 for Retail currently had no out-of-box solution to let retailers showcase their store operating hours across different channels like store, call center, mobile, e-commerce, and so on.

Retailers can now create and manage their store hours in Retail and have cashiers look up store hours across various locations to assist customers in their shopping experience. It also allows retailers to print them at the footer of the receipt to notify customers when the stores are accessible to retail customers.

### Business value

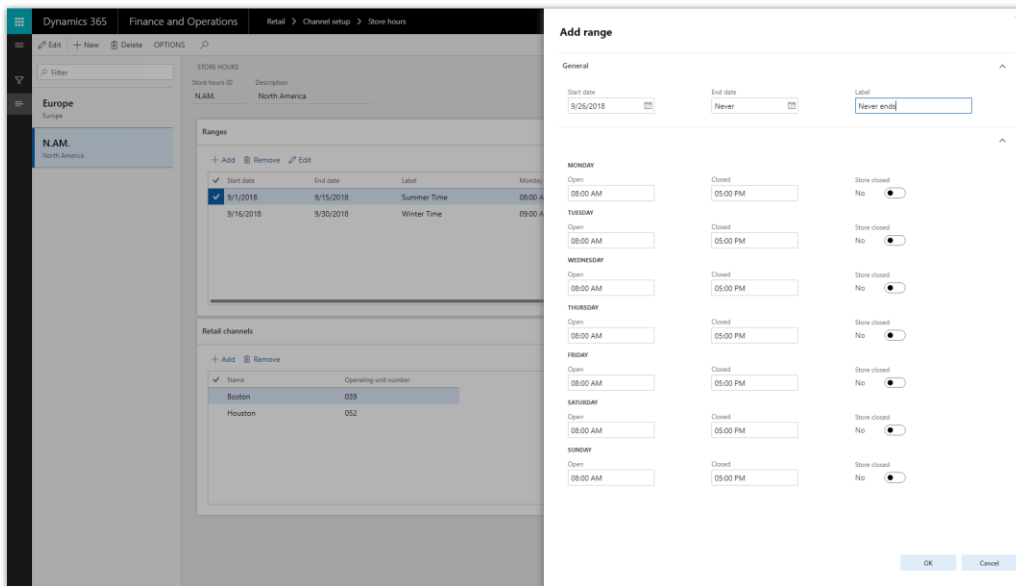
All retail stores have store hours when they are open for retail customers. In many cases, store hours vary from weekdays to weekends, from various geographies, seasons, and times of the year. Customers need to be able to quickly glance and be aware of when the retail stores are open.

Retailers can use the new store hours feature to create, maintain, and manage the store hours for different stores across geographies from a single point. Retailers can showcase the new store hours in POS terminals, letting the cashiers share store hours to customers and assist shoppers while looking for inventory in different stores. Customers also can see the new store hours printed on their receipts in case they wish to return to the store.

Store hours functionality can be leveraged on e-commerce websites, mobile apps, kiosks, and so on. Future enhancements to this feature might be to enable the retailer to set an appropriate pickup date based on holiday hours and store closures.

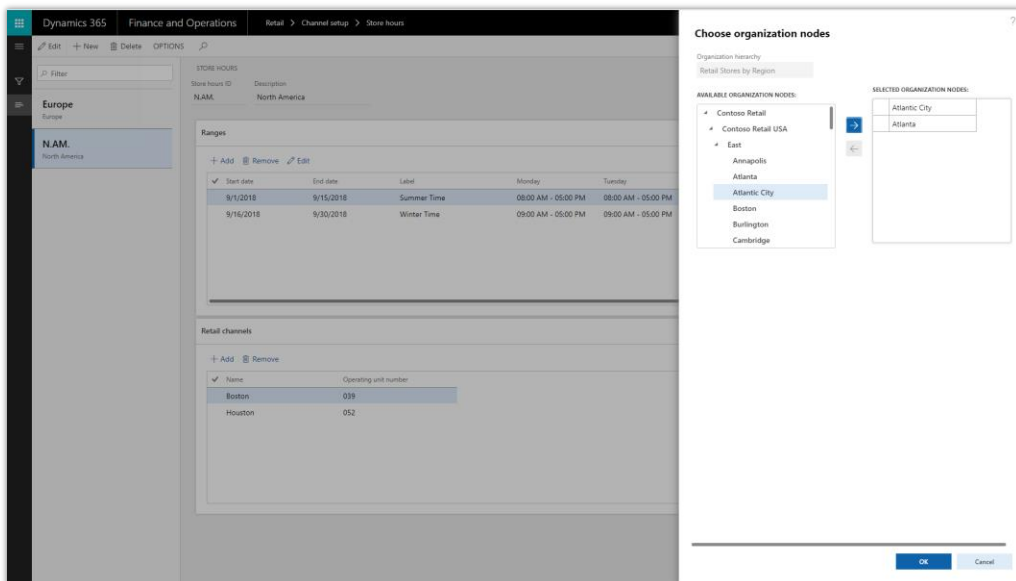
## How to use the store hours feature

When the holiday and store hours are known, the admin can set the store hours for the whole year or to an even longer schedule.



### Store Hours Template

This calendar is now made available for the different store or store groups. The calendar is set for all the stores and should be visible in the POS for reference.



### Save Store Hours Template

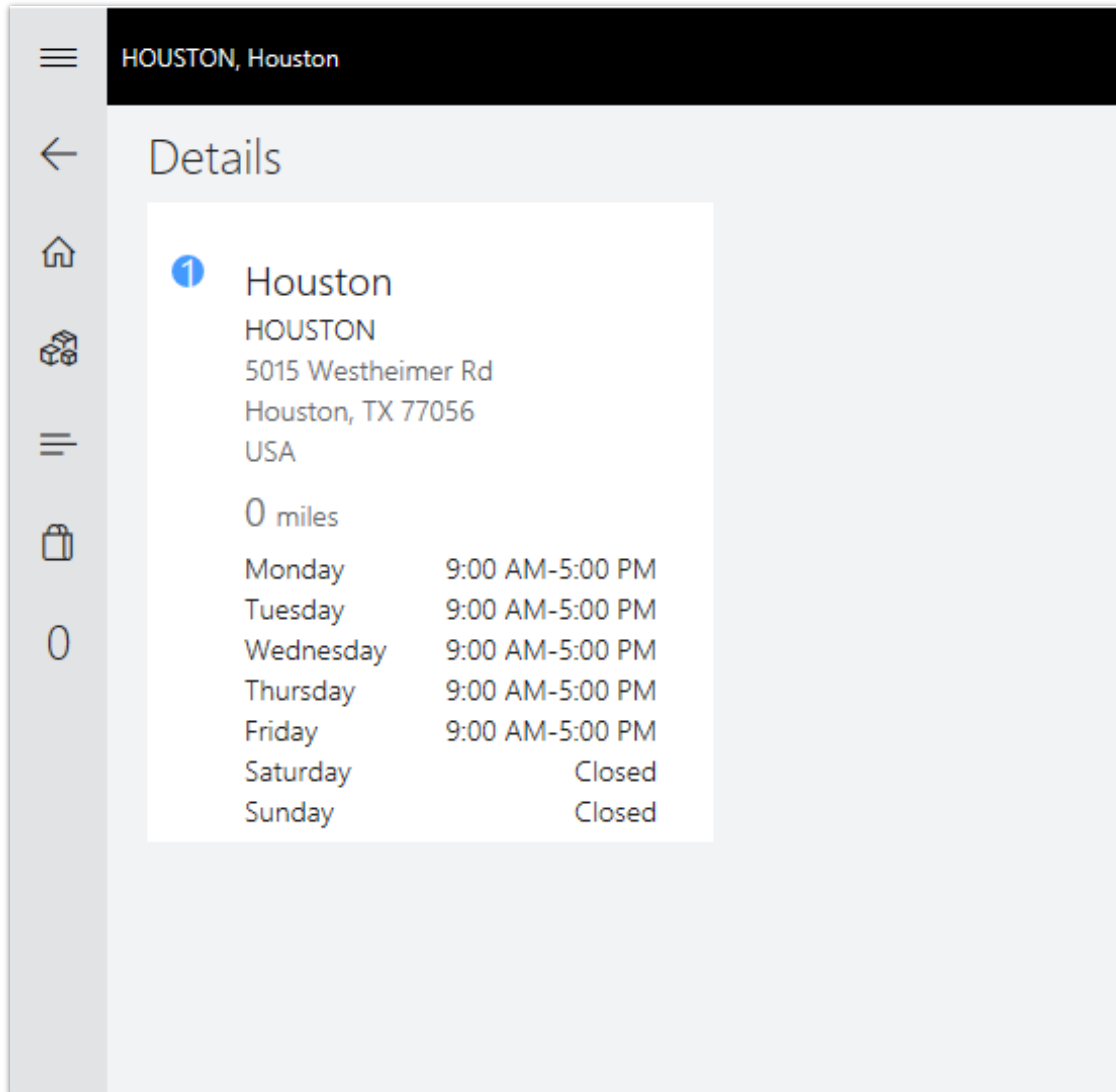


A cashier completing a sale prints the receipt, where the store hours are visible for the customer. Upcoming holidays—when the store is closed—are also made visible on the receipt.

<b>Random Receipt</b>		
Selling Item 1	X 2 Qty	\$3.67
(Random Product Description)		
Selling Item 2	X 2 Qty	\$3.67
(Random Product Description)		
Selling Item 3	X 2 Qty	\$3.67
(Random Product Description)		
Selling Item 4	X 2 Qty	\$3.67
(Random Product Description)		
Total		\$14.68
Discount		\$00.00
Taxes		\$00.00
<b>Store Hours</b>		
Monday - Friday: 8:00 am - 7:00 pm		
Saturday: 10:00 am - 4:00 pm		
Sunday: Closed		

*Receipt Template*

If a customer has a pickup order for a different store, the cashier can select the right dates where the pickup will be available in that store. The store lookup will provide a reference to the dates and store times. The cashier will choose a date and location and print a pickup receipt with the store hours.



*Store Card Template*



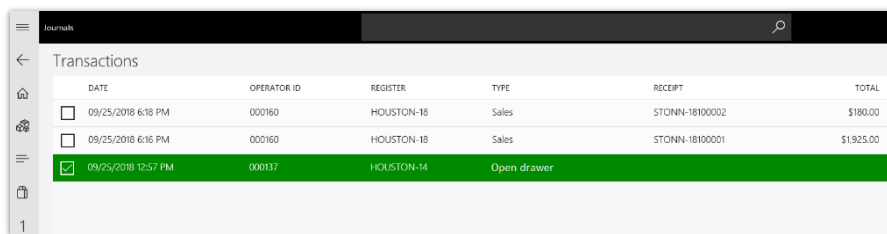
## POS journal improvements

The Electronic Journal within the point of sale (POS) is a central location for reviewing transaction information within a store. This form gives visibility across the store to managers and other users with appropriate permission levels as to what is happening in the store as well as reviewing transaction information. Several additional transaction types have been included in the journal, as well as receipt enhancements, for visibility including tax exempt transaction details, voided transactions, when the open drawer function is executed, and a layout for gift card balance inquiry that will not log in the electronic journal at a POS but can be printed. As a result, store users will now have detailed visibility into these transactions that previously went without visibility through the POS or HQ forms in the store.

With this feature release, the enhanced capabilities will be available and logged within the electronic journal and if configured will also have a receipt available to print and be reprinted from the electronic journal.

### Open drawer transaction

The existing Open drawer operation will now be visible in the electronic journal within the same store and have a configurable receipt that can print. With appropriate permissions, the logged-in user will be able to see Open drawer transactions that were performed within the store the device is attached to. Based on the configured print behavior, and depending on a configured receipt format, a receipt can be printed each time the Open drawer operation is executed within the POS. This feature can be used to make more visible those transactions that are opening the cash drawer, reducing an avenue of fraud.



	DATE	OPERATOR ID	REGISTER	TYPE	RECEIPT	TOTAL
<input type="checkbox"/>	09/25/2018 6:18 PM	000160	HOUSTON-18	Sales	STONN-18100002	\$180.00
<input type="checkbox"/>	09/25/2018 6:16 PM	000160	HOUSTON-18	Sales	STONN-18100001	\$1925.00
<input checked="" type="checkbox"/>	09/25/2018 12:57 PM	000137	HOUSTON-14	Open drawer		

### *Open drawer journal*

## Transaction void

The existing Transaction void operation will now be visible in the electronic journal within the same store and have a configurable receipt that can print. With appropriate permissions, the logged-in user will be able to see voided transactions that were performed within the store the device is attached to. Based on the configured print behavior, and depending on a configured receipt format, a receipt can be printed each time the Transaction void operation is executed within the POS. This feature can be used to make more visible those transaction that are voided, reducing an avenue of fraud.

DATE	OPERATOR ID	REGISTER	TYPE	RECEIPT	TOTAL
09/25/2018 6:18 PM	000160	HOUSTON-18	Sales	STONN-18100002	\$180.00
09/25/2018 6:16 PM	000160	HOUSTON-18	Sales	STONN-18100001	\$1925.00
09/25/2018 12:57 PM	000137	HOUSTON-11	Transaction void	STONN-11100001	\$109.98

ITEM ID	ITEM	QUANTITY	EXTENDED PRICE
0001	Youth Accessory Combo Set	1	\$69.99
0002	Adult Helmet Accessory Combo Set	1	\$39.99

### Transaction void journal

**F FABRIKAM**

**TRANSACTION VOID**

Transaction.: HOUSTON-H0      Date.: 7/30/2018  
 Terminal....: HOUSTON-15      Time.: 14:23  
 Employee....: 000160

COPY

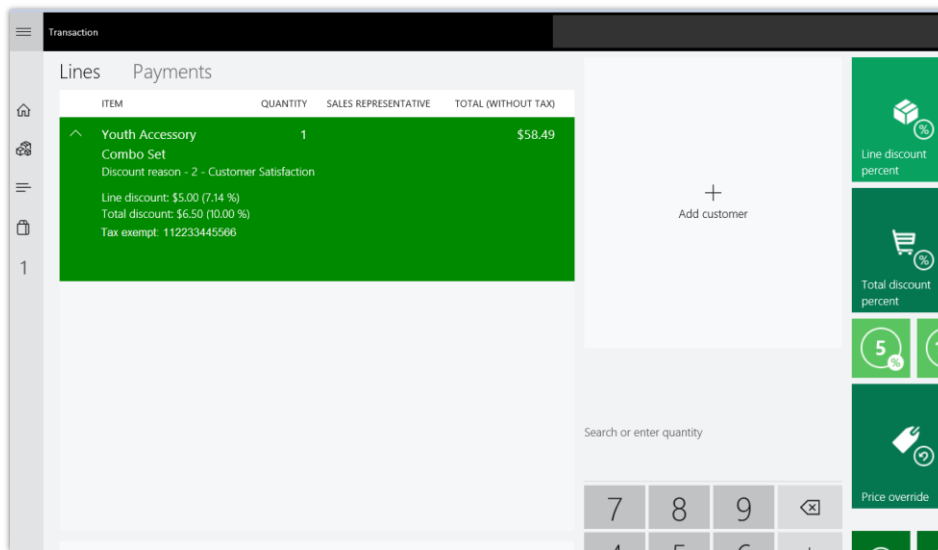
ITEM NAME	QTY	PRICE	TOTAL
Brown Aviator Sunglass	1	\$150.00	\$150.00
Total disc. 15 %			(\$22.50)
Pink Thick Rimmed Sung	1	\$130.00	\$130.00
Total disc. 15 %			(\$19.50)
Subtotal			\$238.00
Total tax			\$14.88
Total			\$252.88

=====  
 <B: STONN-15100001>

### Transaction void receipt

## Tax exempt details

The Override tax function allows for tax exempt transactions to be created in the POS if the sales tax code is marked as tax exempt within the sales tax group. This capability allows for the tax exempt details to be visible within the POS transaction grid, electronic journal, and to be printed on the receipt if configured. A new field in the receipt designer labeled Tax Exempt Indicator prints a configurable value from the functionality profiles for POS. Leveraging the invoice comment fields within the receipt designer also allows the capture of transaction level info codes to display tax exempt information on the receipt if configured on the info code. This allows for store users and consumers to have clear visibility that a transaction or line has been tagged as tax exempt.



## Tax exempt journal

```

Transaction.: HOUSTON-HO      Date.: 9/25/2018
Terminal....: HOUSTON-14     Time.: 12:57
Employee....: 000137
COPY
ITEM NAME           QTY   PRICE   TOTAL
-----
Youth Accessory Combo      1   $69.99   $69.99
Adult Helmet Accessory     1   $39.99   $39.99
-----
Subtotal                          $103.51
Total tax                          $6.47
Total                             $109.98

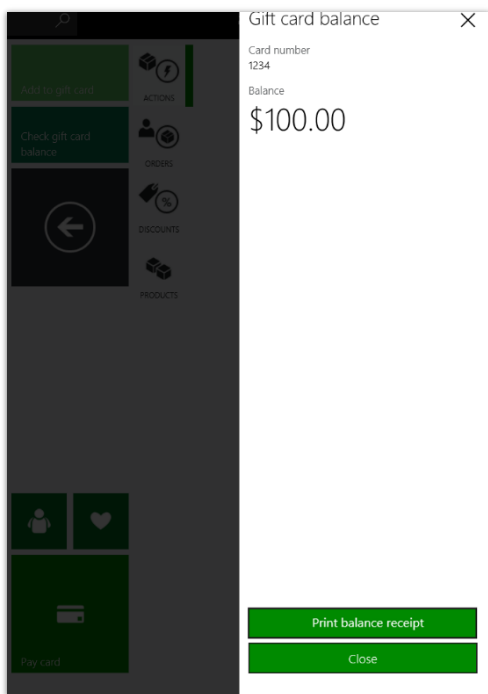
Cash                             $109.98
Tax exempt code: 00112233

=====
<B: STONN-14100001>
    
```

## Tax exempt receipt

### Gift card balance inquiry receipt

The existing operation for checking balance on a gift card in POS only returns the balance to the screen. We have added the capability to configure and print a receipt for gift card balance inquiry. This transaction will not show up in the electronic journal within the POS. The receipt can be configured to print always, by prompt, or never print. The format for the receipt must be defined in headquarters for the POS to be able to print. The balance inquiry receipt can also be configured to print the sales/return transaction history if the data is available to Dynamics 365 for Retail by enabling the functionality on the Retail parameters | Posting tab and adding the transaction history fields to the receipt format.



*Gift card journal*

## Mobile POS improvements

This feature includes improvements to navigation within the mobile POS application and allows users to perform order fulfillment operations on their mobile devices.

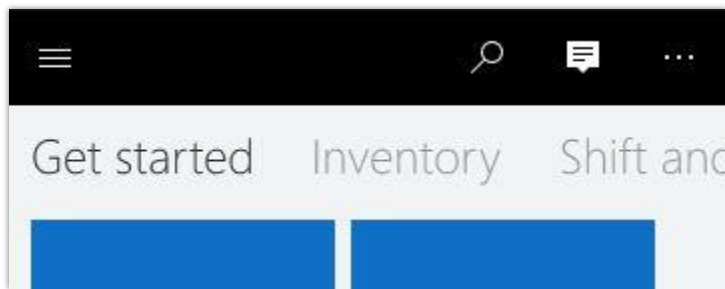
### Navigation

#### Back button navigation

Users can now utilize the hardware or OS-provided **Back** navigation buttons to navigate between views in POS. In addition, an on-screen Back arrow has been added to the mobile POS views to improve navigation within the app.

#### POS notifications

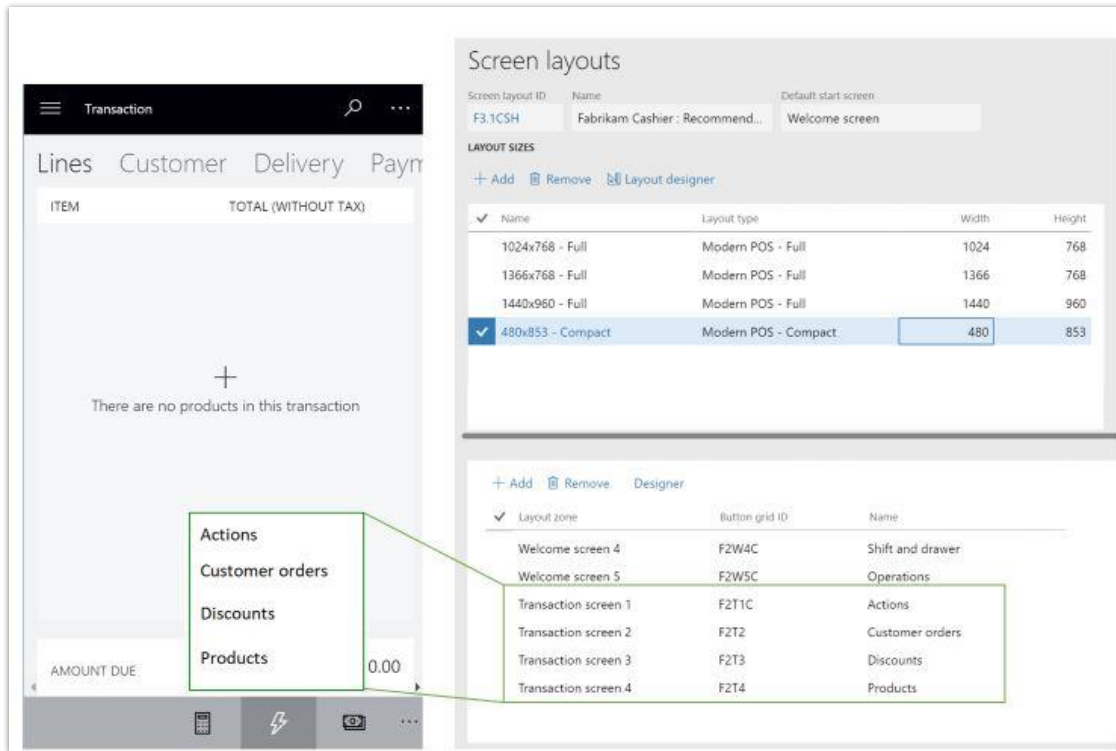
The mobile POS header has been optimized to ensure that the POS notification icon is visible even on the smallest screens (320 pixels).



*POS notifications*

## Actions menu

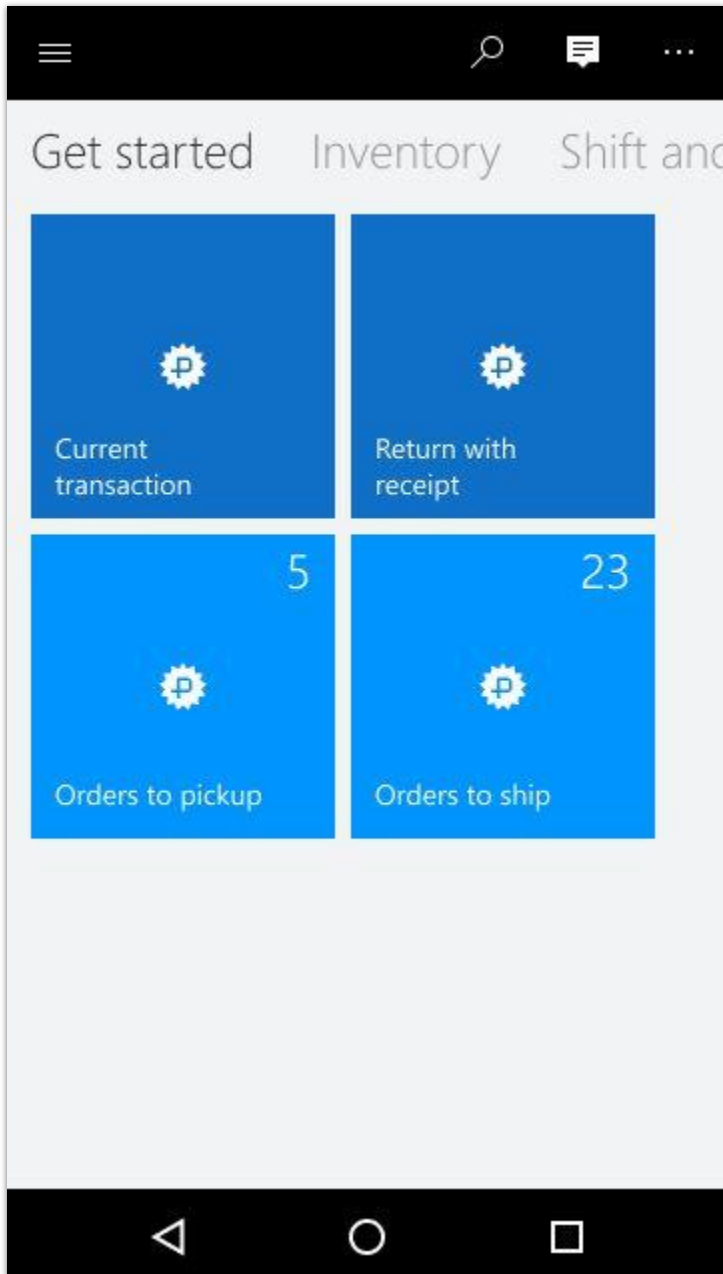
The mobile POS actions menu on the transaction screen now allows users to add multiple button grids, which will render as submenus. This allows users to configure more meaningful, contextual, screen layouts with fewer clicks to get to the operations needed.



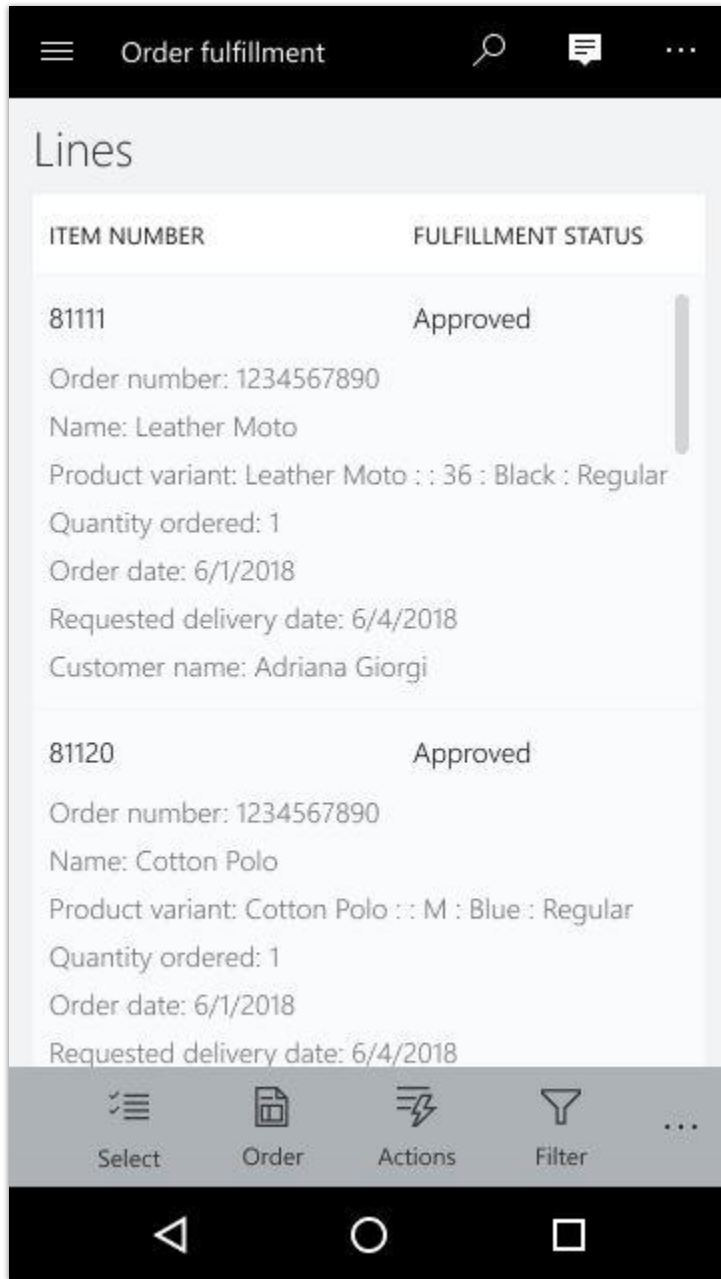
## Actions menu

## Order fulfillment

Users can now access the order fulfillment views on mobile devices in the POS app. Just as in the full application, users can view, edit, pick, pack, and ship orders that are scheduled to be fulfilled from their store. In addition, new sorting options have been added to help users find the order lines they need.

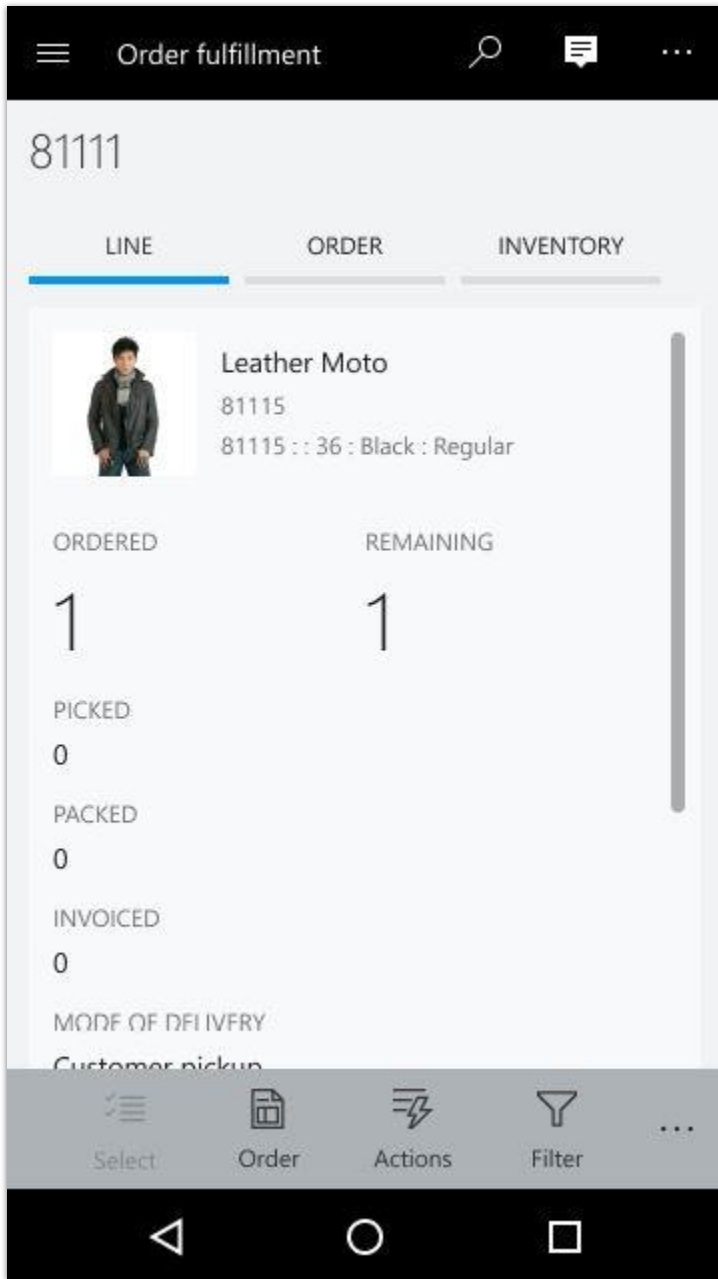


*Mobile order fulfillment - Tiles*



*Mobile order fulfillment - Lines*





Mobile order fulfillment - Line details

## Order attributes

We enhanced the order attribute framework to show and update the attribute values for the cash and carry (C&C) transaction and customer order directly from the point of sale (POS). In the last release, we enhanced the CRT framework to support attributes for different scenarios, but there was no UI available in POS to set the values, and extensions have to build the UI and read and update from CRT manually. With this new feature, developers can configure the attribute panel in the headquarters screen layout designer and access it in POS to set the attribute values for both a C&C transaction and a customer order.

If there are custom scenarios where it is required to capture and show additional data for C&C transaction or customer order, this feature can be used without any additional code. In addition, it can be customized for any additional business logic in CRT or POS. Previously to do this, scenario developers had to be involved and modify Commerce headquarters, CDX, CRT, RS, channel DB, and POS. Now this can be done through a configuration-driven approach, and any business user can do this. To modify the business logic, the developer persona is required.

This initial version supports only the **String** attribute type, but future versions will support other attribute types. If you want the data to come from the master table, and that data involves complex search logic and core business logic in X++, you should use extension properties.

If you want to add new fields with minimum business logic to C&C transactions, customer orders, or call center orders, and if you want to capture the information in the POS or retail headquarters, use order attributes. Previously, to add a new field to a C&C transaction (transaction header or lines) or a customer order in the POS, you had to create a new extension table in Retail headquarters and the channel database, and then make inline changes to CRT and POS code to handle the various screens and operations. You also had to configure Commerce Data Exchange to synchronize the data between the channel database and Retail headquarters. Customer attributes now let you complete all these actions through configuration without writing any code or creating custom extension tables. (You still need to create the core business logic and the POS UI).

For the full feature details, refer to [Order attributes](#).

## Payment method restrictions for returns without a receipt

Returns are an integral operation for a retailer. Return policies and refund guidelines are generally set at a company level and enforced at a store level with certain privileges for cashiers and a few override permissions for the managers/senior staff.

Dynamics 365 for Retail has returns capabilities that allow retailers to process returns and their refunds.

This new feature enables retailers to set restrictions on requirements for receipts, process funds to multiple tender types, or restrict the refunds to certain payment methods when the returns are processed without receipts.

## Business value

Retail stores get returns and refund requests frequently. This is true for call centers and online channels as well. In some cases the returns may be requested without the presence of a receipt and transaction ID, increasing the risk factor for the retailer to confirm it is a genuine return.

To maintain customer loyalty and brand consciousness, returns are often accepted without a receipt. However, to lower the risk of fraudulent returns, the refund payment methods like cash or check can be restricted and certain payment methods such as gift cards can be allowed to ensure continued business and prevent loss of revenue.

## How to use the returns feature

With the new enhancements to the retail store setup, payment methods can be restricted or allowed at each store for the payment method type. This gives very granular control to the retailers based on the type of store to allow or restrict certain payment methods when the returns are processed without a receipt.

Configuration is done from **Retail Store Setup > Payment Methods**.

The screenshot shows the Dynamics 365 interface for Retail Store Setup. The breadcrumb navigation is **Retail > Channels > Retail stores > All retail stores**. The main navigation bar includes **Edit**, **+ New**, **Delete**, **Configuration status**, **STORE**, **SET UP**, and **OPTIONS**. The **SET UP** section is expanded to show **Payment methods**, which is highlighted in yellow. Other options visible include **Income/expense account**, **Channel database**, **Cash declaration**, **Sections**, **Fulfillment group assignment**, **Modes of delivery**, **Workers**, **Attribute groups**, **Copy**, and **Work shift list**.

Below the navigation bar, there is a message: "Click the edit button to make changes." Underneath is a section for **STORES** with a search filter. A table lists the store configuration:

✓	Retail Channel Id	Name	Channel type	Operating unit ...	Store number	Warehouse	Sales tax
	000001	Annapolis	Retail store	036	ANNAPOL	ANNAPOL	MD

### Retail Store Setup

For each payment method that is available to the store, a new configuration parameter called **Restrict refunds without receipt** is available.

The screenshot shows the Dynamics 365 Finance and Operations interface for configuring payment methods. The left sidebar lists various payment methods, including Cash, Loyalty Cards, Check, Cards, Customer Account, Other, Currency, Voucher, and Gift Card. The main area displays the configuration for the 'Cash' payment method. The 'Restrict refunds without receipt' parameter is highlighted with a red box and is currently set to 'No'.

### *Payment method configuration*

If the parameter is set to **Yes**, a prompt will be displayed that stops the cashier from selecting the payment method if there is return without receipt being processed.

## Cash out gift card balance for a retail customer

This new feature gives retailers the option to set a new operation to cash out a gift card and to set the gift card balance limits under which the cash out operation can be enabled.

### Business value

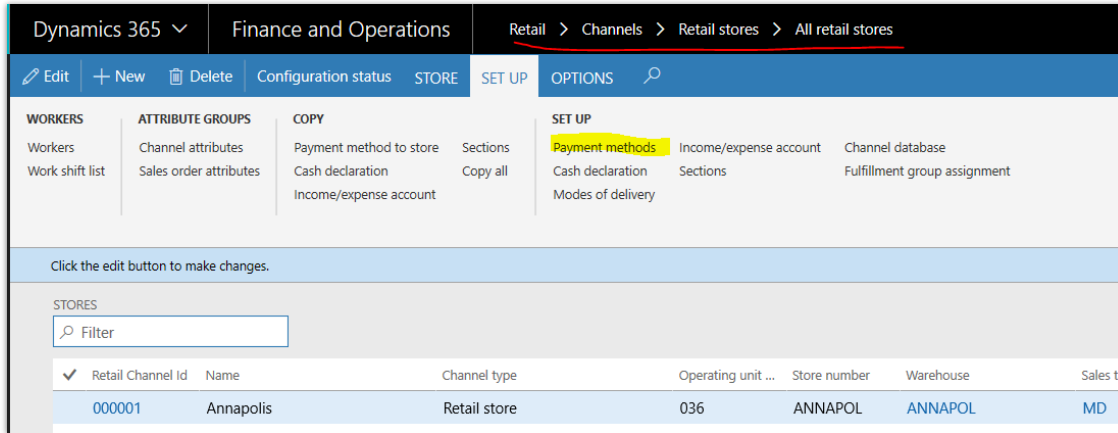
The purpose of this feature is to allow cashiers to cash out the remaining amount on a gift card. Retailers often must be able to exchange a low balance gift card for cash at the customer's request. In Washington state, for example, that threshold is \$5.

### Feature description

We have implemented an operation at the point of sale (POS) that effectively redeems a gift card for cash. This operation should not require the sale of any line item and should act like the "Add to" gift card operation, but decrementing the balance due on the gift card to zero.

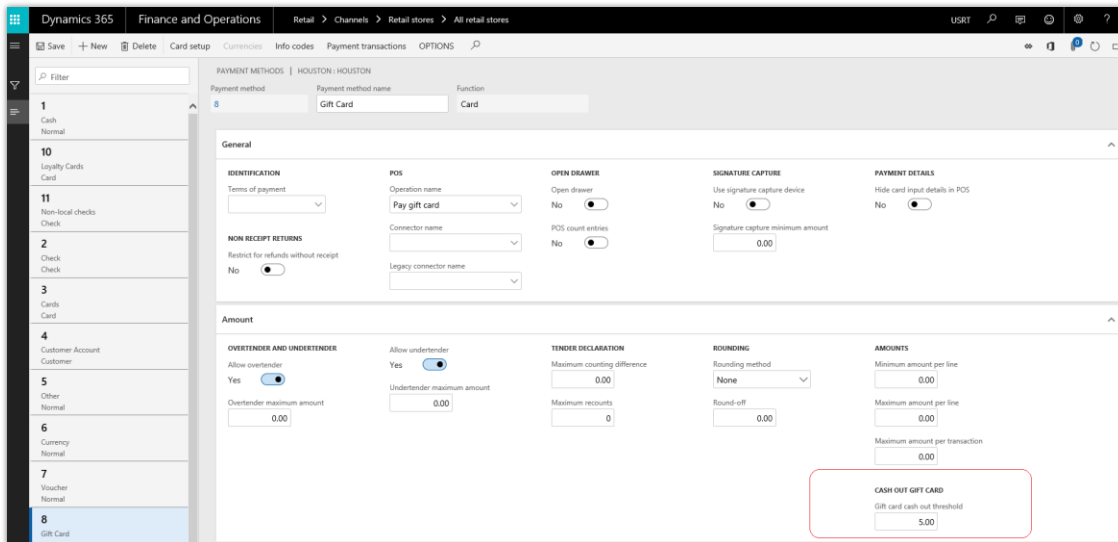
## How to set up the gift card cashout feature

Configuration is done from **Retail Store Setup > Payment Methods**.



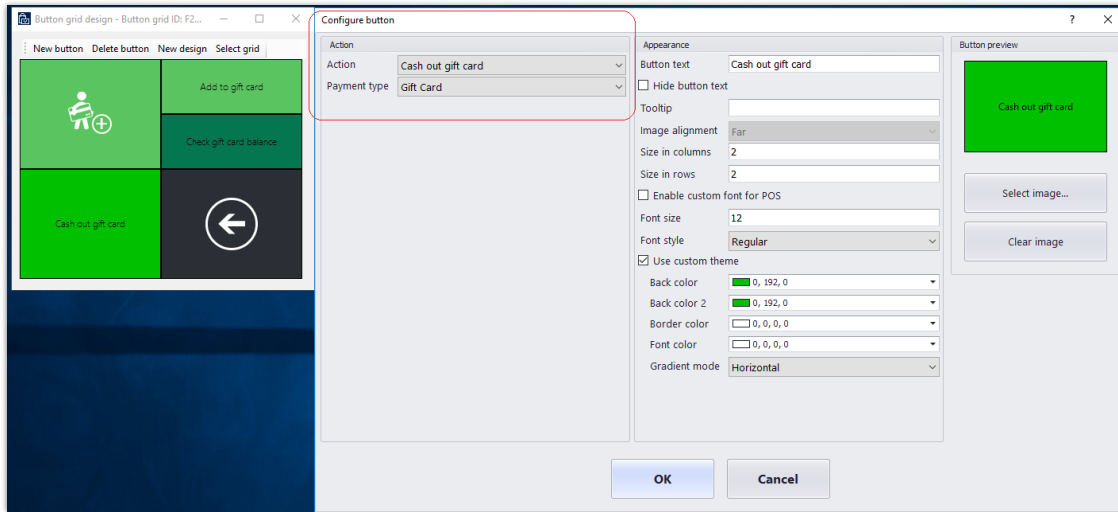
### Retail store setup

The threshold for which a gift card can be cashed out comes from the Dynamics configuration.



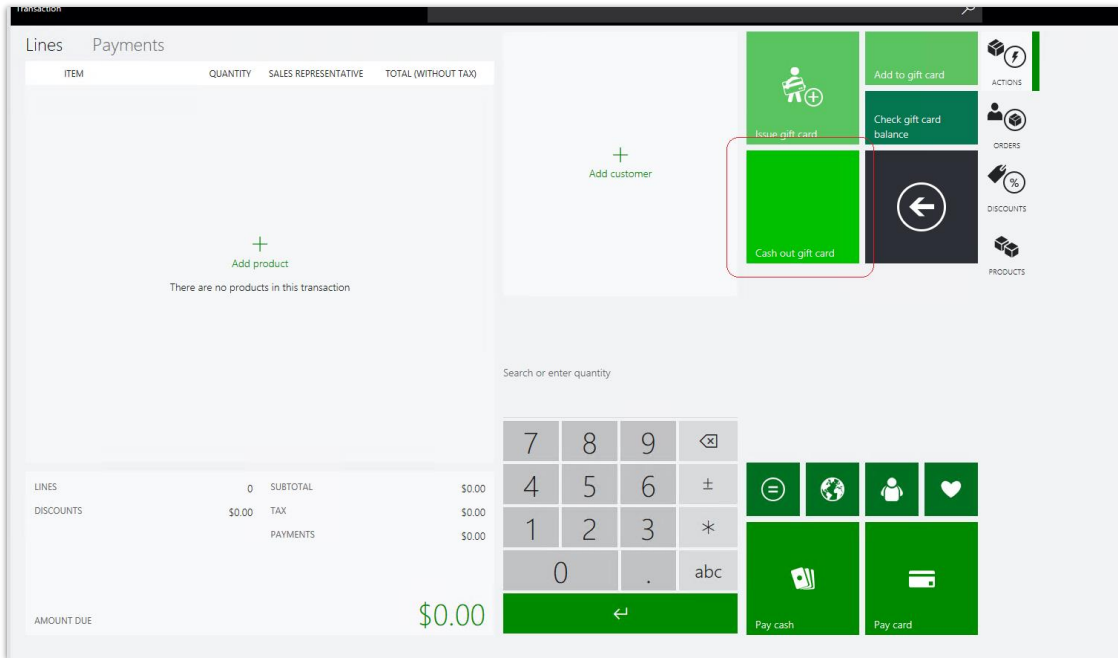
### Cashout configuration

After the threshold limits are added, the new operation **Cash out gift card** must be added using the POS layout designer.



### POS layout designer

Once the POS layout publish to the stores is complete, cashiers can use the feature.



### Gift card cash out

## Out of scope

- Automatic cash out if the gift card balance goes below a threshold amount during a transaction.

## Support for upgrade and N-1 for India

Existing Microsoft Dynamics AX 2012 R3 customers in India can now upgrade their retail solutions to Dynamics 365 for Retail. In addition, the customers may take advantage of the N-1 support that lets stores that run AX 2012 R3 POS work with retail headquarters on Dynamics 365 for Retail after an upgrade.

## Retail localizations for Eastern Europe

Microsoft Dynamics 365 for Retail now supports mandatory regulatory requirements in the Retail area for six Eastern European countries: Czech Republic, Estonia, Hungary, Latvia, Lithuania, and Poland. The local functionality includes processing of cash payments in accounting according to local regulations, defaulting of sales dates in retail invoices, substitution of tax groups in retail return transactions, retail invoice numbering, and processing of advance invoices for customer order deposits. The local functionality does not include the integration with fiscal printers or services. The localization of the call center functionality will be available in later updates.

## Fiscal printer integration sample for Italy

Microsoft Dynamics 365 for Retail now contains a sample of the integration of POS with fiscal printers for Italy. The integration sample supports one of the popular fiscal printer models available on the Italian market and enables printing sample fiscal receipts in cash-and-carry sales scenarios in stores in Italy. The sample is a part of the Retail SDK. Implementation partners may extend the integration functionality to cover all required retail scenarios or build integration with other fiscal printer models based on the sample.

## Support for sample orders in Ecommerce

Certain retailers offer customers the opportunity to purchase samples through their online sites. The samples have no cost and the customer doesn't have to pay for the sample item. (This is common in industries like carpet/flooring, paint, and window treatments.) In some cases, the retailer requires the samples be returned within a certain time frame. If the customer fails to return the samples within the given time frame, their credit card is charged.

The current Ecommerce checkout in Dynamics 365 for Retail throws errors when a user attempts to submit an order with a \$0 value. With the new design change, orders for \$0 will be permitted.

With this fix, retailers in industries offering samples or other free items available to order from an online store will be supported. Sample orders can be created and processed from these retailers' e-commerce sites.

## Improved omni-channel order processing

Retail Modern POS (MPOS) and Cloud POS users can provide better, more streamlined customer service by returning products from across multiple transactions when returning by receipt or from purchase history. Previously, this required a different return transaction for each originating sale, which increased the number of steps and checkout time.

In addition, users will be able to perform exchanges during customer order processing at the store. Previously, this required two transactions when performing a return and a sale within the same order.



# Business Central

## Overview of Dynamics 365 Business Central October '18 release

With the October '18 release, Dynamics 365 Business Central is available in the cloud, on-premises, and in hybrid deployments. Pick your flavor of Business Central, or use your existing on-premises solution of Dynamics GP, Dynamics NAV, or Dynamics SL and connect to the cloud through Business Central. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

Business Central partners get a portal to facilitate their interactions with customers and to manage the lifecycle of their applications and customizations. Business users get a further streamlined and refreshed user experience with many productivity improvements, facilitating heavy transactional users. The service is also going through a hardening process, with much improved resiliency, robustness, and performance across the application.

### Business Central everywhere - cloud, hybrid, and on-premises availability

Business Central gets an on-premises deployment option that serves as a successor to Dynamics NAV. In other words, rather than a new version number for Dynamics NAV, customers can get Business Central on-premises. The experience for partners and customers on-premises is no different from the familiar Dynamics NAV upgrades, except for the change in name. This is a convergence point for Dynamics SMB products—going forward, they are all considered customers of Business Central, in the cloud or on-premises, even if they are running differently branded products such as Dynamics SL, Dynamics GP, and older versions of Dynamics NAV.

### High productivity user experience

Get more work done with productivity features such as filtering of lists and totals, and copy and paste rows. With a host of new keyboard shortcuts to accelerate your business tasks, and improved keyboard navigation throughout, Business Central is ready to support the diverse needs of your workforce. Do things quickly, or find out how to do them with the new Tell Me window.

Business users get a fresh and modern experience in all main screens of Business Central. Whether you are accessing your data from the browser or the Windows 10 desktop app, you will experience a consistently smooth, intuitive, and modern interface as you transition across role centers, lists, worksheets, transaction documents, or details pages (such as the customer card).

## Application improvements

Various new or improved application functionality is added, such as the Non-Inventory item type, document line tracking, and improved layout in 31 reports. In addition, it is now easier to perform common actions, such as filling in journal lines and adding required information. Common tasks, such as payment processing and canceling purchase posting are also improved. The Create Company assisted setup now allows you to skip the accounting period setup and includes a step for user setup.

## Permission sets are editable

From the list of permission sets, you can add new and copy an existing permission set. The resulting set will be of type User-Defined, which can be edited at any time. From each user card, the Effective Permissions window shows which permissions a user has and through which permission set(s) they are granted, either through the entitlement, through a default set (System), or through a customized set (User-Defined). Here you can also change permission sets of type User-Defined.

## Tenant administration

Business Central partners manage the lifecycle of the tenant through the Dynamics 365 Business Central administration center. The administration center is the portal for VARs to engage with customers and manage health, troubleshooting, notifications, and sandboxes of the customer tenant.

## Improved Visual Studio Code AL experience

Be more productive when developing and troubleshooting extensions with new and improved developer tools, such as sandbox environments with production data, improved breakpoint support, better inline Help, ability to trace raised events in a given user scenario, support for .NET Interop for on-premises deployments, extension support for enums, report data set and field groups, and more.

## Making Business Central available in new markets

Business Central has a combined localization strategy inclusive of both Microsoft-led and partner-led models. We continue to respond to partner-led scenarios and anticipate additional countries being delivered via localization app extensions in Microsoft AppSource. Additionally, Microsoft will also deliver a localized version of Business Central in Iceland, Norway, and Mexico in this release.

## See Also

[Summary of what's new in Business Central](#)

## Summary of what's new in Dynamics 365 Business Central

This topic lists the features planned for release in Microsoft Dynamics 365 Business Central between October 2018 and March 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Online vs on-premises	Date
<a href="#">Productivity features for desktop users</a>	General Availability	Both	October 1, 2018
<a href="#">Accessibility features for desktop users</a>	General Availability	Both	October 1, 2018
<a href="#">Refreshed experience on major desktop screens</a>	General Availability	Both	October 1, 2018
<a href="#">Business Central everywhere</a>	General Availability	Both	October 1, 2018
<a href="#">Combined mobile/companion app for Business Central</a>	General Availability	Both	October 1, 2018
<a href="#">Enhanced Power BI embed experience</a>	General Availability	On-premises	October 1, 2018

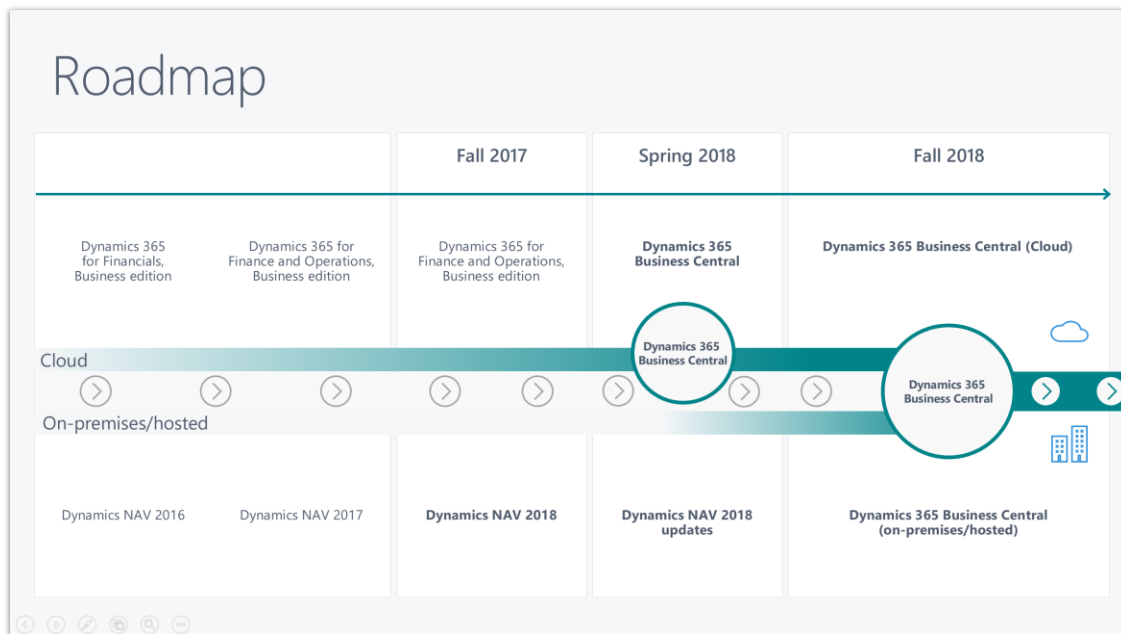
Feature	Release type	Online vs on-premises	Date
<a href="#">Enhancements in Finance, Sales, and Purchasing</a>	General Availability	Both	October 1, 2018
<a href="#">Simpler workflows across business areas</a>	General Availability	Both	October 1, 2018
<a href="#">Easier to get started</a>	General Availability	Both	October 1, 2018
<a href="#">Permission sets are editable</a>	General Availability	Both	October 1, 2018
<a href="#">Tenant administration for VARs</a>	General Availability	Online	October 1, 2018
<a href="#">Improved Visual Studio Code AL experience</a>	General Availability	Both	October 1, 2018
<a href="#">Localization apps and translation apps</a>	General Availability	Online	October 1, 2018
<a href="#">Intelligent edge for Dynamics GP, Dynamics SL, and Dynamics NAV</a>	General Availability	Both	October 1, 2018
<a href="#">Late payment predictions</a>	General Availability	Online	October 1, 2018
Improved scrolling in lists		Both	After October 2018
Additional productivity features for desktop users		Both	Undetermined
Refreshed experience on additional desktop screens		Both	Undetermined

Feature	Release type	Online vs on-premises	Date
<a href="#">Support for Azure SQL Database Managed Instance</a>	General Availability	On-premises	October 1, 2018
<a href="#">Monitoring SQL Database Deadlocks using file-based xe targets</a>	General Availability	Both	January 1, 2019

## Business Central everywhere

With the October '18 release, Dynamics NAV transitions to Dynamics 365 Business Central on-premises.

Since Dynamics NAV and Dynamics 365 Business Central share the same code base, the transition for customers from Dynamics NAV to Dynamics 365 Business Central is as seamless as just another Dynamics NAV upgrade. Upon upgrading, they receive the new, refreshed, and highly productive user experience of Business Central, and the name of their product changes from Dynamics NAV to **Dynamics 365 Business Central**.



*A roadmap shows the development of Dynamics 365 Business Central*

With the October '18 release, we are bringing the Business Central web-based modern productivity features and user experience to the on-premises and hybrid customers upgrading from Dynamics NAV to Dynamics 365 Business Central. Users connecting to on-premises, hybrid, or cloud deployments of Business Central (regardless of how they connect) will all benefit from the same productive and refreshed user interface and features.

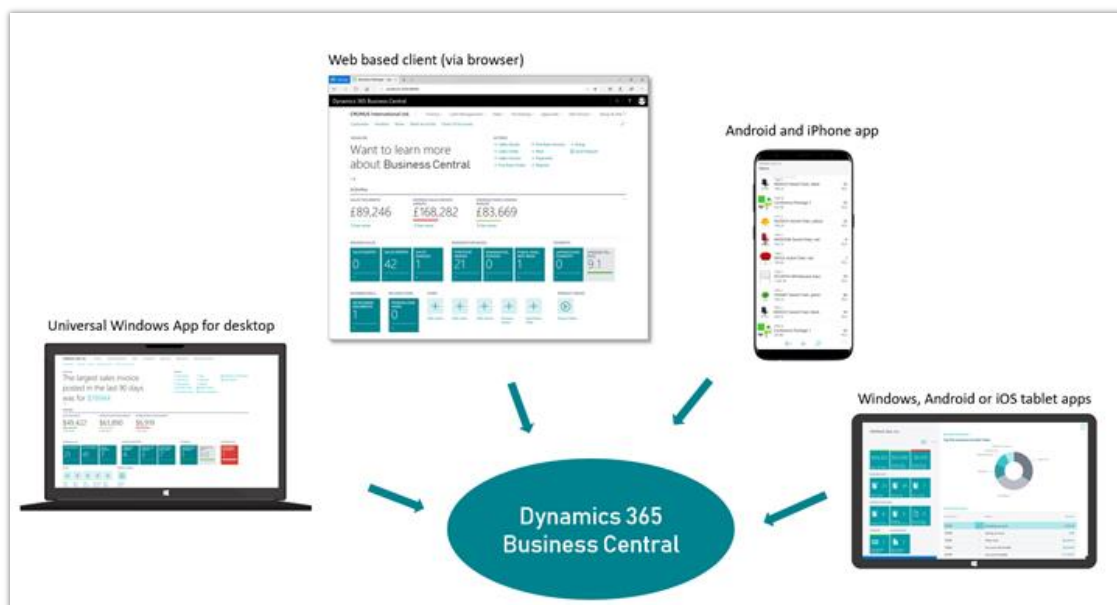
This ensures an easier transition and shorter learning curve for new-employee onboarding—all on top of new capabilities of cloud and AI-powered insights and data analytics for the Business Central customer, especially with cloud and hybrid versions.

The **Dynamics 365 Business Central** universal app is able to connect to cloud, on-premises, and hybrid deployments of Business Central. That app is available for:

- Windows 10 (desktop, tablet, and phone)
- Android (tablet and phone)
- iOS (tablet and phone)

The full desktop mode is supported on computers running Windows 10.

For more information on mobile/companion apps for Business Central, see [Getting Business Central on your mobile device](#).



*Business Central is available for the desktop, tablet, and phone*

**NOTE** The Dynamics NAV app remains available in the app store for customers still working on the Dynamics NAV platform and planning to migrate later to Business Central (on-premises, hybrid, or cloud).

## Microsoft Dynamics 365 Business Central hybrid deployment

While Business Central is a cloud-first service, customers who need to run their workloads on-premises or on the intelligent edge connected to the cloud can now do so. With Business Central, once customers sign up for the service in the cloud, they have the option to deploy it locally to their choice of hardware. While they are running Business Central on their own hardware, customers will have a tenant in the cloud, and the data from the customers' hardware will be replicated to the cloud for intelligent cloud scenarios. At all times, customers are informed of their “replication success rate” so when they're ready to transition completely to the cloud, it's a simple step. The customer has the ability to see the details behind their replication success rate by drilling into the details and see the tables that have not replicated successfully.

The customer data is always uploaded to the cloud from on-premises (customers can opt out if desired) to bring the intelligent cloud capabilities to the Business Central deployments on the intelligent edge. Business Central will be licensed through CSP, at the same price, regardless of where the customer (through a partner) deploys their solution.

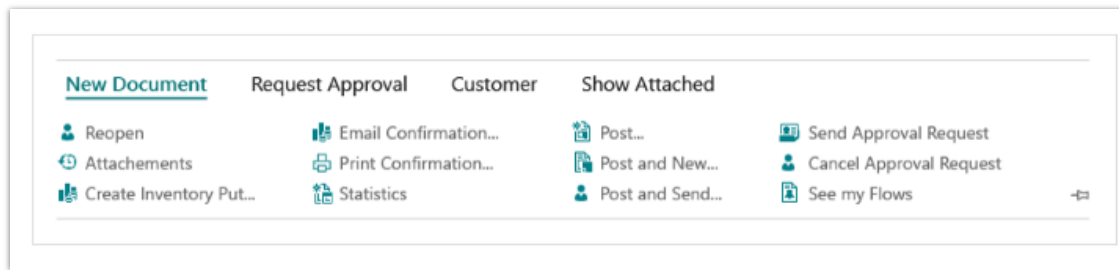
Partners are still able to customize on-premises solutions through code customization. However, doing that may degrade their replication services, because increasing the number of code customizations reduces the percentage of tables that can be replicated to the cloud. At all times, customers will see a tile showing the replication percentage and a list of the tables with issues so they can work with their VAR to determine the appropriate resolution steps. This is an important way for customers to continue receiving value from the intelligent cloud and the intelligent edge, regardless of the changes made to Business Central on-premises.

## High productivity with an all-refreshed desktop experience

In the October '18 release, Microsoft Dynamics 365 Business Central receives a refreshed desktop experience. Business Central accelerates productivity through powerful new features for working with lists as well as the evolution of Page Search.

## Refreshed desktop experience

With a fresh new look, Business Central is now easier to use. The refreshed desktop experience focuses on improved layout of data, taking advantage of screen space, better data visibility and readability, and easier navigation through the entire application. Details pages (such as the customer card) also get a new look and feel, completing the visual refresh of all the application areas with further refinements across the application.



*New command bar in Business Central*

[Learn more about the refreshed desktop experience.](#)

## Improved productivity in lists

Adding to the features already available for lists, such as showing more columns and personalizing the freeze pane, Business Central now helps you be more productive when filtering, navigating, or entering tabular data. Business Central addresses several commonly requested features that drive productivity, such as powerful filtering of rows and totals, row-based copy and paste, and improved keyboard navigation and shortcuts. These are individually small features, but collectively they bring a substantial increase in day-to-day productivity for Business Central users. Moving to the cloud does not mean losing productivity.

[Learn more about advanced filtering.](#)

[Learn more about Copy & Paste.](#)

## Tell Me what you want to do

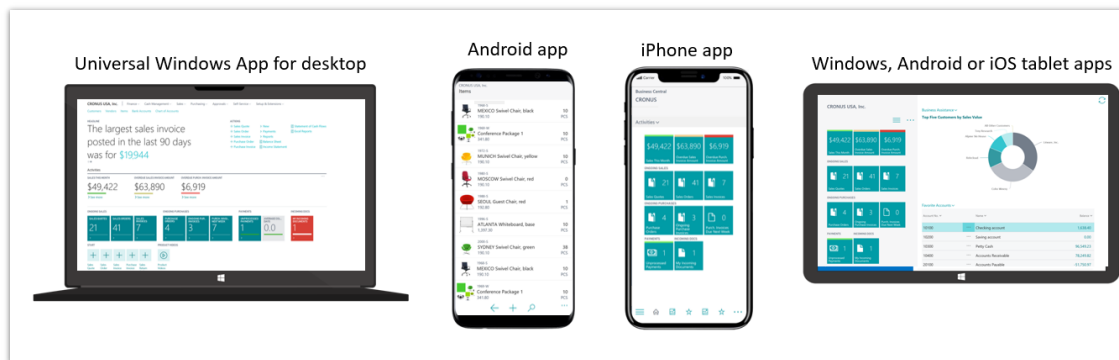
The Tell Me window replaces Search for Pages and Reports, helping you choose from actions on the current page, find helpful documentation and navigate to other pages and reports.

[Learn more about Tell Me.](#)



## Access from anywhere

Users of Business Central are able to remain productive and engaged at their desks or on the go, regardless of the device, platform, or form factor (laptop, desktop, tablet, phone).



### *Dynamics 365 Business Central Everywhere*

Business Central is a modern business solution from Microsoft that not only brings the full power and heritage of Dynamics NAV to the cloud but also enables modern businesses to compete much easier in the all-connected world and deliver on digital transformation.

## Accessibility

At Microsoft, we believe accessibility is essential to delivering on our mission to empower every person and every organization on the planet to achieve more. With this release of Business Central, the desktop browser experience meets Microsoft accessibility standards, ensuring your diverse workforce has access to business data and the tools necessary to complete business tasks at their desks. With our focus on features for low-vision and low-mobility users, Business Central offers keyboard access to all aspects of the interface, and support for screen readers and high contrasts. [Learn more about Microsoft's commitment to accessibility.](#)

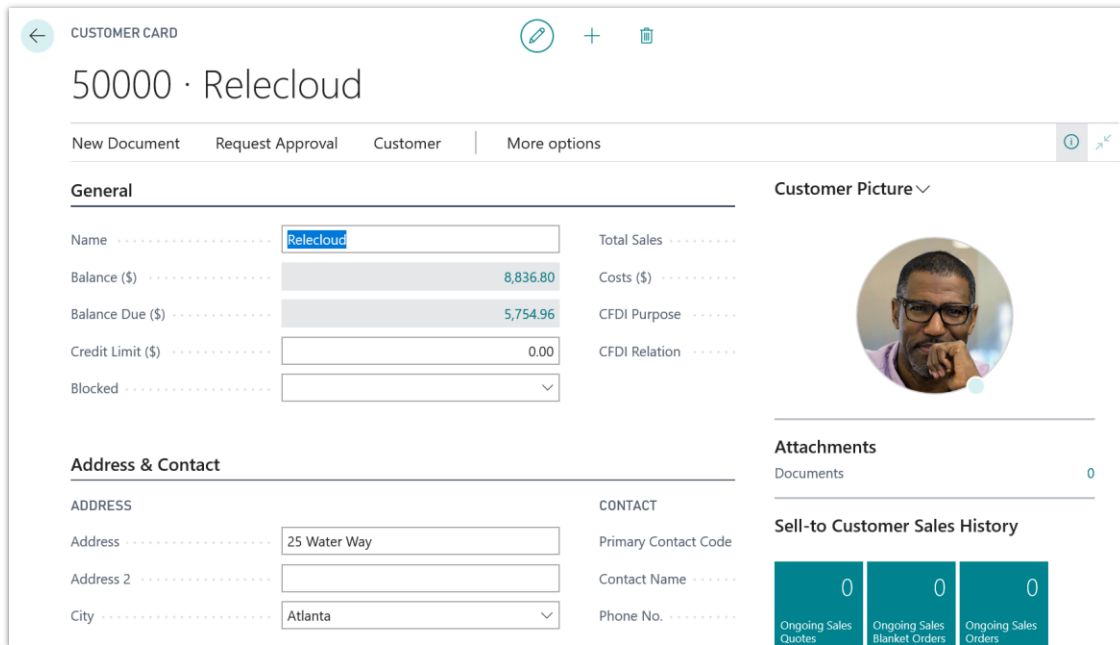
## Refreshed desktop experience

A fresh, modern experience makes it easier to adapt Dynamics 365 Business Central to your organization and simplify the learning path for users. Customers get a new, refreshed user experience that helps them become more productive, while Microsoft partners value the ease with which they can now take the product to market and onboard new customers. The refresh does not stop just at the visual side—the application experiences are adjusted, simplified, and improved further.

Our long-term goal is to provide all users with a beautiful, capable, mature, and fast browser experience that helps attract customers and eases the job of demonstrating how to run and grow a business with Dynamics 365 Business Central.

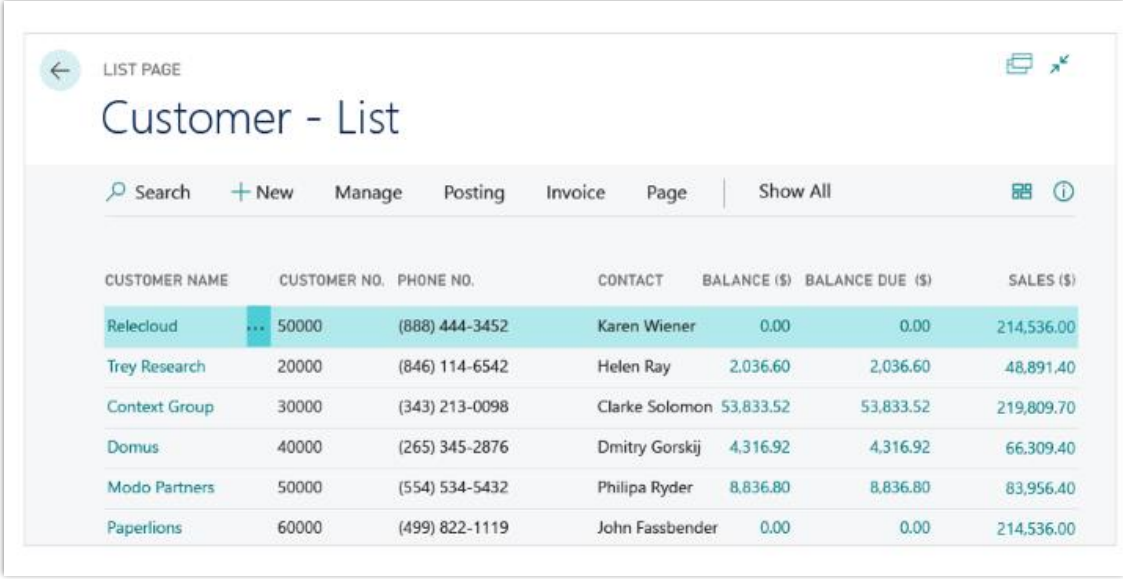
### Modern user experience

With the new experience, users get a more streamlined navigation with the back button displayed prominently on the left of the page and with special dynamic system commands occupying the middle section. These elements move the navigation closer to users, allowing them to stay focused on the data and task at hand.



*Customer card*

Multiple elements related to lists, lookup windows, and grids have been refreshed to align with the rest of the product and with the aspiration of Business Central to be modern software for the cloud and on-premises.



CUSTOMER NAME	CUSTOMER NO.	PHONE NO.	CONTACT	BALANCE (\$)	BALANCE DUE (\$)	SALES (\$)
Relecloud	50000	(888) 444-3452	Karen Wiener	0.00	0.00	214,536.00
Trey Research	20000	(846) 114-6542	Helen Ray	2,036.60	2,036.60	48,891.40
Context Group	30000	(343) 213-0098	Clarke Solomon	53,833.52	53,833.52	219,809.70
Domus	40000	(265) 345-2876	Dmitry Gorskiy	4,316.92	4,316.92	66,309.40
Modo Partners	50000	(554) 534-5432	Philipa Ryder	8,836.80	8,836.80	83,956.40
Paperlions	60000	(499) 822-1119	John Fassbender	0.00	0.00	214,536.00

#### *A list with a new commands bar*

With the new command bar, users can now be more productive with larger screen estate devoted to their business data, reducing space used previously for menus and ribbons. Those new elements of the user interface are fully flexible and dynamic - only show features and options that users need at any given time while consuming less space on the screen.

All the lists in the product feature now a new, refreshed layout with more flexible grid customization, tile view available everywhere and with quick access to search and view. This allows users to get better and faster access to the data whenever it is needed.

The screenshot shows a Dynamics 365 form with the following sections and data:

- General:** No. 50000, Credit Limit (\$) 0.00
- Address & Contact:** Address, Address 2, City (Atlanta), State (GA), ZIP Code (31772), Country/Region Code (US), Phone No. (356) 958-0998, Email, Home Page.
- List Lookup:** A dropdown menu for City is open, showing a table of options:
 

CODE	CITY	COUNTRY/REGION CODE
US-AL 35242	Birmingham	US
US-FL 37125	Miami	US
US-GA 31772	Atlanta	US
US-IL 61236	Chicago	US
US-NY 11010	New York	US
US-SC 27136	Columbia	US

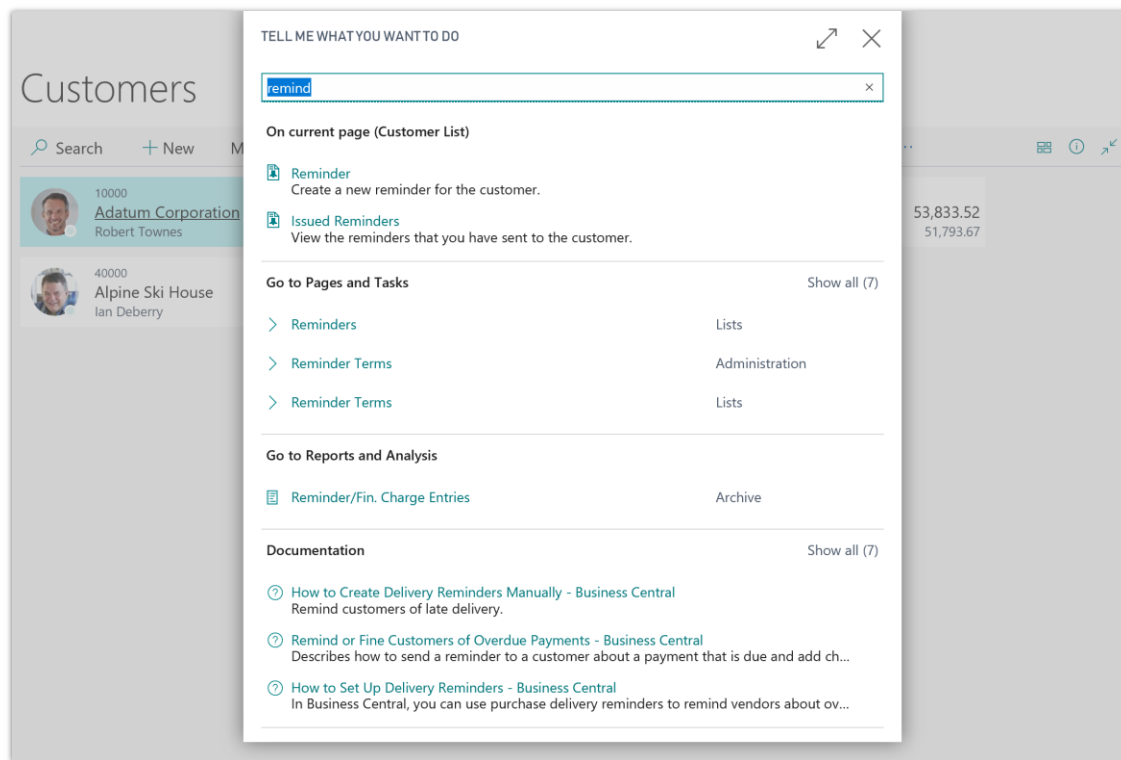
*A list lookup*

**Tell Me what you want to do**

Introducing **Tell Me**, an evolution of the **Search for Page or Report** capability. Productivity increases when people can find what they need, and search is often quicker and less tedious than the repeated clicks needed to get there. The Tell Me window helps you get things done, or helps you find out how to do things quickly in Dynamics 365 Business Central.

As you type in the Tell Me window, we've broadened the scope to include online Help content as well as actions from the current page that you can immediately activate. You can also navigate to pages and reports across the application based on their page caption.

Access Tell Me from anywhere in the application using the **Alt+Q** keyboard shortcut, or look for the lightbulb icon as you would in Office 365 applications.



*The Tell Me window showing some results when used from the Customer list.*

## Try it now

Try the new Tell Me window by signing in to your online environment at <https://businesscentral.dynamics.com> and typing **Alt+Q**.

## Resources

[Frequently Asked Questions about Tell Me](#)

[Finding Features and Information with Tell Me](#)

[Technical Documentation: Making your pages discoverable](#)

## Advanced filtering

Work efficiently in lists in Dynamics 365 Business Central by influencing calculations and applying filters to multiple fields.

Back-office information workers spend significant time working with lists: entering or modifying data, analyzing trends and anomalies, or simply looking for specific records. While a quick search can reduce the list by finding the closest matches across all columns, users often need a higher degree of control as the size of the business database grows. The powerful filtering capabilities in Business Central accelerate list-related tasks by providing absolute control over filtering in a modern and intuitive experience.

### Filtering lists

Anchored to the side of your lists, the new filter pane has a familiar design that is easy to learn and efficient to work with. Switch between predefined filtered views of your list, adjust a view by adding your own filters, or simply start from scratch.

Views:	10000 Coho Winery Jim Glynn		...	50000 Relecloud Jesse Holmer	
<u>All</u>		\$66,309,400		\$8,836.80	\$8,836.80
International		\$0,00			
Preferred	40000 Alpine Ski House Paul Cannon		\$4,316.92	10000 Coho Winery Jim Glynn	
		\$4,316.92		\$66,309,400	\$0,00
Filter list by:	20000 Trey Research Helen Ray		\$3,036.60	40000 Alpine Ski House Paul Cannon	
× Contact		\$3,036.60		\$8,836.80	\$8,836.80
	10000 Litware, Inc. Meagan Bond		\$53,822.52	20000 Trey Research Helen Ray	
× Location		\$53,822.52		\$3,036.60	\$3,036.60
Red	50000 Relecloud Jesse Holmer		\$8,836.80	10000 Litware, Inc. Meagan Bond	
+ Filter...		\$8,836.80		\$53,822.52	\$53,822.52
Clear all	40000 Alpine Ski House Paul Cannon		\$4,316.92	10000 Coho Winery Jim Glynn	
Filter totals by...		\$4,316.92		\$66,309,400	\$0,00

*The filter pane, shown alongside a list.*

The filter pane allows you to:

- Get an overview of the currently applied filters, no matter if they were set by you, by a filtered view, or by the application itself.
- Add as many filtered columns as you like by typing to quickly pick from any field on the source table.

- Get assistance with specifying filter values using lookups or the field's data type.
- Create complex filters using operators, ranges, formulas and the new filter tokens such as %MyCustomers.
- Revert your filter changes back to the unfiltered view or predefined view of the list.

Business Central remembers the filters you applied throughout the session as you navigate back and forth across pages. The ability to permanently save your changes as a filtered view will be available at a later date.

The filter pane is available on all pages where the list represents the primary content, such as worksheets. Lists embedded as list parts continue to use simple filtering and will adopt the filter pane at a later date.

### Filtering totals

One of the most popular features of Dynamics NAV now makes its way to Business Central. Lists often display aggregated or computed values through FlowFields, such as currency amount totals. With this release, Business Central gives you a whole new level of control through which you can apply filters to one or more dimensions that influence computed values. Use this in combination with filters, sort, and search to explore and analyze your data.

### Keyboard shortcuts

Although the filter pane is just a click away, you can work mouse-free using a variety of powerful keyboard shortcuts, including the Alt+F3 shortcut to filter to the current value. You can now create compound filters on the fly without ever leaving the list, using shortcuts to navigate across cells and then filter to the currently focused value or clear the filter on the current column. Find the full list of keyboard shortcuts at <https://aka.ms/bckey>.

### Try it now

Try the new filter pane on the Items list by signing in to your online environment at <https://businesscentral.dynamics.com/?page=31> and typing **Shift+F3** to show the filter pane.

### Resources

[Sorting, Searching and Filtering Lists](#)

[Working with calendar dates and times](#)

[Technical documentation: adding Filter Tokens](#)

[Frequently asked questions about searching and filtering](#)

## Copy and paste

Work efficiently in lists in Dynamics 365 Business Central with the ability to copy and paste rows.

Back-office information workers spend significant time working with lists: analyzing trends and anomalies or entering and modifying data. Repetitive data entry tasks can be greatly accelerated by copying data entered earlier, and users expect industry-standard keyboard shortcuts such as Ctrl+C to help achieve that level of productivity. Being able to copy data to the clipboard also facilitates moving data across software boundaries, such as pasting a list of discounted items into an email to a customer.

### Copy and paste rows

This enables you to:

- Copy one or more rows in a list and paste them to the same (or similar) list.
- Copy one or more rows and paste them into Microsoft Excel, including the column captions. Not using Excel? Most applications such as Microsoft Outlook allow pasting tabular content where the column captions will be displayed.
- Copy one or more rows from Excel and paste them into Business Central.

### Keyboard shortcuts

Apart from the industry-standard shortcuts Ctrl+C and Ctrl+V, we've added the highly requested F8 shortcut that copies the cell above. You can rapidly fill in a new row by tabbing across cells and selecting F8 on the cells where you want to copy the value from the row above.

### Try it now

Try the new Copy shortcut on your Chart of Accounts by signing in to your online environment at <https://businesscentral.dynamics.com/?page=16> and immediately typing **Ctrl+C** to copy the first row.

### Resources

[Frequently Asked Questions about Copy and Paste](#)

[Keyboard shortcuts](#)



## Enhanced Power BI embed experience

Enhancements to the current Power BI embed experience include an automatic deployment of Power BI reports, default report selection, and the ability to manage their Power BI reports without ever requiring them to leave Business Central.

End users can customize the embedded Power BI reports as part of their Business Central home page.

Power BI reports will be automatically be deployed and selected when you sign in the first time. Once visible in Business Central, users can make edits to their Power BI reports from a new page in Business Central that surfaces all the controls from Power BI that you can use to modify the reports.

## Enhancements to Finance, Sales, and Purchasing

### Non-inventory items

Business Central now offers support for non-inventory items: Item that you can buy or sell but don't want to keep as inventory items.

*Examples: Consumed office supplies, metal-ware in manufacturing/service scenarios (buy in kg, consume units), or farmer selling strawberries at the roadside.*

With non-inventory items you can benefit from item capabilities, such as pricing/discount structure, units of measure, default vendors and additional vendors, extended descriptions, replacements, tariff numbers, etc., but do not involve tracking of inventory quantity and value. Non-inventory items support following features:

- Sales
- Purchasing
- Job Consumption
- Service Consumption
- Assembly Consumption
- Production Consumption

### Resources

<https://docs.microsoft.com/en-us/dynamics365/business-central/inventory-about-item-types>

### Blocked items hidden in lookups

Over time customers can have thousands of blocked items that are not to be used. However, they still show up in lookups when adding items to sales documents. This makes the list of items too long and causes confusion about which items can be sold.

With the October release, blocked items are hidden in lookups in multiple journals and documents.

#### Resources

<https://docs.microsoft.com/en-us/dynamics365/business-central/inventory-how-block-items>

### Block Items from Sales and Purchasing

To have more flexibility in specifying which transactions are allowed for specific items. You can block an item from being entered on sales or purchase lines, and you can block it from being posted in any transaction.

#### Resources

<https://docs.microsoft.com/en-us/dynamics365/business-central/inventory-how-block-items>

### Updated reports layout

Frequently used reports have gotten a layout refresh and a more modern look.

Report ID	Name
1	Chart of Accounts
2	General Journal - Test
3	G/L Register
4	Detail Trial Balance
5	Receivables-Payables
6	Trial Balance

Report ID	Name
8	Budget
9	Trial Balance/Budget
25	Account Schedule
38	Trial Balance by Period
101	Customer - List
103	Customer Register
107	Customer - Order Summary
108	Customer - Order Detail
111	Customer - Top 10 List
112	Sales Statistics
113	Customer/Item Sales
114	Salesperson - Sales Statistics
119	Customer - Sales List
120	Aged Accounts Receivable
129	Customer - Trial Balance
309	Vendor - Purchase List
321	Vendor - Balance to Date

Report ID	Name
329	Vendor - Trial Balance
715	Price List
720	Item/Vendor Catalog
1001	Inventory Valuation
5605	Fixed Asset - Book Value 01
5871	Item - Able to Make (Timeline)
5872	BOM Cost Share Distribution

### Standard Sales and Purchase Codes Improvements

If you often need to create sales and purchase lines with similar information, you can set up standard lines that you can then insert on recurring sales and purchase documents, for example, for recurring replenishment orders. With October release users can specify how the standard sales or purchase codes are entered when you create different sales or purchase documents.

#### Resources

<https://docs.microsoft.com/en-us/dynamics365/business-central/sales-how-work-standard-lines>

### Fixed assets appreciation posting available through purchase invoice

With current release user can easily register the value increase of a fixed asset (FA). The FA Posting Type field is extended with Appreciation type on purchase invoices to support this. Thus, not only maintenance but also appreciation of fixed assets can now be documented by posting a purchase invoice using the appropriate FA posting type, without need to post separate transactions via general journal.

### Multiple interest rates (finance charge terms)

Adding support for multiple period-specific interest rates for Finance Charge Terms. With current release when you create finance charge terms and reminder terms as penalty for delayed

payment, you can also specify multiple interest rates so that the penalty fee is calculated from different interest rates in different periods.

### **VAT Reconciliation report (country consolidation)**

VAT reconciliation is often done by accountants each time a VAT return is submitted to the tax authorities. W1 version has had a VAT-to-G/L relationship for years, but with no specific feature utilizing it. We added ability to reconcile G/L entries vs. VAT entries based on established relations.

### **Archiving of blanket orders and document line tracking**

We aligned archiving functionality and extended it to include Blanket Orders. We also improved tracking so user can look up the blanket order from the order or archived order and vice versa.

#### **Resources**

<https://docs.microsoft.com/en-us/dynamics365/business-central/across-how-to-archive-documents>

<https://docs.microsoft.com/en-us/dynamics365/business-central/across-how-to-track-document-lines>

### **Simpler workflows across business areas**

#### **Simplified payment process**

Based on customer feedback we introduced improvements into payment process, by adding searchable aliases (alternate keywords) for customer/vendor/employee ledger entries pages and by introducing a Create Payment action that transfer selected entries to journals. As a result, it is easier to:

- View outstanding vendor invoices. Select and choose which to pay. Automatically fill in payment journal.
- View outstanding customer invoices, Select and choose to receive payment. Automatically fill in cash receipts journal.

#### **Resources**

<https://docs.microsoft.com/en-us/dynamics365/business-central/receivables-how-reconcile-customer-payments-list-unpaid-sales-documents#to-register-customer-payments-individually>

## Simplified journals

Based on feedback from new users we simplified layout of the General, Purchase, and Sales Journal pages by adding support of two view modes for journals.

Simplified view:

- Fewer columns
- General Journal: Debit/Credit entry fields
- Purchase Journal: Show only account types specific to purchases
- Sales Journal: Show only account types specific to sales

Simplified view enables easier data entry for new users and can be easily switched to standard view for processing of advanced scenarios.

## Remind user to release purchase/sales order

It is a common case when user forgets to release a sales or purchase order, which results in the documents not being available for warehouse handling. A new release warning for users will be displayed when closing a document, based on the following conditions:

- The order is not released yet.
- Lines with the Quantity field filled in exist.
- The Location Code field is filled in on the lines.
- The location requires Pick/Ship or Receive/Put-away.

## Warning about unposted document is enabled for invoices only (by default)

We adjusted the warning about unposted documents. We added advanced filtering for warning about unposted document and set default filter to "Document Type" = Invoice, which means that it by default only shows up for invoices. Users can change this to include other document types.

## Improved handling of situations when currency exchange rates are missing

Based on telemetry we discovered that users often create new currency but forget to add exchange rates, which leads to errors when user tries to select the currency in documents. To improve users' experience, we added a confirmation dialogue that guides the user to the Exchange Rates page, so user can fix missing exchange rates. We also added reminder about missing exchange rates when creating a new currency code.

## Copy account schedules

Users often run the same financial report in slightly different versions, such as a detailed income statement or a summary income statement. We added the Copy action on the Account Schedules page, so user can save a lot of time copying an account schedule and edit it, rather than build an account schedule from scratch. We also transformed warning on "system" account schedules into dialog, so user can decide whether they want to review the "system" account schedule or edit a copy.

### Resources

<https://docs.microsoft.com/en-us/dynamics365/business-central/bi-how-work-account-schedule>

## Check-Avail. Period Calc. setting is not needed for basic Available-to-Order scenarios

Users often forget why the Earliest Receipt Date field is not updated when notified about low inventory from sales orders. We made Check-Avail. Period Calc. setting optional on the Company Information page, so the Earliest Receipt Date field is always calculated when there is expected inventory supplies.

## EU Shipment method code support for Intrastat

EU Intrastat report definition contains a number of data elements that are optional in EU but are required or conditionally required in some countries inside EU. The enforcing mandatory parameters was a common change in local versions. We have, therefore, added a new configuration setting that removes the need for localizations in countries where this is required or conditionally required.

## Address format consolidation

We analyzed and aligned different requirements for formatting of addresses, so with current:

- We can dynamically update the County field caption to State/Region/Province etc. (New County Name field on the Country/Region page)
- We can dynamically change the visibility of the County field dependent on the address format of the corresponding country/region code
- In addition to predefined strings we added Custom Address Format option, and a simple visual designer to build the option in the Countries/Regions page

### **Cancel purchase invoices posted from order**

To align functionality with sales part and help user to fix wrong posting we enabled the Cancel action on posted purchase invoices related to purchase orders.

### **US/CA: Users can update Tax Amount on general journal lines**

To align functionality with VAT and allow user to handle tax differences we enabled US/CA users to update the Tax Amount field on a general journal line.

### **Items purchased for specific jobs use Fixed application**

From an accounting perspective, a specific application is the preferred way to value any changes of your stock. So, when Items are purchased directly for jobs, they are now consumed with Fixed application even if the costing method is Average. It is also much easier to handle purchase returns (Still requires application worksheet to link negative adjustments)

### **Drill-down on the Inventory field on the item card**

The Inventory (Available) field in Item card now contains both an AssistEdit to do quick adjustment of inventory level and DrillDown for easy investigation of the transaction history.

### **Easier to get started**

#### **Manage Users action added to the Create Company wizard**

To avoid situations where an administrator forgets to add users, the Manage Users action is added to the Create Company assisted setup.

#### **Accounting periods are optional**

Due to multiple reasons listed below we decided to make accounting periods optional, so now user can run the company without setting up accounting periods. The functionality is still there and if users need it, they can create accounting periods. Several features require accounting periods, such as Year Closing and Date Compression.

Reasons for design change:

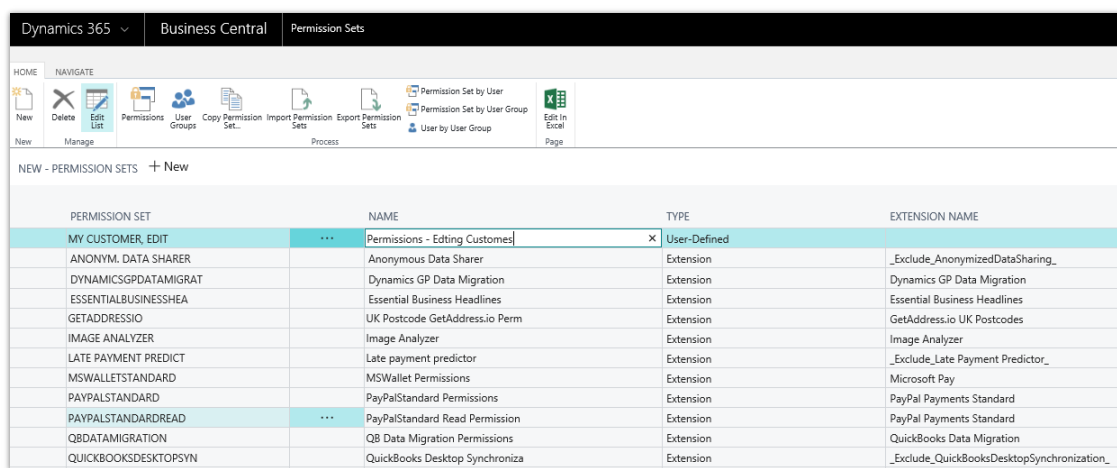
- Posting in a new year often starts with an error about missing accounting period, which causes headache for Support.
- Accounting periods are not needed until the end of a fiscal year. In some countries they are not needed at all.
- Accounting periods are needed mainly by accountants, so we didn't want other users to worry about it.



## Permission sets are editable

Customers often have their own definitions of what people should be able to do in Business Central, and those definitions do not always align with our predefined permission sets. To address that, we have made permission sets editable so that you can add, delete, and modify them.

From the list of permission sets, you can add new and copy an existing permission set. The resulting set will be of type User-Defined. If you copy an existing permission set, you can choose to be notified if the original permission set changes so that you can update the customized set if needed.



PERMISSION SET	NAME	TYPE	EXTENSION NAME
MY CUSTOMER, EDIT	Permissions - Editing Customes	User-Defined	
ANONYM. DATA SHARER	Anonymous Data Sharer	Extension	_Exclude_AnonymizedDataSharing_
DYNAMICS GP DATAMIGRAT	Dynamics GP Data Migration	Extension	Dynamics GP Data Migration
ESSENTIALBUSINESSHEA	Essential Business Headlines	Extension	Essential Business Headlines
GETADDRESSIO	UK Postcode GetAddress.io Perm	Extension	GetAddress.io UK Postcodes
IMAGE ANALYZER	Image Analyzer	Extension	Image Analyzer
LATE PAYMENT PREDICT	Late payment predictor	Extension	_Exclude_Late Payment Predictor_
MSWALLETSTANDARD	MSWallet Permissions	Extension	Microsoft Pay
PAYPALSTANDARD	PayPalStandard Permissions	Extension	PayPal Payments Standard
PAYPALSTANDARDREAD	PayPalStandard Read Permission	Extension	PayPal Payments Standard
QBDATAMIGRATION	QB Data Migration Permissions	Extension	QuickBooks Data Migration
QUICKBOOKSDESKTOPSYN	QuickBooks Desktop Synchroniza	Extension	_Exclude_QuickBooksDesktopSynchronization_

Additionally, you can now import files with permission sets definitions, such as files provided by a partner or copied from another company, and you can use RapidStart to add permission sets.

## Overview of effective permissions for a user

For setup and troubleshooting, you need information on where the user’s permissions come from and what the user’s entitlement (license) gives them access to.

From each user card, the Effective Permissions window shows which permissions a user has and through which permission set(s) they are granted, either through the entitlement, through a default set (System), or through a customized set (User-Defined). Here you can also change permission sets of type User-Defined.

**NOTE** When you edit a permission set, the changes will also apply to other users that have the permission set assigned.

The screenshot shows the 'Effective Permissions' window in Dynamics 365 Business Central. The window title is 'EDIT - EFFECTIVE PERMISSIONS'. It displays the user 'BCEXTACCOUNTANT' and company 'CRONUS USA, Inc.'. Below this, there are two tables.

OBJECTTYPE	OBJECT NAME	READ PERMISSION	INSERT PERMISSION	MODIFY PERMISSION	DELETE PERMISSION	EXECUTE PERMISSION
Table Data	Payment Terms	Yes	Yes	Yes	Yes	
Table Data	Currency	Yes	Yes	Yes	Yes	
Table Data	Finance Charge Terms	Yes	Yes	Yes	Yes	
Table Data	Customer Price Group	Yes	Yes	Yes	Yes	
Table Data	Standard Text	Yes	Yes	Yes	Yes	
Table Data	Language	Yes	Yes	Yes	Yes	
Table Data	Country/Region	Yes	Yes	Yes	Yes	
Table Data	Shipment Method	Yes	Yes	Yes	Yes	
Table Data	Country/Region Translation	Yes	Yes	Yes	Yes	
Table Data	Salesperson/Purchaser	Yes	Yes	Yes	Yes	
Table Data	Location	Yes	Yes	Yes	Yes	
Table Data	GL Account	Yes	Yes	Yes	Yes	

PERMISS... SETTYPE	TYPE	PERMISSIO... SETID	READ PERMISSION	INSERT PERMISSION	MODIFY PERMISSION	DELETE PERMISSION	EXECUTE PERMISSION
Normal	System	D365 BUS FU...	Yes	Yes	Yes	Yes	
Normal	System	D365 READ	Yes				
Entitlement	System	-	Yes	Yes	Yes	Yes	

Overview of effective permissions.

## Resources

[Managing Users and Permissions](#)



## Late Payment Prediction extension

Effectively managing receivables is important to the overall financial health of a business. The Late Payment Prediction extension can help you reduce outstanding receivables by predicting whether sales invoices will be paid on time.

The extension uses a machine learning classification model that gives you out-of-the-box benefits from artificial intelligence, without having to be a data scientist. If you are, though, you can swap out our model for yours in just a few steps.

The extension also lets you continue to train your model as you accumulate data that will sharpen predictions about the payment habits of your customers. The more you use Business Central and the more data you feed the model, the more accurate predictions become.

How, and when, you generate predictions is up to you:

- You can analyze all sales invoices in the **Customer Ledger Entries** window, where you can also dig deeper into each posted invoice. The Late Payment field shows the outcome of the prediction.
- You can predict late payments upfront. In the **Sales Quotes**, **Sales Orders**, and **Sales Invoices** windows, you can use the **Predict Payment** action to generate a prediction for the sales document you're viewing.

Customer Ledger Entries window showing Sales Invoices Predicted Overdue. The table below summarizes the data shown in the screenshot:

POSTING DATE	DOCUMENT TYPE	DOCUMENT NO.	REMAINING AMOUNT	DUE DATE	PAYMENT PREDICTION	PREDICTION CONFIDENCE
31/01/2018	Invoice	PS-INV103171	2,877.48	14/04/2018	Late	High
27/01/2018	Invoice	PS-INV103169	809.76	10/04/2018	Late	High

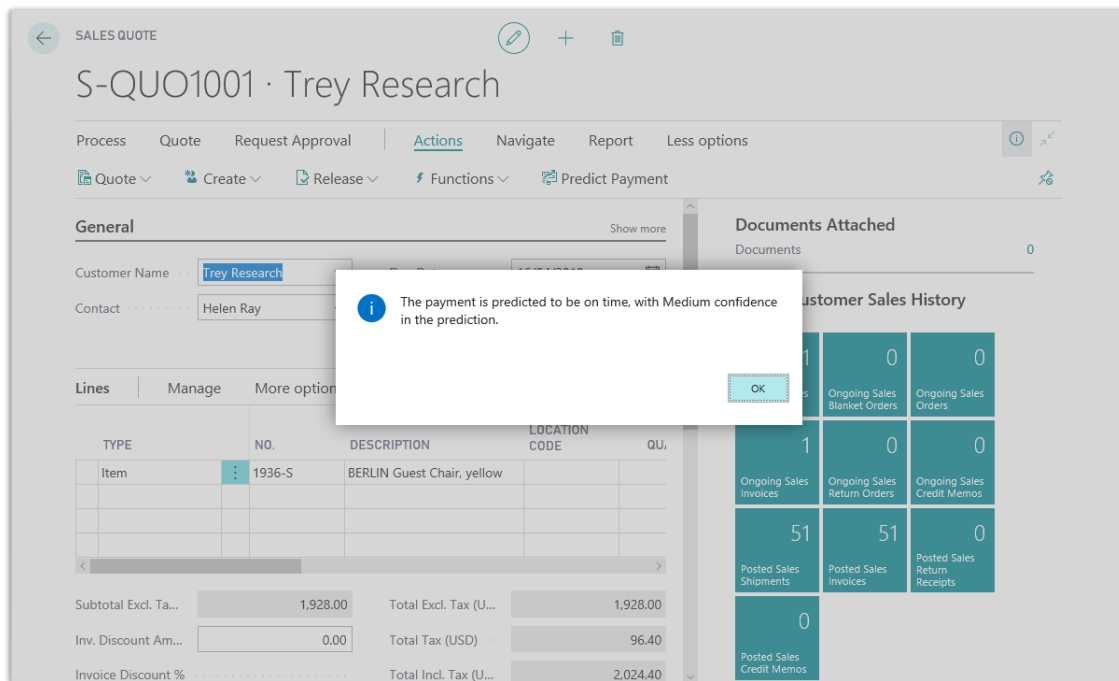
**Customer Details**

- Customer No.: 50000
- Phone No.:
- Email: jesse.homer@contoso.com
- Fax No.:
- Credit Limit (\$): 0.00
- Available Credit (\$): 0.00
- Payment Terms Code: 14 DAYS
- Contact: Jesse Homer

**Late Payment Prediction**

- Prediction: Late
- Confidence: High
- Confidence %: 92.00

*Overview of invoices predicted to be late*



### *Generate prediction for the sales quote*

You can turn these insights into proactive action. For example, if a payment is predicted to be late, you might decide to adjust the terms of payment or the payment method for the customer.

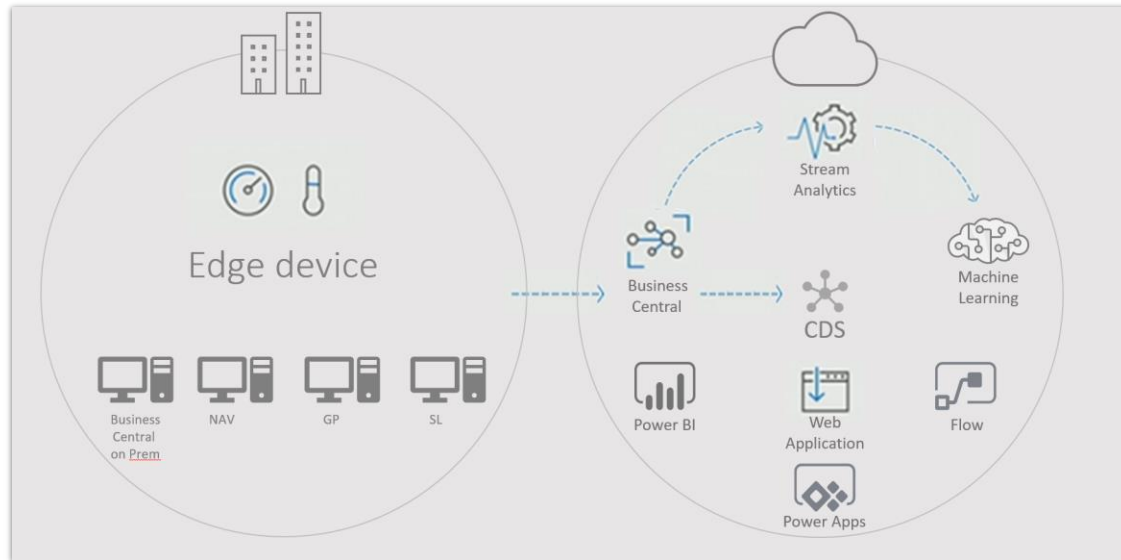
## Resources

[Predicting Late Payments](#)

## Intelligent edge for Dynamics GP, Dynamics SL, and Dynamics NAV

Microsoft continues to invest heavily in the intelligent cloud, bringing business intelligence, artificial intelligence, machine learning, and numerous other cloud productivity and analytics tools to the marketplace. Customers using on-premises solutions haven't been able to easily take advantage of these services.

Connect your on-premises Dynamics SMB solution to the intelligent cloud through Dynamics 365 Business Central, and get access to Power BI, Microsoft Flow, PowerApps, machine learning, and others.



### *From edge device to many cloud solutions*

With the October '18 release of Business Central, we're bringing the intelligent edge to several of our Dynamics SMB products. With the intelligent edge, you can seamlessly connect your on-premises solution to an instance of our intelligent cloud through Business Central. When the connection is made, we securely replicate your on-premises data to the intelligent cloud. You simply decide which companies you want to replicate (all if you choose), and then, within the main pages of your on-premises solution, we'll deliver back actionable analysis and content. The intelligent cloud leverages solutions such as Power BI, PowerApps, Microsoft Flow, and AI to provide insight and actionable messages, enabling your business to run even better.

Initial releases will target Dynamics 365 Business Central, Dynamics GP, and Dynamics SL, with legacy Dynamics NAV following shortly thereafter. Dynamics GP and Dynamics SL will continue to receive product improvements and updates, including value added through the intelligent cloud. When you want to move to a fully cloud-enabled solution, your data is available in Business Central through migration tools. These migration tools are available within Business Central and AppSource, as well as services through a number of partners that specialize in upgrading customers to Business Central. You can find these partners and further information via [AppSource Consulting Services](#).

## Resources

[Connect to the intelligent cloud with Dynamics 365 Business Central](#)

## Tenant administration for VARs

Dynamics 365 Business Central VARs can manage the lifecycle of their customers' solutions through administration pages.

The administration center is the portal for VARs to engage with customers and manage health, troubleshooting, notifications, and sandboxes of the customer tenants. With this administration center, partners can manage the lifecycle of their customers' Business Central tenants, including specifying upgrade windows.

The administration center provides a centralized view of the customer's solution and its lifecycle, where the VAR can take action to manage customer upgrades and troubleshoot customer issues. VARs will be notified of lifecycle events impacting their customers, to which the VARs can view and take action for one or more of their customers from within the administration center. VARs will set an upgrade window, meaning a time period during which an upgrade can take place, for each customer. The VAR can view errors and other telemetry for the customer in the administration center, using this information along with enhancements in creating a sandbox of the customer's environment to troubleshoot any issues the customer is experiencing. The sandbox environment will also be a good place for the VAR and the customer to test out new customizations or ISV add-ons.

### Resources

[Business Central administration center](#)

## Improved Visual Studio Code AL experience

Creating extensions is the way to customize Business Central. The October '18 release adds productivity enhancements to the development experience as well as support for additional extension scenarios.

With the enhancements to the tooling and extension capabilities, developers can be more productive when developing and troubleshooting solutions, and will have more options to meet customers' customization requirements using extensions.

## Cloud sandbox with production data

A common scenario when working with cloud sandboxes, especially when testing or troubleshooting, is the wish to have production data available. With this release, we add the ability to create a cloud sandbox based on a copy of the latest cloud backup of the production data. To minimize cross-talk with integrations set up in the production data, these integrations will be disabled when the sandbox is created. Using caution, admin users can enable or reconfigure these integrations as required to support the intended cloud sandbox use.

## Event discoverability

A core aspect of creating extensions is to subscribe to events. However, a common challenge is understanding which events are available in a given user flow. Debugging can help, but will only show events already being subscribed to. To aid in the discoverability of events and extension points, there is a new event tracer in the client. With this, a user flow can be recorded to list events that are raised, and the developer can have subscriber code for the event generated for easy copy into AL code.

CALL ORDER	EVENT TYPE	HIT COUNT	OBJECT TYPE	OBJECT NAME	EVENT NAME	ELEMENT NAME	CALLING OBJECT TYPE	CALLING OBJECT NAME	CALLING METHOD	GETAL SNIPPET
1	Custom Event	4	Codeunit	ApplicationManagem...	OnAfterCaptionClassTranslate		Codeunit	ApplicationManagem...	CaptionClassTranslate	Get AL Snippet
2	Custom Event	1	Page	Customer List	SetCaption		Page	Customer List	OnInit	Get AL Snippet
3	Custom Event	1	Codeunit	Customer Mgt	SkipSettingFilter		Codeunit	Customer Mgt	GetCurrentYearFilter	Get AL Snippet
4	Trigger Event	1	Page	Customer List	OnOpenPageEvent					Get AL Snippet
5	Custom Event	1	Codeunit	ApplicationManagem...	OnAfterAutoFormatTranslate		Codeunit	ApplicationManagem...	AutoFormatTranslate	Get AL Snippet
6	Trigger Event	1	Page	Power BI Report Fact...	OnOpenPageEvent					Get AL Snippet
7	Trigger Event	1	Page	CRM Statistics FactB...	OnOpenPageEvent					Get AL Snippet
8	Trigger Event	1	Page	Social Listening FactB...	OnOpenPageEvent					Get AL Snippet
9	Trigger Event	1	Page	Social Listening Setu...	OnOpenPageEvent					Get AL Snippet
10	Custom Event	1	Codeunit	ClientTypeManagem...	OnAfterGetCurrentClientType		Codeunit	ClientTypeManagem...	GetCurrentClientType	Get AL Snippet
11	Custom Event	1	Codeunit	Office Host Manage...	OnIsAvailable		Codeunit	Office Host Manage...	IsAvailable	Get AL Snippet
12	Trigger Event	1	Page	Sales Hist. Sell-to Fac...	OnOpenPageEvent					Get AL Snippet
13	Trigger Event	1	Page	Customer Statistics Fa...	OnOpenPageEvent					Get AL Snippet
14	Trigger Event	32	Page	Customer List	OnAfterGetRecordEvent					Get AL Snippet
15	Trigger Event	1	Page	Customer List	OnAfterGetCurrRecordEvent					Get AL Snippet
16	Custom Event	1	Codeunit	Data Migration Notifier	SkipShowingCustomerContactCreation...		Codeunit	Data Migration Notifier	ShowCustomerContactCreationNotificat...	Get AL Snippet
17	Custom Event	1	Codeunit	Identity Management	OnBeforeGetApplicationIdentifier		Codeunit	Identity Management	IdmnuAppId	Get AL Snippet
18	Trigger Event	1	Page	CRM Statistics FactB...	OnAfterGetRecordEvent					Get AL Snippet
19	Trigger Event	1	Page	Social Listening FactB...	OnNewRecordEvent					Get AL Snippet
20	Trigger Event	1	Page	Social Listening FactB...	OnAfterGetCurrRecordEvent					Get AL Snippet
21	Trigger Event	1	Page	Social Listening Setu...	OnNewRecordEvent					Get AL Snippet
22	Trigger Event	1	Page	Social Listening Setu...	OnAfterGetCurrRecordEvent					Get AL Snippet
23	Trigger Event	1	Page	Sales Hist. Sell-to Fac...	OnAfterGetRecordEvent					Get AL Snippet
24	Trigger Event	1	Page	Customer Statistics Fa...	OnAfterGetRecordEvent					Get AL Snippet
25	Custom Event	1	Codeunit	ApplicationManagem...	OnAfterCaptionClassTranslate		Codeunit	ApplicationManagem...	CaptionClassTranslate	Get AL Snippet
26	Trigger Event	1	Page	Customer Statistics Fa...	OnQueryClosePageEvent					Get AL Snippet
27	Trigger Event	1	Page	Sales Hist. Sell-to Fac...	OnQueryClosePageEvent					Get AL Snippet
28	Trigger Event	1	Page	Social Listening Setu...	OnQueryClosePageEvent					Get AL Snippet
29	Trigger Event	1	Page	Social Listening FactB...	OnQueryClosePageEvent					Get AL Snippet
30	Trigger Event	1	Page	CRM Statistics FactB...	OnQueryClosePageEvent					Get AL Snippet
31	Trigger Event	1	Page	Power BI Report Fact...	OnQueryClosePageEvent					Get AL Snippet
32	Trigger Event	1	Page	Customer List	OnQueryClosePageEvent					Get AL Snippet
33	Trigger Event	1	Page	Customer Statistics Fa...	OnClosePageEvent					Get AL Snippet

### Event tracer

Furthermore, a large number of new events has been added, making it possible to extend in more places.

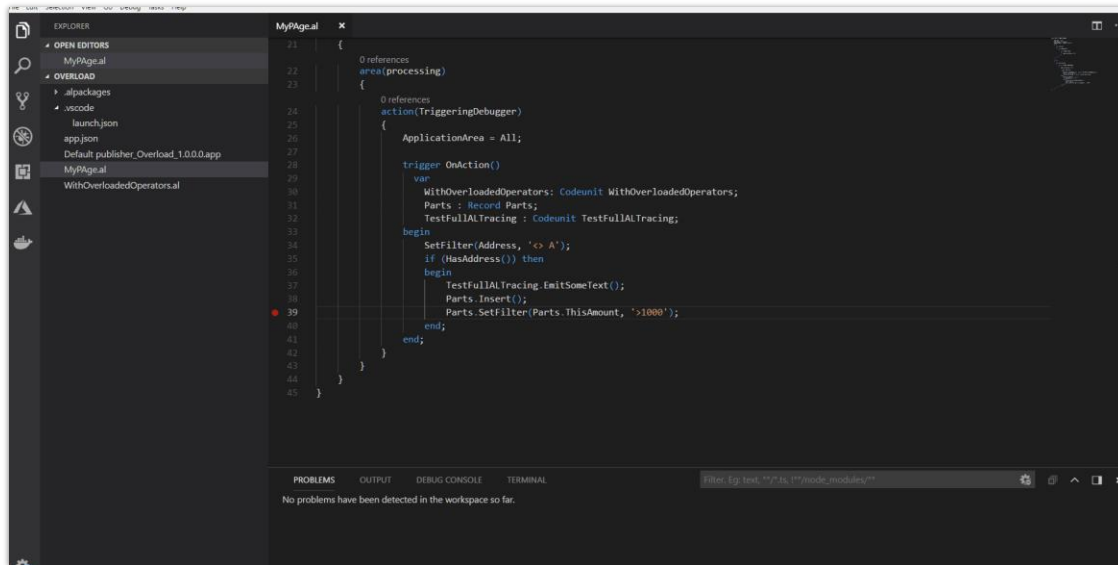
## Visual Studio Code AL Extension enhancements

With versioning check and backward compatibility, you can now install the AL Language extension from the Visual Studio Code marketplace and use it to develop solutions for many different platforms, including cloud sandboxes, Business Central April 2018 release, Business Central October 2018 release, and future versions. The compiler will check that the connected tenant is compatible, and compile against the target platform as set in the new app.json property.

Also, the AL extension is now faster and more responsive when working with larger projects containing many object extensions/files.

## Debugger enhancements

Just like in the legacy Dynamics NAV debugger, you can now use the common Break on Error, as well as Break on Write. You can also go to definition in the base application code and set breakpoints there.

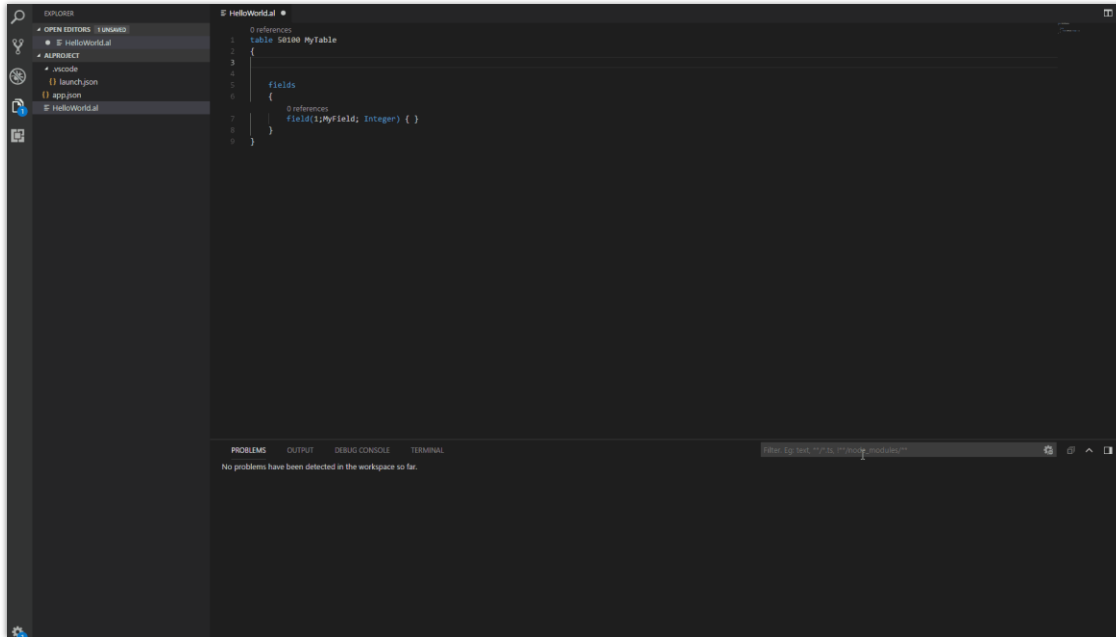


*F12 Go to Definition for base application code*



## IntelliSense enhancements

All properties in AL, both on hover and in IntelliSense, now have Help links that redirect you to the related online documentation. Furthermore, the documentation for AL language constructs is autogenerated and used for both online reference documentation and IntelliSense, ensuring up-to-date and aligned documentation.



*Help link from IntelliSense*

Suggestions for Image properties in an extension now only propose the ones that can be used in the current context, displaying a warning for images that cannot be used in the current context, and you can preview images when using IntelliSense and on-hover.

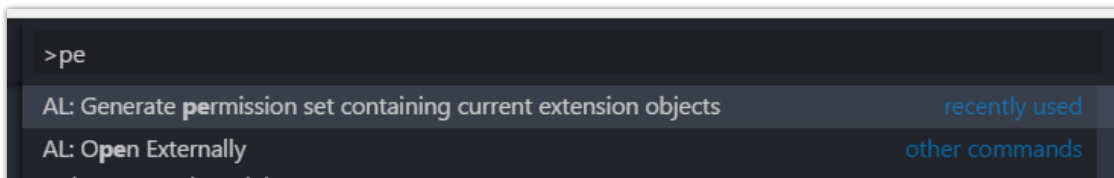
```

1 0 references
2  page 50100 MyPage
3  {
4    layout
5    {
6      0 references
7      area(Content)
8      {
9        0 references
10       cuegroup(GroupName)
11       {
12         0 references
13         field(FieldName; 10)
14         {
15           Image = ;
16         }
17       }
18     }
19   }
20 }
21 }
22 }
23 }
24 }
    
```

*Select and preview images with IntelliSense*

### Working with permissions

To make working with permissions easier, it is now possible to export permission sets from the application, using the client, and import these into the Visual Studio Code AL Extension. New permission files for the objects in an extension can also be generated from within the Visual Studio Code AL project.



*Visual Studio Code AL command for generating permissions file for extension objects*

## .NET Interop

When working with Business Central solutions that target on-premises deployments, you can now add .NET Interop in AL code. Note that this implies that the solution cannot be moved to the cloud later without replacing the .NET Interop.

```

1  dotnet
2  {
3  ... assembly(mscorlib)
4  ...
5  ... type("System.DateTime"; DotNetDateTime) { }
6  ... }
7  }
8
9  0 references
10 pageextension 50000 CustomerListExtension extends "Customer List"
11 {
12 ... trigger OnOpenPage()
13 ... var
14 ... d: DotNet DotNetDateTime;
15 ... begin
16 ... Message('The current date is: ' + d.Now().ToString());
17 ... end;
18 }

```

### .NET Interop in on-premises AL

## Translation enhancements

New contextual information that describes which object and element a given string applies to has been added to the generated XLIFF translation files. This helps translators get a better overview of where a string is displayed in the UI, thereby increasing the quality of the translation.

```

<?xml version="1.0" encoding="utf-8"?>
<xliiff version="1.2" xmlns="urn:oasis:names:tc:xliiff:document:1.2" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="urn:oasis:names:tc:xliiff:document:1.2 xliiff-core-1.2-transitional.xsd">
  <file datatype="xml" source-language="en-US" target-language="en-US" original="MyALProject1">
    <body>
      <group id="body">
        <trans-unit id="PageExtension 3679923872 - Action 404077880 - Property 2879900210 - size-unit="char" translate="yes" xmlspace="preserve">
          <source>Export Selected Permissions</source>
          <note from="Developer" annotates="general" priority="2"></note>
          <note from="XLIFF Generator" annotates="general" priority="1">PageExtension.PermissionSetExportExtension - Action ExportPermissions - Property Caption</note>
        </trans-unit>
      </group>
    </body>
  </file>
</xliiff>

```

### XLIFF translation file note tag

## OData-bound actions in AL

It is now possible to declare OData bound actions in AL. A new attribute and a new AL type have been introduced to achieve this.

```
[ServiceEnabled]
procedure CreateCustomerCopy(var actionContext : WebServiceActionContext)
var
    createdCustomerGuid : Guid;
    customer : Record Customer;
begin
    actionContext.SetObjectType(ObjectType::Page);
    actionContext.SetObjectId(Pages::Customer);
    actionContext.AddEntityKey(customer.fieldNo(Id), createdCustomerGuid);
    actionContext.SetResultCode(WebServiceActionResultCode::Created);
end;
```

## Making Business Central available in new markets

Business Central has a combined localization strategy inclusive of both Microsoft-led and partner-led models. We continue to respond to partner-led scenarios and anticipate additional countries being delivered via localization app extensions in Microsoft AppSource. Additionally, in this release Microsoft also delivers a localized version of Business Central in the following markets:

- Iceland
- Norway
- Mexico

There is an interest in Business Central in countries that the Microsoft-led localization model does not cover. Often the interest is due to international companies running their worldwide operation on Business Central. By enabling partner-led localizations for Business Central, through localization and translation apps, partners can continue to serve customers throughout the world.

### Localization of Business Central using localization and translation apps

Partners interested in providing Business Central localizations in markets that Microsoft does not cover will be able to do so by developing [localization](#) and [translation apps](#) on top of the international (W1) version of Business Central.

The process, requirements, scope, guidance, and resources for developing localization apps can be found at [aka.ms/businesscentrallocapps](https://aka.ms/businesscentrallocapps).

For a list of currently supported markets, see the [International availability of Microsoft Dynamics 365](#) deck and the [Local Functionality](#) landing page in the Business Central docs.

## Monitoring SQL database deadlocks using file-based xe targets

By default, SQL Server uses an in-memory data structure called a ring\_buffer target to store deadlock events. When the Business Central Server is notified about the deadlock, it reads data from the target ring\_buffer target. You now have the option to also store the events to a file on the SQL Server, called an event\_file target, and configure the Business Central Server to read from this file instead of the ring\_buffer target. An important difference between the ring\_buffer target and event\_file target is that the ring\_buffer target has a storage size limitation of 5 MB, while the event\_file target provides a much greater storage capacity. Using the event\_file target can eliminate potential overloads in high-volume situations. So, if your setup has a high volume of database traffic, you might have to change the SQL Server to write deadlock events to an event\_file target. If you want to use the default ring\_buffer target, then no further action is required.

For more information, see [Monitoring SQL Database Deadlocks](#).

## Support for Azure SQL Database Managed Instance

You can now deploy Business Central on-premises on Azure SQL Managed Instance. The system requirements have been updated accordingly. Azure SQL Managed Instance was released in September 2018, and it is a completely new service tier of Azure SQL Database.

Read more at [Dynamics 365 Business Central and Azure SQL Managed Instance](#).

# Artificial intelligence

## Overview of Artificial Intelligence (AI) capabilities in Dynamics 365 October '18 release

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

The October '18 release delivers AI capabilities that leverage the power of Microsoft AI research, tools, data, and the Power Platform to help organizations transform the customer service, sales, and marketing functions.

These AI capabilities are:

- [AI for Customer Service](#). In Public Preview in October '18, Dynamics 365 AI for Customer Service Insights gives you actionable insights into critical performance metrics, operational data, and emerging trends from your Dynamics 365 Customer Service organization.

Built-in dashboards, interactive charts, and visual filters provide views into support operations data across channels, and highlight areas for improvement that can have the greatest impact, helping you quickly evaluate and respond to key performance indicators (KPIs) and customer satisfaction levels.

- [AI for Sales](#). The October '18 release of Dynamics 365 AI for Sales includes a **seller** experience to help salespeople identify colleagues who can introduce them to leads, start conversations with leads by extracting potential talking points on topics such as sports, health, family, or entertainment based on past communications, perform the right actions by analyzing notes, and more.

Additionally, with predictive lead scoring and predictive opportunity scoring, salespeople prioritize the right relationships, achieve higher lead qualification rates, and reduce the time that it takes to qualify leads or close opportunities.

In Public Preview in October '18, the Dynamics 365 AI for Sales **sales manager** experience proactively provides actionable insights from sales data, including a home page with answers to the most common questions about team performance, natural language processing-based Q&A for asking questions and receiving reports from sales data, predictive lead scoring, opportunity pipeline analysis, team performance analysis and individual scorecards, richer sales activity reports using relationship analytics to connect data from Microsoft Exchange and Dynamics 365 graphs, and more.

More information: [Dynamics 365 AI for Sales](#)

- [AI for Market Insights](#). In Public Preview in October '18, Dynamics 365 AI for Market Insights enables organizations to understand and interpret what customers say, do, and feel about their brand and products by synthesizing activity and data from proprietary search and browse signals, and public social signals. The solution provides a simple first-run setup experience to set up searches for keywords, and then loads historical data to deliver instant insights.

## Summary of what's new in Artificial Intelligence business applications

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

Feature	Release type	Date
<b>AI for Customer Service Insights</b>		
<a href="#">Automated grouping of related support cases as topics</a>	Public Preview	October 31, 2018
<a href="#">KPI summary dashboard</a>	Public Preview	October 31, 2018
<a href="#">Incoming cases dashboard</a>	Public Preview	October 31, 2018
<a href="#">Customer satisfaction dashboard</a>	Public Preview	October 31, 2018
<a href="#">Case resolution dashboard</a>	Public Preview	October 31, 2018
<a href="#">Topic details dashboard</a>	Public Preview	October 31, 2018
<a href="#">Cleansing support case titles</a>	Public Preview	October 31, 2018

Feature	Release type	Date
<b>AI for Sales</b>		
<a href="#">Who knows whom</a>	General Availability	October 31, 2018
<a href="#">Talking points</a>	General Availability	October 31, 2018
<a href="#">Notes analysis</a>	General Availability	October 31, 2018
<a href="#">Predictive lead scoring</a>	General Availability	October 31, 2018
<a href="#">Predictive opportunity scoring</a>	General Availability	October 31, 2018
<a href="#">Relationship analytics</a>	General Availability	October 31, 2018
<a href="#">Sales team performance</a>	Public Preview	October 31, 2018
<a href="#">Call intelligence</a>	Public Preview	October 31, 2018
<b>AI for Market Insights</b>		
<a href="#">Dynamics 365 AI for Market Insights</a>	Public Preview	October 31, 2018
<a href="#">Quick sign-up to try out Market Insights</a>	Public Preview	October 31, 2018
<a href="#">Quick setup and instant insights</a>	Public Preview	October 31, 2018
<a href="#">Insights from search data and browser usage</a>	Public Preview	October 31, 2018

## Improve customer support with AI for Customer Service Insights

Dynamics 365 AI for Customer Service Insights gives you actionable insights into critical performance metrics, operational data, and emerging trends from your customer support system. Built-in dashboards, interactive charts, and visual filters provide views into support

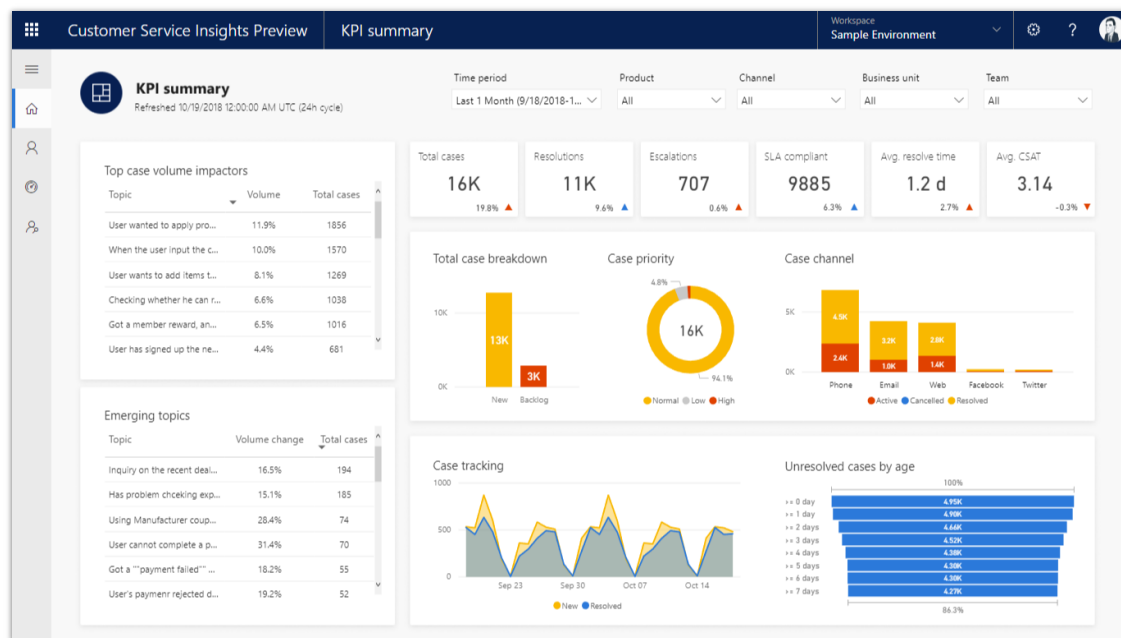




operations data across channels, and highlight areas for improvement that can have the greatest impact, helping you quickly evaluate and respond to key performance indicators (KPIs) and customer satisfaction levels.

AI for Customer Service Insights uses artificial intelligence technology to enable you to discover and adapt to current and emerging trends, improve brand sentiment, and increase customer loyalty. By using forecasting to pinpoint and fix issues before they impact customers, you can deliver better customer service experiences.

The AI-driven technology empowers informed decision making about how to improve resolution rates, reduce wait times, and decrease customer service costs. You can use case resolution insights, backlog trends, and historical comparisons to evaluate agent performance and business impact, and address inefficiencies in your system.



*The KPI summary dashboard gives you a snapshot of key performance indicators for measuring customer service*

### See also

[Dynamics 365 AI for Customer Service Insights documentation](#)



## Use artificial intelligence technology to group related support cases as topics

Dynamics 365 AI for Customer Service Insights uses artificial intelligence to automatically group your cases into topics using natural language understanding.

Topics enable you to discover and adapt to current and emerging trends, improve brand sentiment, and identify problem areas. By pinpointing and fixing issues before they impact customers, you can deliver better customer service experiences.

**Top case volume impactors**

Topic	Volume	Total cases
User wanted to apply pro...	11.9%	1856
When the user input the c...	10.0%	1570
User wants to add items t...	8.1%	1269
Checking whether he can r...	6.6%	1038
Got a member reward, an...	6.5%	1016
User has signed up the ne...	4.4%	681

**Emerging topics**

Topic	Volume change	Total cases
Inquiry on the recent deal...	16.5%	194
Has problem chcking exp...	15.1%	185
Using Manufacturer coup...	28.4%	74
User cannot complete a p...	31.4%	70
Got a ""payment failed"" ...	18.2%	55
User's payment rejected d...	19.2%	52

*The Top case volume impactors and Emerging topics charts display support topics that are generating the most volume and that have a high volume change in order of volume over the specified time period*

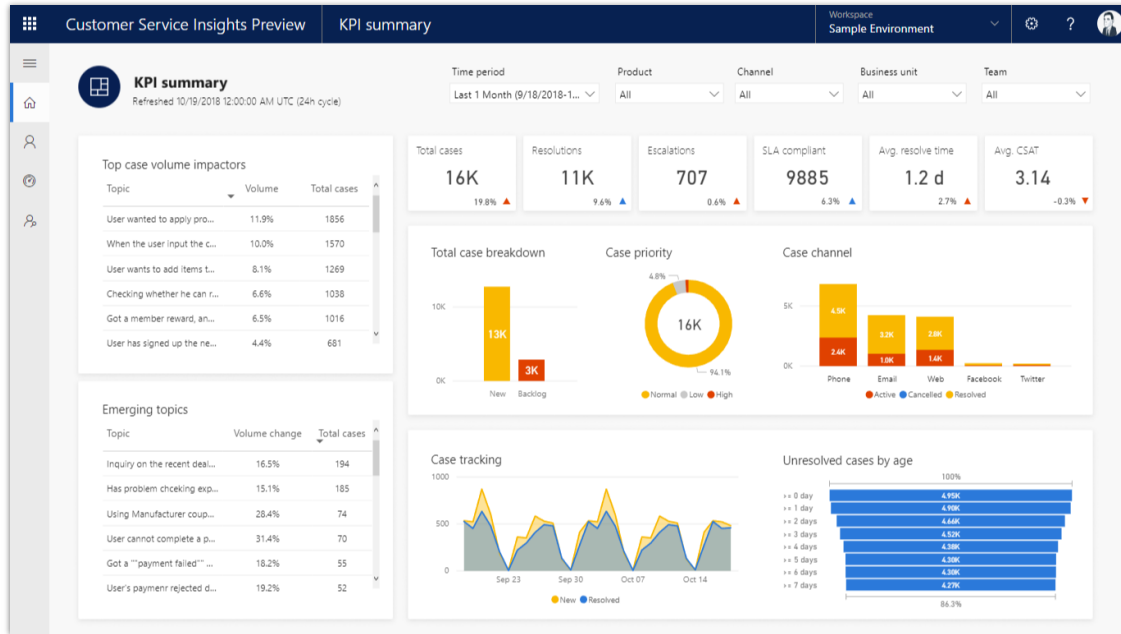
See also

[Identify areas for improvement in your customer service system](#)

## KPI summary dashboard

The KPI (key performance indicator) summary dashboard gives you a broad overview of your customer service experience, including using artificial intelligence (AI) technology to show you topics that are having the greatest impact on volume and resolution time.

The KPI summary dashboard includes a variety of charts with graphical views of your system's key performance indicators.



The KPI summary dashboard gives you a snapshot of key performance indicators for measuring customer service

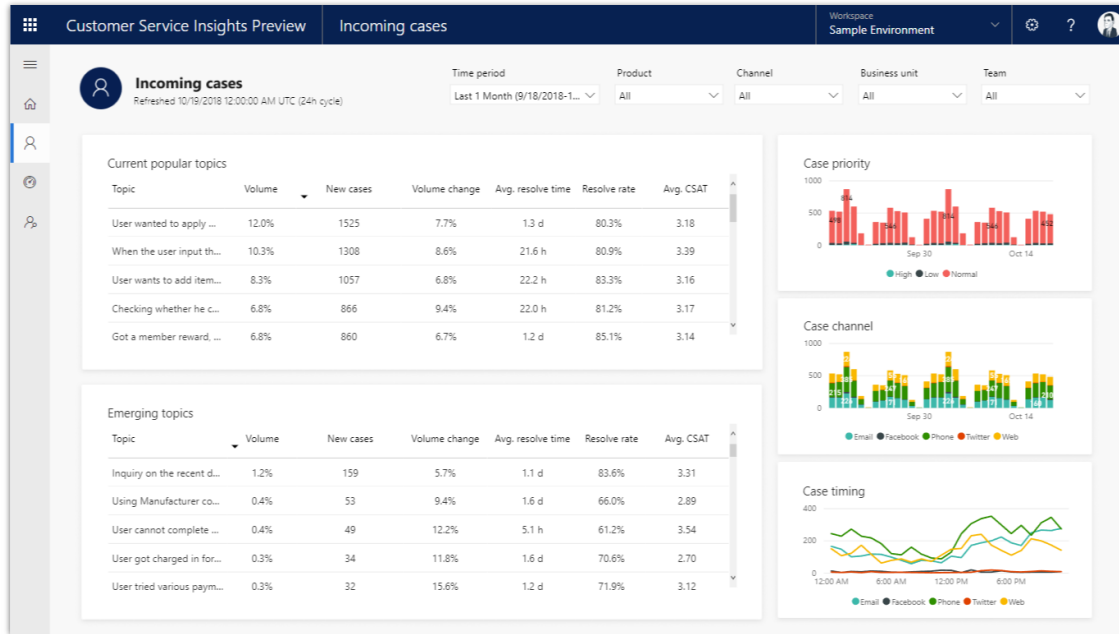
See also

[KPI summary dashboard reference](#)

## Incoming cases dashboard

The Incoming cases dashboard gives you an overview of the incoming cases in your customer service system, including using artificial intelligence (AI) technology to help you identify emerging issues.

The Incoming cases dashboard includes a variety of charts with graphical views of your system's incoming support cases.



*The Incoming cases dashboard gives you a snapshot of new cases in your customer service system*

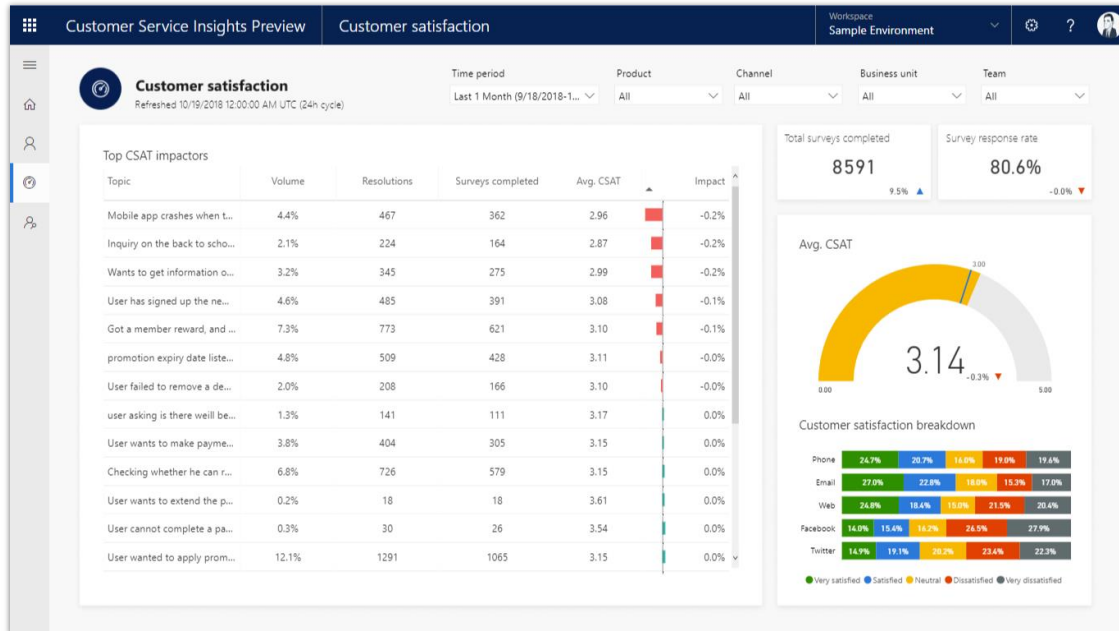
See also

[Incoming cases dashboard reference](#)

## Customer satisfaction (CSAT) dashboard

The Customer satisfaction dashboard gives you an overview of customer satisfaction (CSAT), including using artificial intelligence (AI) technology to show you topics that are having the greatest impact on CSAT scores.

The Customer satisfaction dashboard includes a variety of charts with graphical views of your system's customer satisfaction data.



*The Customer satisfaction dashboard shows you the customer support topics that are having the most impact on customer satisfaction, helping you identify areas for improvement that can have the greatest impact on system performance*

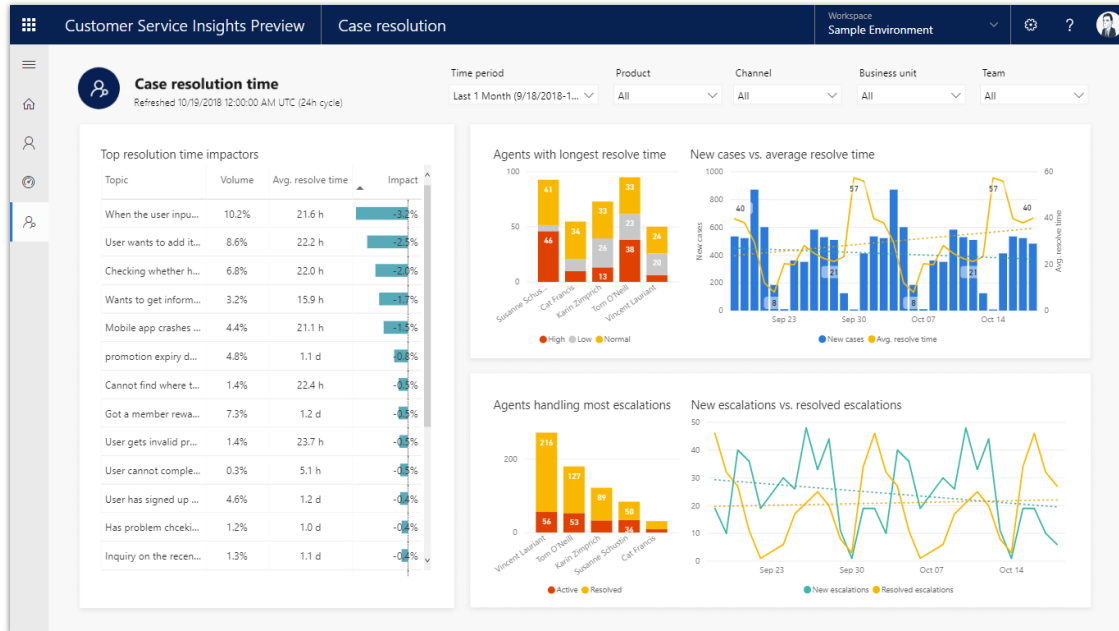
See also

[Customer satisfaction dashboard reference](#)

## Case resolution dashboard

The Case resolution dashboard gives you an overview of your customer service system's case resolution performance, including using artificial intelligence (AI) technology to show you topics that are having the greatest positive or negative impact on resolution time.

The Case resolution dashboard includes a variety of charts with graphical views of your system's case resolution data.



*The Case resolution dashboard shows you the customer support topics that are having the most impact on case resolution time, helping you identify areas for improvement that can have the greatest impact on system performance*

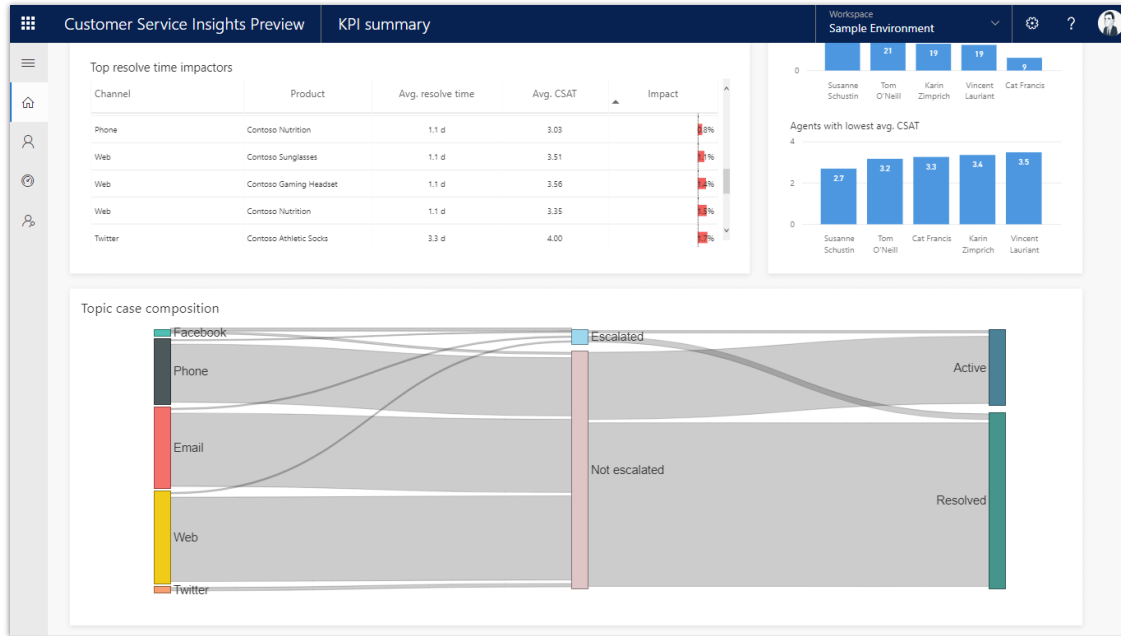
See also

[Case resolution dashboard reference](#)

### Topic details dashboard

The Topic details dashboard gives you a detailed overview of key performance indicators for a specific topic, including using artificial intelligence (AI) technology to show you the impact by product and channel on customer satisfaction scores and resolution time for the topic.

You can display the Topic details dashboard from one of the AI Insights charts in the KPI summary, Incoming cases, Customer satisfaction, and Case resolution dashboards.



The Topic details dashboard includes a variety of charts with graphical views of key performance indicators for the topic

See also

[Topic details dashboard reference](#)

## Improve your AI Insights data by cleansing support case titles

The AI Insights charts displayed on the AI for Customer Service Insights dashboards are generated by applying language understanding (AI) technology to the titles of support cases. However, the results can be misleading if the titles include extraneous information such as product name, case status, or ticket number tags.

You can improve the quality of the results displayed in AI Insights charts by specifying Data Cleansing settings to disregard tags in titles when they are grouped into topics.

The screenshot displays the 'Case title cleansing' settings dialog. The dialog title is 'Case title cleansing' with 'Save' and 'Discard' buttons. The main text states: 'You'll get the best results from clean case titles. This means separating the issue summary from extraneous tags, such as product name, case status, ticket number, etc. [Learn more](#)'. Below this, it says 'Here's how a sample case title breaks down:' and shows a diagram of the title '(Archived) <Escalated> Promotion\ User didn't get their package | Tier 1 | P1'. The diagram labels 'Tags' for '(Archived)' and '| Tier 1 | P1', 'Issue summary' for 'Promotion\ User didn't get their package', and 'Delimiters' for '<Escalated>' and '|'. The settings section includes a checked checkbox 'I want to cleanse my case titles', a text input 'What characters do you use to separate tags?' containing '<|>', and radio buttons for 'Where do you put your tags?': 'Before the issue summary', 'After the issue summary', and 'Before and after the issue summary' (selected). The background shows a dashboard with a bar chart and a line chart.

*Case title cleansing settings allow you to disregard tags in titles when they are grouped into topics*

See also

[How to cleanse support case titles](#)



## Unlock sales potential with AI-driven insights readily available for Dynamics 365 for Sales

Get additional insights into the hands of your field sellers and inside sales reps with Dynamics 365 AI for Sales. Improve engagement and decision-making with prebuilt and embedded insights that are quick to deploy and easy to act upon. Reveal the best prospects and customers for sellers to focus on as well as the most relevant and impactful actions to move relationships forward. Empower your managers to improve sales performance and deliver proactive coaching.

### Resources

- [Enable and configure Dynamics 365 AI for Sales capabilities for sellers](#)
- [Dynamics 365 AI for Sales capabilities for sellers](#)

### Get introduced to prospects with the Who knows whom connection graph

The goal of the sales professional is to win more deals to meet or exceed their quota. With Who knows whom, sales people can easily identify colleagues within their organization who can introduce them to leads or contacts. Warm introductions increase response rate and interest by hundreds of percent. These warm introductions increase sales performance to improve lead-to-opportunity conversion rates, extending later to closing the deal. Who knows whom empowers sellers to increase sales conversion by leveraging their company network to get introduced to prospects and convert a cold call into a warm engagement.

### Resources

- [Configure Who knows whom](#)
- [Who knows whom](#)

### Never forget that detail about your stakeholder with talking points

Salespeople interact with many people over a period of time. Remembering every detail about every person they interact with isn't always possible. Talking points helps busy salespeople by looking at their past communications to extract key details about the customer or contact on topics such as sports, health, family, and entertainment. These topics help salespeople in starting a conversation or building rapport with customers with whom they have not spoken recently or never met face to face.

### Resources

- [Configure Talking points](#)
- [Talking points](#)

## Be more productive with Notes analysis

Get intelligence insights within your app while you're taking notes for your customers. Notes analysis looks at your interactions with your customers and suggests actions that you can perform. The suggestions include creating a task to follow up with the customer and creating an appointment to meet with them.

### Resources

- [Configure Notes analysis](#)
- [How Notes analysis assists you with suggestions](#)

## Increase sales conversions with Predictive Lead Scoring

Dynamics 365 Predictive Lead Scoring is a machine learning model-based predictive scoring mechanism that scores leads on a scale of 1 to 100 based on their likelihood to become an opportunity.

Following are the key benefits of this product capability:

- Out-of-the-box machine learning model that considers attributes from related entities such as Contact and Account apart from the attributes of the Lead entity.
- Predictive score backed by top reasons influencing the score.
- Lead score along with score trend and top reasons available on out-of-box-forms and views.

With Dynamics 365 Predictive Lead Scoring, sales reps can prioritize their efforts on deals that have higher likelihood to convert.

### Resources

- [Configure Predictive lead scoring](#)
- [Prioritize leads using predictive scores](#)

## Increase sales conversions with Predictive Opportunity Scoring

Dynamics 365 Predictive Opportunity Scoring is a machine learning model-based predictive scoring mechanism that scores opportunities on a scale of 1 to 100 based on their likelihood to become a win deal.

Following are the key benefits of this product capability:

- Out-of-the-box machine learning model that considers attributes from related entities such as Contact and Account apart from the attributes of the opportunity entity.

- Predictive score backed by top reasons influencing the score.
- Opportunity score along with score trend and top reasons available on out-of-box-forms and views.

With Dynamics 365 Predictive Opportunity Scoring, sales reps can not only prioritize their efforts on deals that have higher likelihood to convert into a win deal but also quickly focus their attention on good opportunities that start to lose traction.

#### Resources

- [Configure Predictive opportunity scoring](#)
- [Prioritize opportunities using predictive scores](#)

#### Relationship analytics now with LinkedIn InMail

Relationship analytics is now even smarter with LinkedIn InMail. Relationship analytics helps salespeople manage the opportunities pipeline by analyzing interactions to synthesize the health of customer relationships. By combining the engagement data from Dynamics 365, Exchange Online, and LinkedIn InMail, relationship analytics provides a more accurate view of the health of a sales deal in the opportunity pipeline. Information workers benefit from a holistic analysis of their engagements across multiple channels and can leverage the resultant health score to improve sales efficiency by better prioritizing their time with the deals that need the most attention.

#### Resources

- [Configure Relationship analytics](#)
- [Use Relationship analytics to gather KPIs](#)

#### Enhance team performance with AI and insights

The new capabilities for sales managers in Dynamics 365 AI for Sales take the hassle out of sales performance analysis by proactively and prescriptively providing useful insights from sales data. The experience helps sales managers evaluate and improve the performance of their sales teams on Dynamics 365 and other sales applications. With churn measurement and pipeline forecasting using relationship health scores, sales leaders can better optimize their sales strategies.

The following are the key capabilities being surfaced in the sales manager experience:

- A home page that provides managers with answers to the most common questions regarding their team's performance, and also provides useful insights to quickly allow them to focus on the right deals and activities.

- A natural language processing-based Q&A that allows managers to conversationally ask questions and receive reports from the sales data.
- Lead prioritization leveraging predictive lead scoring.
- Opportunity pipeline analysis using the relationship health score powered by exchange data.
- Sales team performance analysis and individual scorecards.
- Richer sales activity reports using relationship analytics, bringing valuable data from Exchange and Dynamics 365 graphs.

### Resources

[Dynamics 365 AI for Sales capabilities for sales managers](#)

### Transform inside sales using AI in the call center

The Microsoft call intelligence offering enables smarter coaching to boost sales conversion rates. By connecting call center telephony recording systems to the app, call center managers can generate conversation insights that bring value from the organization's existing assets.

Key benefits:

- Coaching driven by aggregate call statistics on sentiments, keyword mentions, and KPIs.
- Benchmark against conversational KPIs such as talk-to-listen ratio, longest customer monologue, and participant switch ratio that signal whether reps are aligning with conversation best practices.

Dynamics 365 and non-Dynamics organizations will be able to use the Microsoft call intelligence product capability to generate call insights and increase the output of their reps.

### Resources

[Call intelligence](#)

## Overview of Dynamics 365 AI for Market Insights Preview

We enable individuals seeking consumer insights to take actions based on an understanding of what consumers say, do, and feel.

Market Insights provides actionable insights on a broad range of entities, including a customer's company, products, and brands, by synthesizing consumer activity from proprietary search and browse signals and public social signals.

Market Insights helps you understand what people say but it goes beyond by interpreting what people search for, in relation to your configured searches.

The capabilities use several social data sources and feeds, including Twitter, blogs, Instagram, forums, and others to provide visibility and insights into how a brand is doing in the social sphere across various dimensions like sentiment, geography, and others. In addition, the service incorporates an AI solution for marketing that uses aggregated and anonymized Bing search, Internet Explorer, and Microsoft Edge browser behavior, and web data to derive a semantic understanding of consumer interests and demographics.

**NOTE** Features based on search and browser behavior are currently available to tenants in the United States.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

### Get started quickly with Market Insights

Market Insights will be simple and easy to sign up for and getting started for new users. You don't need to have an existing Office 365 tenant or Dynamics 365 subscription to create your own searches and explore the gathered data. Additionally, we're simplifying the way you [create your first search topics](#).

When the first searches are created, you can start analyzing your data right away and whenever you come back, a start page is presented with links to helpful resources and additional information.

### Quick setup and instant insights in Market Insights

Social media has become an intrinsic part of every successful marketing, customer service, and community management organization. Monitoring, measuring, and managing how a brand is perceived on social media is critical to the success of that brand. Starting to care professionally about the social presence of your brand can be challenging for companies.

Accessing and getting started with the upcoming preview of Market Insights will be quick and easy with:

- **Quick setup:** The simple first-run experience guides you to set up your first search topics for your brand with just a few clicks.
- **Instant insights:** Historical data is acquired and loaded for your brands right after the quick setup, giving you instant insights for your brand from social media. You can then immediately start exploring with our interactive analytics.

### Insights from search data and browser usage

We're extending the data on **Analytics > Overview** with insights from the web. Get accurate and actionable insights on your brand, products, competition, and industry from Microsoft's proprietary web search and browse data sources. All insights are aggregated and anonymized to comply with Microsoft privacy policies.

- **Bing search trend:** The **Volume** widget gets additional data points on the [Bing search query trends for the keywords](#) in your search topics. Users can change the timeframe to see the search volume change over the specified period of time. The timeframe "today" won't show because search volume data experiences a minimum of 24h lag. Unlike most other widgets, it can't interact with other filters and isn't clickable.
- **Age:** This new widget provides a [breakdown of age groups](#) that represent consumers who have searched Bing for the keywords in the search topic. Similar to the Bing Search trend, it only interacts with the time filter (with the exception of "today") and isn't clickable. The age groups are represented as 0-17, 18-34, 35-54, 55+.
- **Gender:** This new widget shows the [gender of consumers who have searched Bing](#) for the specified search topic. Similar to the Bing Search trend, it only interacts with the time filter (with the exception of "today") and isn't clickable.

# Mixed reality

## Mixed reality business applications

In the October release of Dynamics 365, we introduced two new mixed reality applications for General Availability: Dynamics 365 Layout and Dynamics 365 Remote Assist.

With **Dynamics 365 Layout**, space planners can bring designs from concept to completion with confidence. Import 3D models to experience layouts as holograms in the physical world or in virtual reality. Share your vision with stakeholders and easily edit layouts in real-world scale, so you can make better decisions before you build. Dynamics 365 Layout includes Dynamics 365 Import Tool (Preview).

With **Dynamics 365 Remote Assist**, empower technicians to solve problems faster the first time. With heads-up, hands-free video calling on Microsoft HoloLens, technicians can collaborate with remote experts on a PC or on mobile to troubleshoot issues in context. Remote Assist also integrates with Dynamics 365 for Field Service, which makes it possible for Remote Assist users to call an expert in the context of a Field Service work order/booking.

### See also

[In-depth overview of Dynamics 365 Layout](#)

[In-depth overview of Dynamics 365 Remote Assist](#)

## Overview of Dynamics 365 Layout October '18 release

Multiple industries, including manufacturing, professional services, and retail, have needs for space planning. A variety of space planning tools today fill these needs, ranging from extremely complex CAD software to 2D visualization software to analog solutions such as building in cardboard and foamcore. Each has its drawbacks. CAD programs offer a high degree of fidelity, but are difficult for non-experts to understand. 2D drawings often don't tell a complete story of what a space will truly look or feel like in real life, and cardboard and foamcore are messy and expensive.

Microsoft Dynamics 365 Layout provides a new way to bring physical designs from concept to completion with confidence. Import 3D models to experience room layouts as holograms in the physical world or in virtual reality. Share your vision with stakeholders and easily edit layouts in real-world scale, so you can make better decisions before you build.

**NOTE** Layout was released as a preview app in April 2018. As of the October release, Layout is Generally Available.

### Define your space

- Scan your space with HoloLens to quickly create a new room layout.
- Or create a basic floor plan in Microsoft Visio, and then import it into HoloLens or Windows Mixed Reality.

### Import 3D models

- Use the Microsoft Dynamics 365 Import Tool (Preview) to prepare your custom 3D models. The tool uploads your models in FBX, OBJ, SKP, STP, JT, STEP, and GLTF formats to the Microsoft Simplygon service, converts them to GLB, decimates them if necessary for improved on-device performance, and adds necessary metadata. You have the option of converting GLB formats with your PC if you don't want to use the cloud service.
- Select from a library of common manufacturing, office, and graybox assets to plan your space.

### Design your space

- Place custom or predefined assets into your space.
- Resize, rotate, move, duplicate, or delete assets as necessary.
- Reload layouts and realign them to your room.

### Review with stakeholders

- Use Cortana to take a picture or create a video.



- On HoloLens, use Dynamics 365 Remote Assist to stream what the HoloLens user is seeing.
- In Windows Mixed Reality, use screen sharing.

## Export your design

- Export your space to a 3D GLTF for viewing on a PC (in Windows Mixed Reality Viewer, for example).

## See also

[Device options and requirements](#)

[Buy and deploy](#)

[User Guide](#)

[FAQ](#)

## Summary of what's new in Dynamics 365 Layout

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

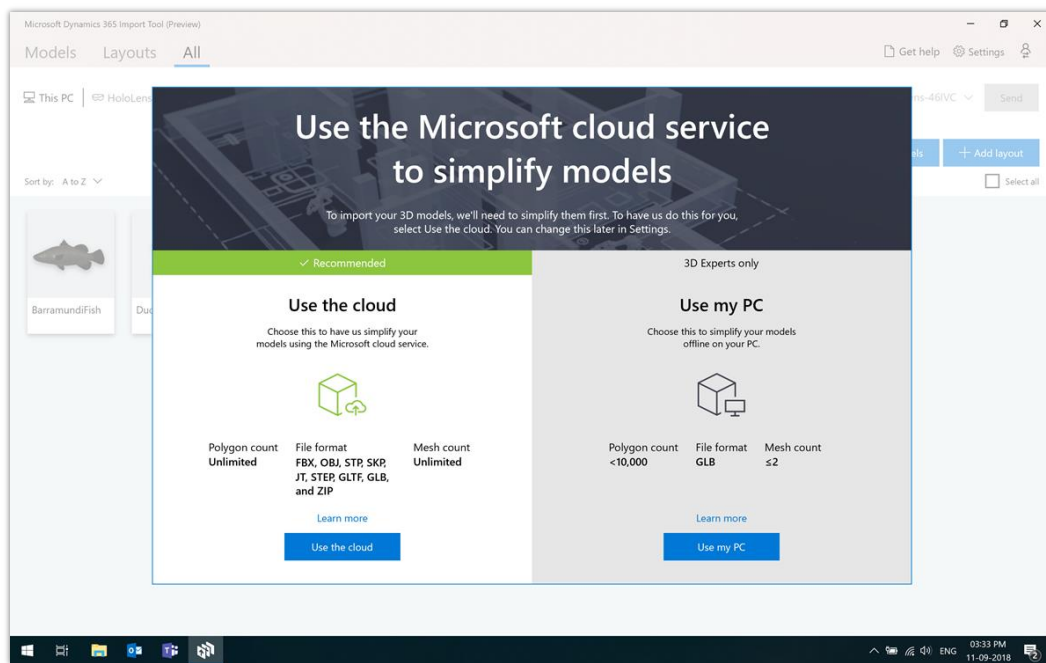
When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

Feature	Release type	Date
<a href="#">Use your PC instead of the cloud to convert 3D models in Import Tool</a>	General Availability	October 1, 2018
<a href="#">Choose between U.S. and metric units of measure</a>	General Availability	October 1, 2018
<a href="#">Multi-select and grouping</a>	General Availability	October 1, 2018
<a href="#">Audio adjusts automatically on HoloLens</a>	General Availability	October 1, 2018
<a href="#">Precisely adjust a layout</a>	General Availability	October 1, 2018

Feature	Release type	Date
<a href="#">New measuring tools</a>	General Availability	November 1, 2018
<a href="#">Performance improvements</a>	General Availability	December 5, 2018
<a href="#">Import Tool improvements</a>	General Availability	January 16, 2019
<a href="#">Free 90-day trial</a>	General Availability	March 13, 2019
<a href="#">New file format for MR headsets makes saving much faster</a>	General Availability	March 14, 2019
<a href="#">New tools make it easier to precisely place 3D assets</a>	General Availability	March 14, 2019
<a href="#">Improvements to measuring tools</a>	General Availability	March 14, 2019

## Use your PC instead of the cloud to convert 3D models in Dynamics 365 Import Tool (Preview)

Now you have the choice of using the cloud or your PC to import 3D models in Dynamics 365 Import Tool (Preview). Organizations might want to use the PC option for security/privacy purposes if they don't want their content uploaded to the cloud.

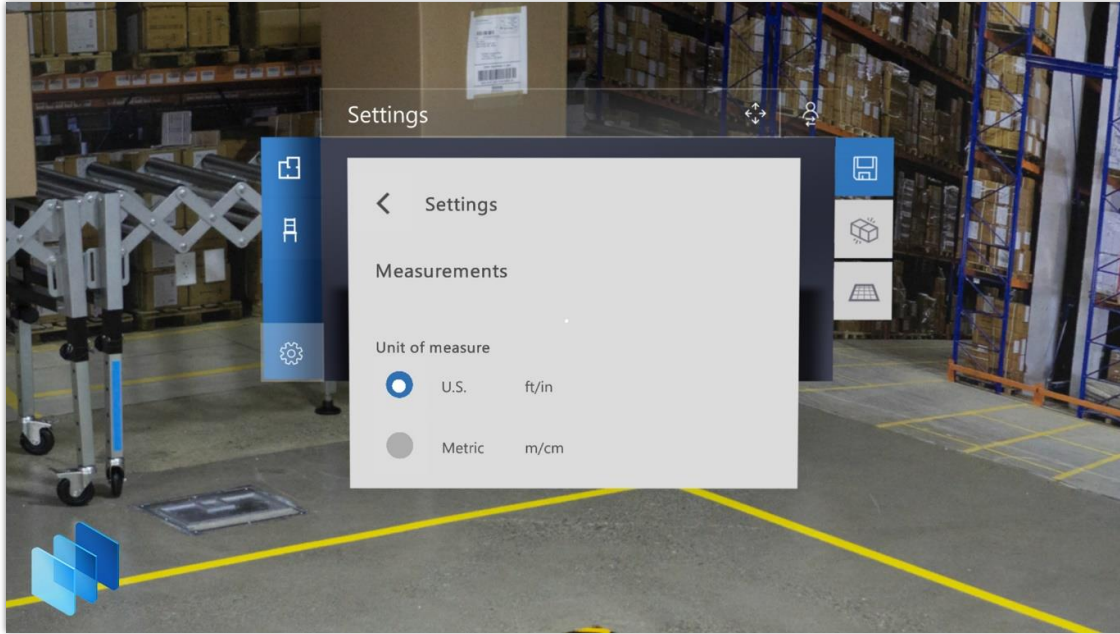


*PC option for converting 3D files*

[Learn more about using the PC option to convert 3D files.](#)

### Choose between U.S. and metric units of measure

Choose the unit of measure that works best for your needs in Microsoft Dynamics 365 Layout.



### Change unit of measure on HoloLens



### Change unit of measure in mixed reality

## Multi-select and grouping

Select multiple models and move or rotate them together in Microsoft Dynamics 365 Layout. Multi-select also works with grouping.



*Multi-select on HoloLens*



*Multi-select in mixed reality*

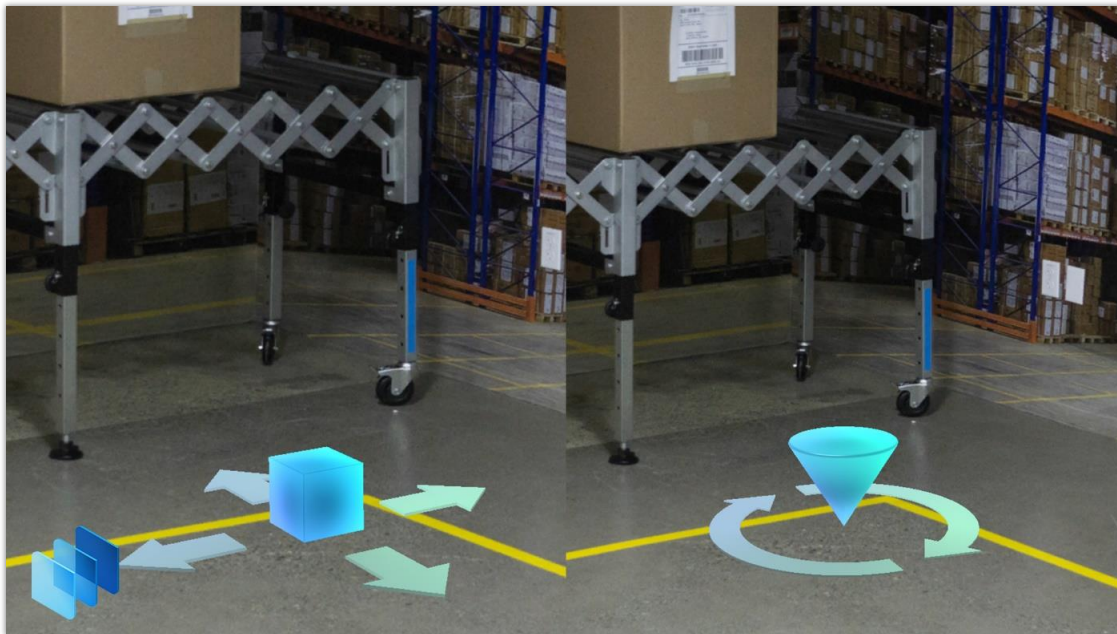
[Learn more about multi-select.](#)

## Audio adjusts automatically on HoloLens

With dynamic audio, when you're using the HoloLens, audio volume in Microsoft Dynamics 365 Layout dynamically adjusts depending on the noise level of the environment. For example, in a noisy environment, the audio volume automatically becomes louder.

## Precisely adjust a layout

In the preview version of Layout, if a layout wasn't aligned correctly to the physical space, you could adjust the layout by reassociating the walls of the layout to the physical walls. This might not have been accurate for all spaces and didn't work if your layout had no walls. Now, in addition to reassociating the walls, you can precisely adjust the layout, which works even if your layout has no walls.

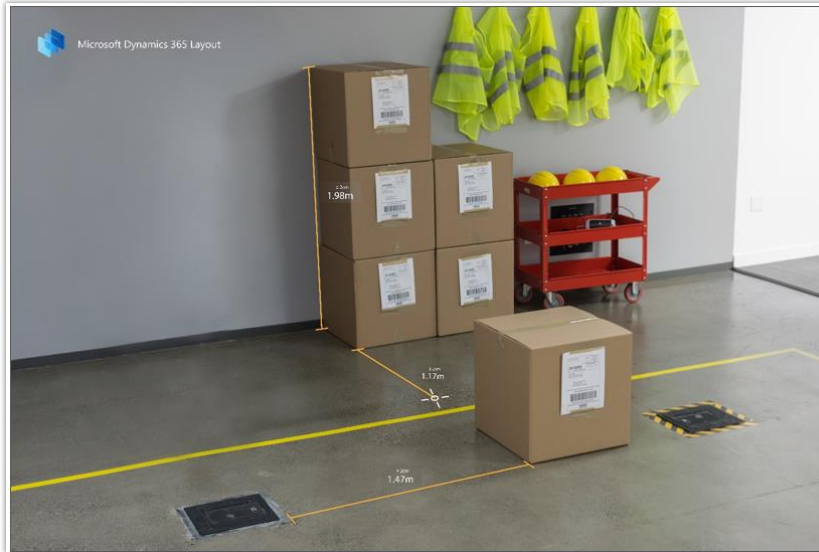


## New measuring tools

With the new Measurement mode in Dynamics 365 Layout, you can:

- Place measurements on walls, ceilings, or floors. Snap the measurements to the edge or corner of the walls.
- View measurements that were previously saved, select them, and delete them (if desired).
- Show or hide measurements using a toggle option in Settings.

- Switch the measurement unit between metric and imperial.
- Get information on the margin of error for a given measurement (accurate to 1% margin of error).



*Measurement mode*

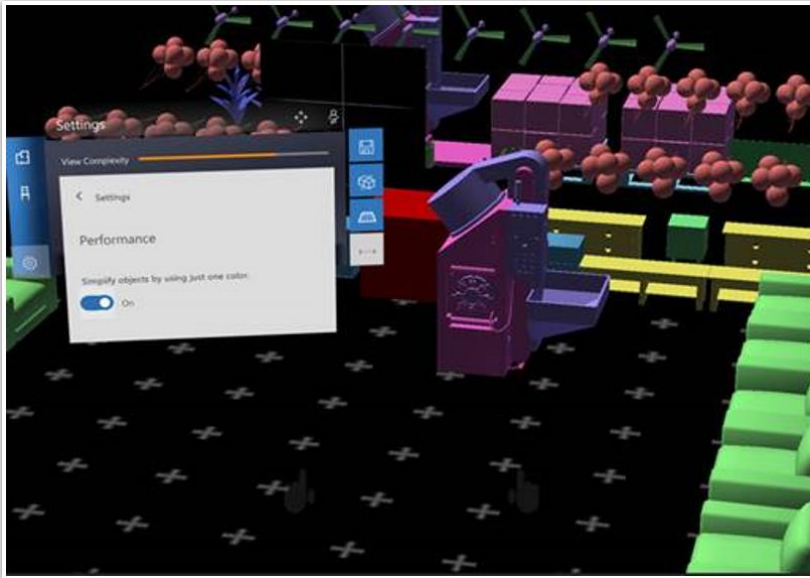
## Performance improvements

We made the following performance improvements on December 5, 2018.

### Performance setting

We've heard from many of our customers that in certain scenarios, textures or multiple colors aren't important for visualizing 3D assets. In other cases, they can't compromise on color or texture and need to be able to view assets in their original form. To improve performance when textures and multiple colors aren't important, we added a new Performance setting. When the setting is turned on, textures are removed and assets are displayed as a single color. Switch the setting on or off, depending on the situation.

To turn performance mode on or off, go to **Settings**, select **Performance**, and then turn the **Simplify objects by using just one color** option on or off.



*Performance mode setting*



## View Complexity bar

Some of our customers place many assets in a single scene. As more complex assets get added to the scene, the performance drops, since each asset adds weight. To determine the complexity of the current scene, we added a **View Complexity** bar.



### *Complexity bar*

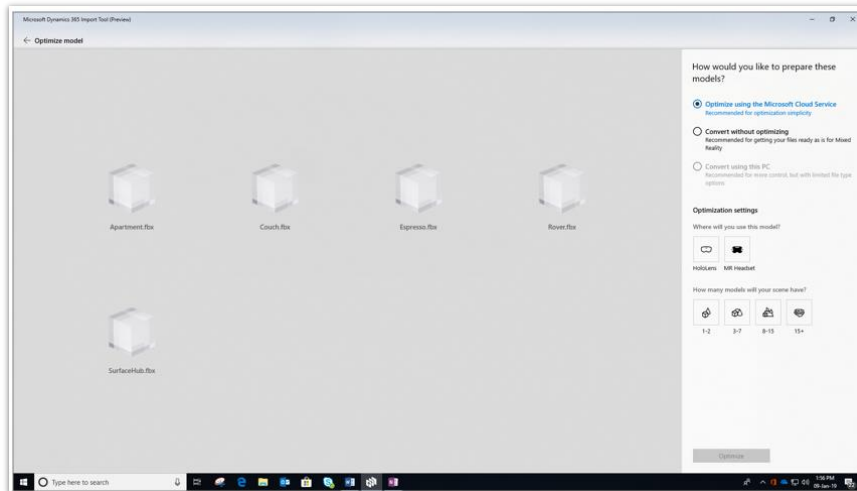
Use the bar to determine when complexity is too high, and to make tradeoffs.

## Import Tool improvements

The January 2019 update for the Import Tool provides several improvements that make it easier to import 3D models.

## Improved control with Microsoft Cloud Service

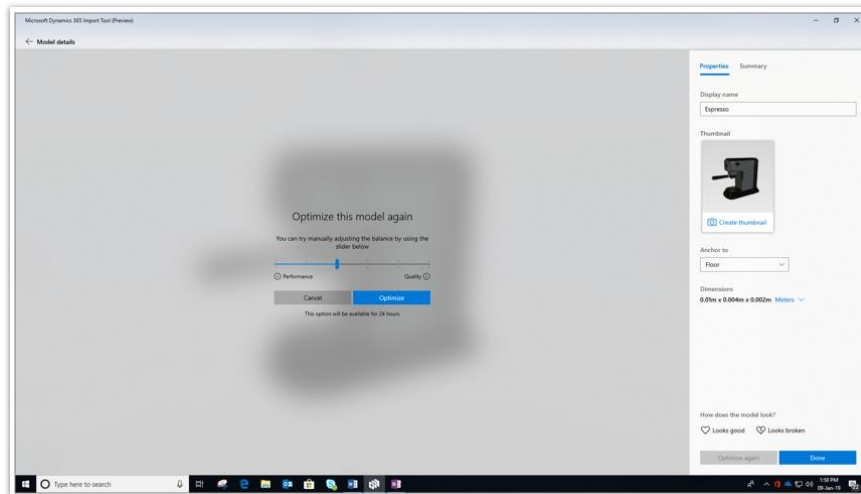
You now have more control over the asset optimization process when using the Microsoft Cloud Service. You can specify the target device for your model along with the number of models usually placed in a single scene. The Import Tool will then produce models suited to the intended usage scenario.



*Cloud Service option*

## Iterative optimization with Microsoft Cloud Service

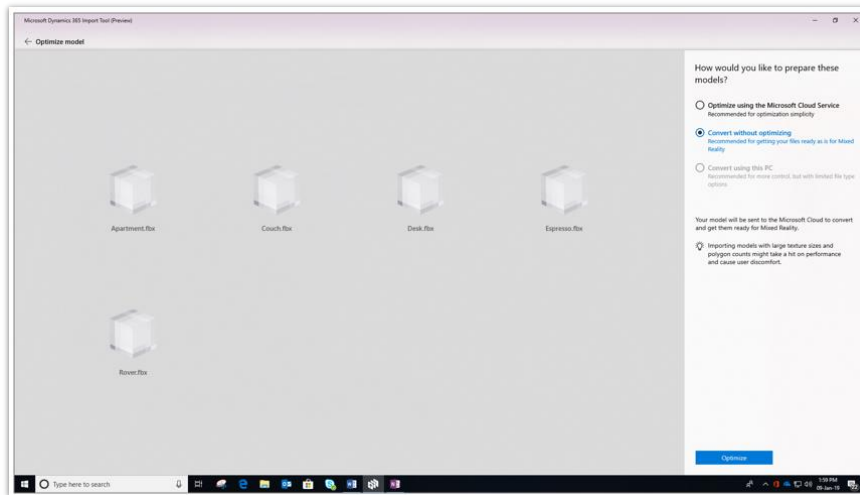
By default, the Import Tool will produce models that are most compatible with the specified usage scenario. However, you can choose to iteratively re-optimize a model for performance or for quality when using the Microsoft Cloud Service option. Optimizing for performance results in models that perform better on a HoloLens or Windows Mixed Reality headset. Optimizing for quality results in models that have better visual quality but may not render as well on a HoloLens or Windows Mixed Reality headset.



*Re-optimize 3D model*

## Make your models compatible without optimizing them

You can now use the Microsoft Cloud Service to make your models compatible with HoloLens or Windows Mixed Reality headsets without optimizing the models. To do this, choose the Convert without optimizing option.



### *Convert without optimizing option*

Supported source file types for converting without optimizing include FBX, OBJ, SKP, JT, STP, STEP, and GLTF.

## Change the background of a model to make it easier to view

You can now toggle between a light and dark background when viewing your imported models.



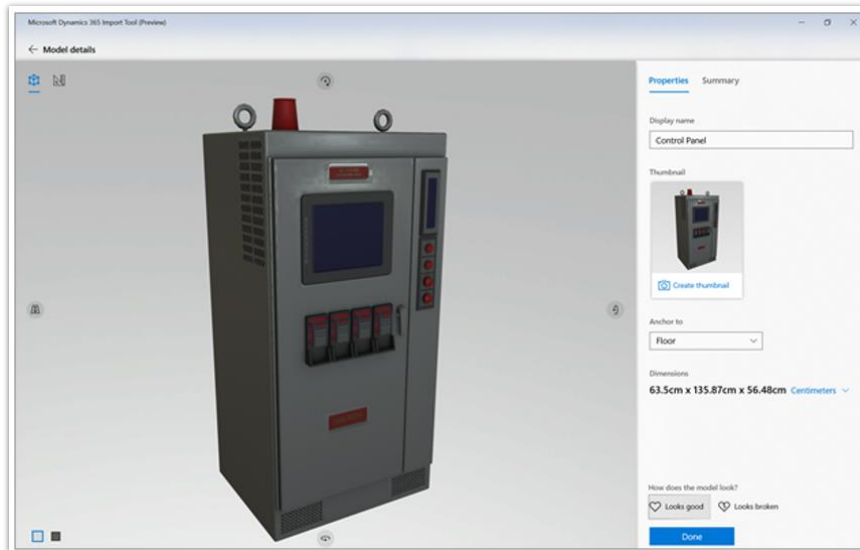
*Dark background*



*Light background*

## Provide feedback for each imported model

You can provide feedback on the quality of an imported model by selecting the **Looks good** or **Looks broken** button in the **Properties** pane.



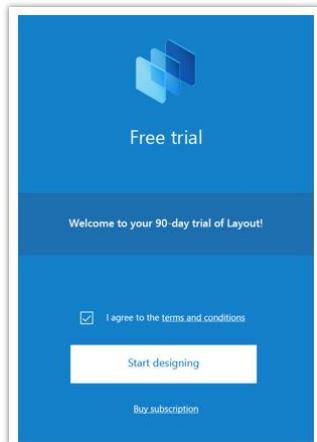
### Feedback

If you rate the quality of the model at 3 or lower, you'll be prompted to submit the model (optional) to Microsoft for manual processing at no additional cost. After Microsoft optimizes the model, you can download it in the Import Tool and use it with the Layout application.

For more information on importing assets with the Import Tool, see the [Dynamics 365 Layout User Guide](#).

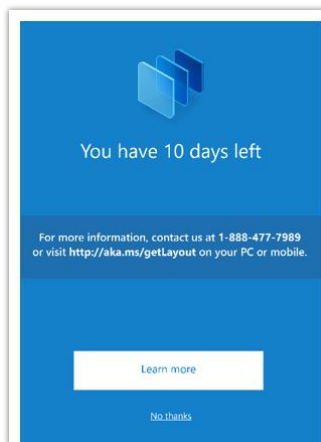
## Try out Dynamics 365 Layout for free for up to 90 days

With the March 2019 update of Microsoft Dynamics 365 Layout, we've made it nearly effortless for customers to try out Layout without any obligation. To get a free 90-day trial, install the Layout HoloLens app and the Import Tool PC app from the Microsoft store, and then sign in with an Azure Active Directory (Azure AD) account. If you don't have an Azure AD account, you'll be prompted to set up a free account. After signing in, you can access any and all features and capabilities in the apps without any restrictions.



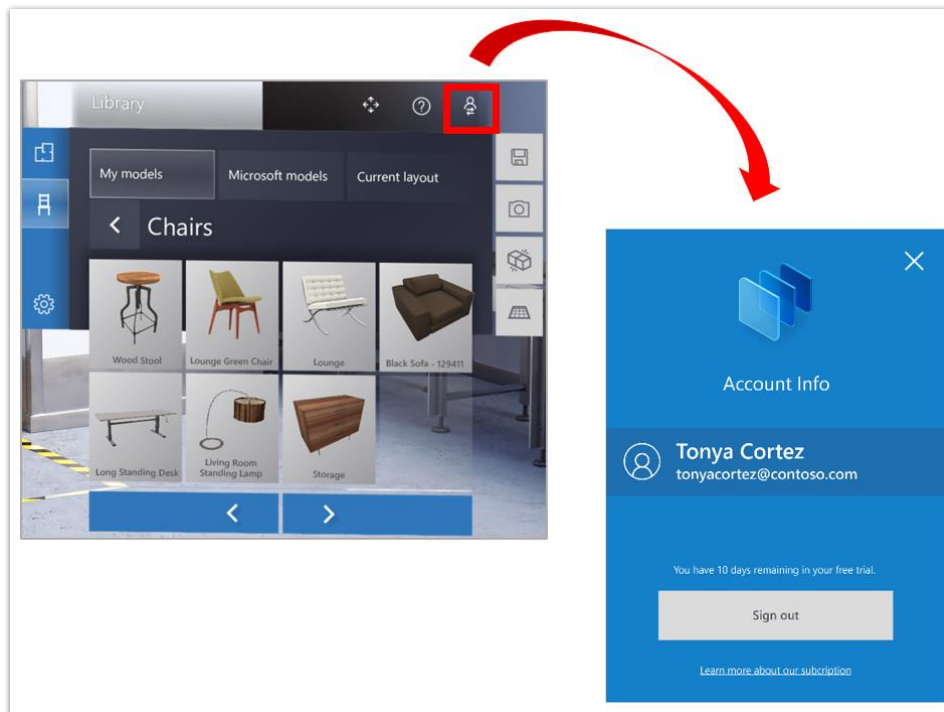
### *Free trial screen*

With this new 90-day trial experience, you'll be prompted at certain intervals about the time remaining for the trial.



### *Expiration screen*

You can also select the **Account Info** button at any time to check the time remaining on your trial or to buy a subscription.



### *Account Info Button and associated screen*

After the 90 days are up, you'll need to purchase a subscription to continue using Layout.

For more information, see [Try out Dynamics 365 Layout for free.](#)

### **New file format for Mixed Reality headsets makes saving much faster**

We updated our save file format so that saves happen much faster and result in smaller saved files (.mslt). Old files will be automatically updated to this new format when they're saved for the first time. The new format works with the February and later updates.

### **New tools make it easier to precisely place 3D assets**

The March 2019 update includes new precision tools for placing 3D assets, including asset positioning references and asset nudging.



## Asset positioning references

Asset positioning references help you place assets with spatial distance references. You can turn on asset positioning references from the asset's context menu.



### *Asset positioning references menu*

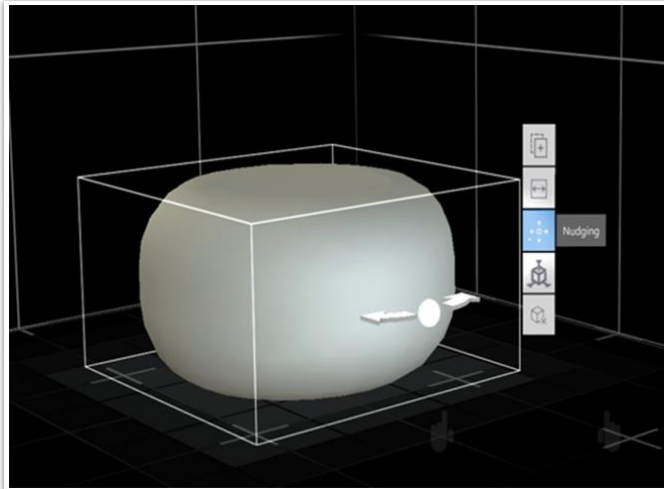
Measurements are automatically created from the asset to the floor, walls, and ceiling. These measurements are bound to the asset and are automatically updated when the asset's position or orientation changes.



### *Asset positioning references*

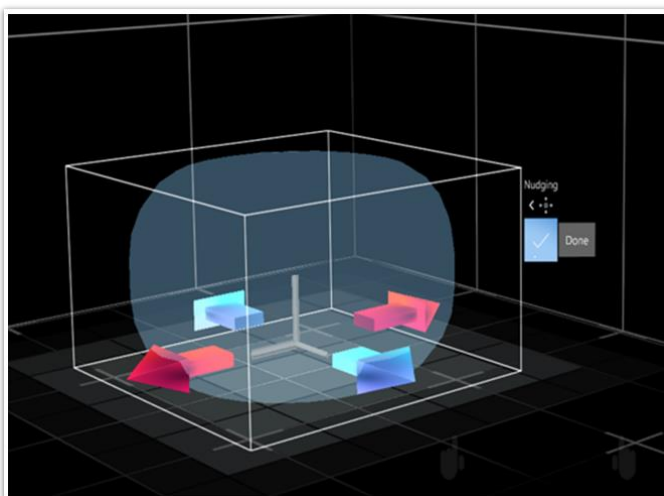
## Asset nudging

You can now move assets incrementally, one centimeter at a time in six directions, which helps you place assets more accurately. Use the **Nudging** tab on the context menu to enter Nudge mode.



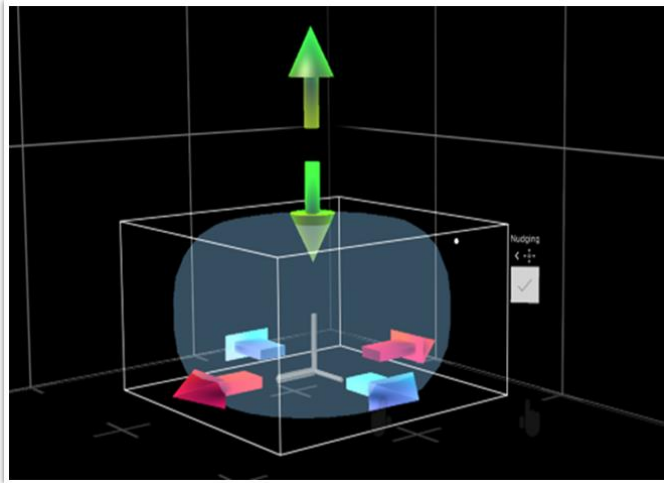
### *Nudging menu*

If the asset is on the floor, you'll see a gizmo with arrows pointing in 4 directions. Select an arrow to nudge the asset in that direction.



### *Nudge four ways*

If the asset is off the floor, it will have arrows pointing in six directions.



### *Nudge six ways*

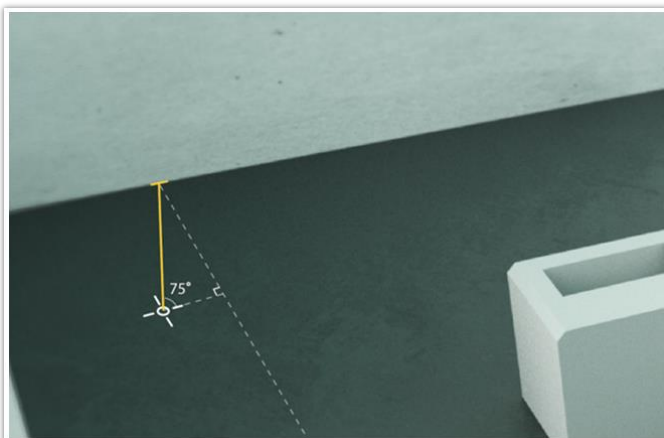
For more information on using Layout, see the [Layout User Guide](#).

## **Improvements to measuring tools**

Improvements to measuring tools in the March 2019 update include angle measurements and delta linear measurements.

### **Angle measurements**

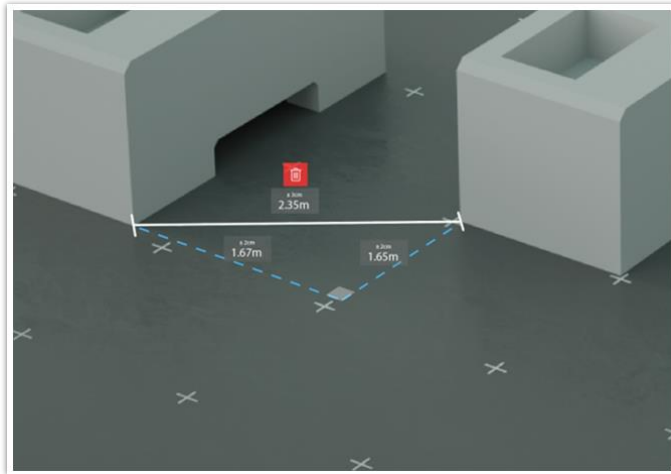
When measuring starts from or ends on an edge, angles between the measurement and the edge will be displayed. This feature supports snapping to 45-degree and 90-degree angles.



### *Angle measurements*

## Delta linear measurements

When a measurement is selected, the system will display delta measurements projected on the respective coordinate system axes.



### *Delta linear measurements*

For more information on using Layout, see the [Layout User Guide](#).

## Overview of Dynamics 365 Remote Assist October '18 release

Empower technicians to solve problems faster the first time. With heads-up, hands-free video calling on Microsoft HoloLens, technicians can collaborate with remote experts on PC or mobile to troubleshoot issues in context. Modernize your field service operations, so you can make the most of your time and money.

**NOTE** Remote Assist was released as a preview app in April 2018. As of the October release, Remote Assist is Generally Available.

### On HoloLens

#### Make and receive calls

- Start a video call with an expert on Microsoft Teams. The expert can download a free version of Teams, and can sign in with a free Microsoft account.
- Receive a video call from an expert using Teams.
- Pin your video call to your space or have it follow you around as you move during a call.
- Open Dynamics 365 for Field Service to quickly call an expert in the context of a Field Service booking.

#### Collaborate and annotate

- Place arrows, draw, and insert files (images or PDFs) into your space during a call.
- Change the color of your arrows and ink.
- View arrows, drawings, and files placed by a remote expert using Microsoft Teams desktop.
- Erase or undo your annotations at any time during a call.
- Text chat with the expert on Teams.
- Take a snapshot of your annotations to save for future use.

#### Get assistance in another HoloLens application video

- During a Remote Assist call, use the bloom gesture to leave the Remote Assist app and launch another HoloLens app.
- Share your view of the other application and get assistance.

## In Microsoft Teams on a PC desktop

- Make calls to and receive calls from someone using Remote Assist on a HoloLens.
- Insert arrows, drawings, and files (images or PDFs) from your desktop into the Remote Assist user's world.
- Erase and undo annotations you inserted.
- Share your screen and present information to the HoloLens user.
- Text chat with the HoloLens user.

### More information

[Requirements](#)

[Buy and deploy](#)

[User Guide](#)

[Use Microsoft Teams with Remote Assist](#)

[FAQ](#)

## Summary of what's new in Dynamics 365 Remote Assist

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

Feature	Release type	Date
<a href="#">Integration with Dynamics 365 for Field Service</a>	General Availability	October 1, 2018
<a href="#">Insert a PDF file</a>	General Availability	October 1, 2018
<a href="#">Take a snapshot to capture annotations</a>	General Availability	October 1, 2018
<a href="#">Text chat</a>	General Availability	October 1, 2018
<a href="#">Add directional arrows</a>	General Availability	October 1, 2018
<a href="#">Audio adjusts automatically during a Remote Assist call</a>	General Availability	October 1, 2018
<a href="#">Use voice commands</a>	General Availability	October 1, 2018
<a href="#">Launch Remote Assist from another app using protocol activation</a>	General Availability	October 1, 2018
<a href="#">Screen sharing</a>	General Availability	December 10, 2018

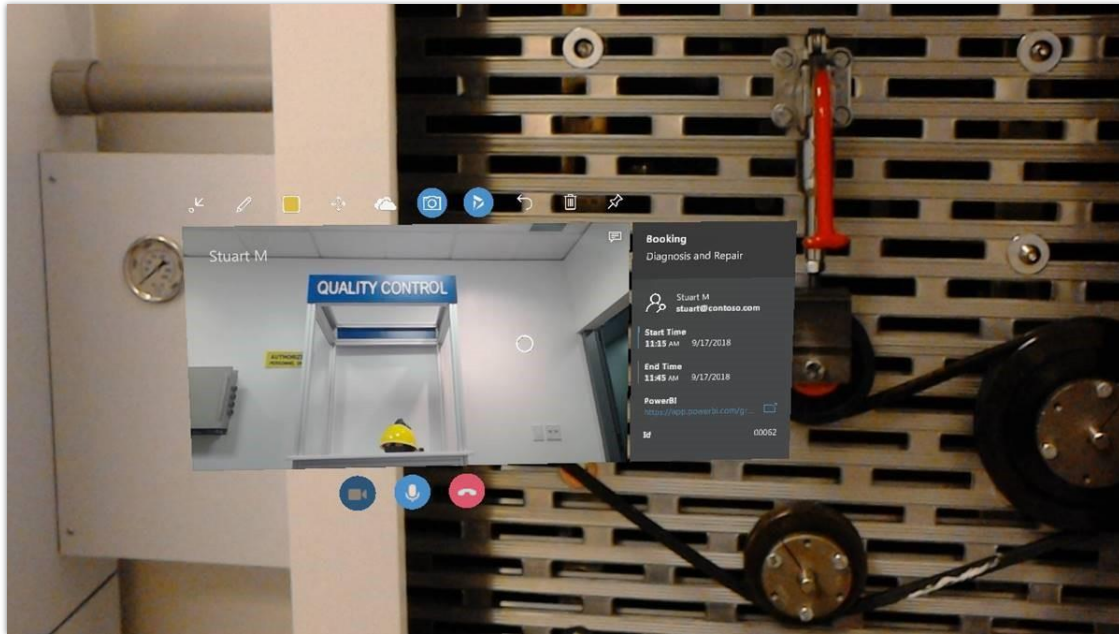
Feature	Release type	Date
<a href="#">Ghost arrows show where arrows will be placed</a>	General Availability	January 28, 2019
<a href="#">Narrator announces incoming calls</a>	General Availability	January 28, 2019
<a href="#">Additional voice and gaze commands</a>	General Availability	January 28, 2019
<a href="#">90-day free trial</a>	General Availability	March 11, 2019
<a href="#">Improved Dynamics 365 for Field Service integration</a>	General Availability	March 11, 2019



## Integration with Dynamics 365 for Field Service

If your organization uses [Dynamics 365 for Field Service](#) to manage field service bookings, the first-line worker can view Field Service bookings from Remote Assist and call the recommended expert. This enables heads-up, hands-free calling through HoloLens in the context of a Field Service booking.

**NOTE** A [Dynamics 365 license](#) is required to view Field Service bookings.

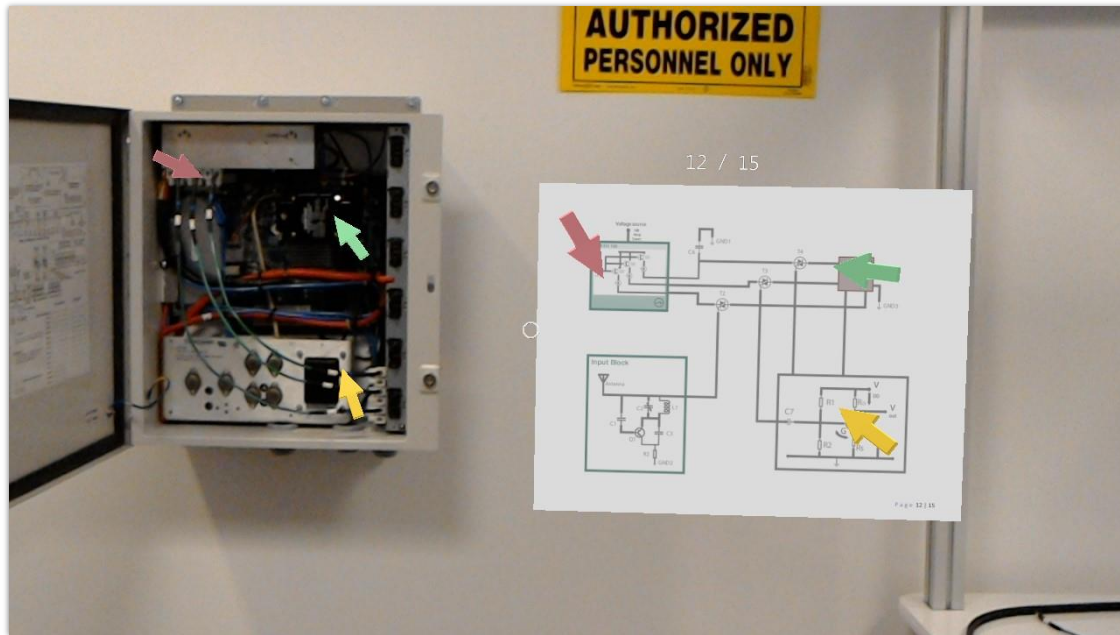


*Field Service integration*

[Learn more about working with Dynamics 365 for Field Service bookings from Remote Assist.](#)

## Insert a PDF file

In addition to image files, either party in a Microsoft Dynamics 365 Remote Assist call can now insert a PDF file in the space. For example, an expert could add a PDF file that describes maintenance procedures for a particular device.

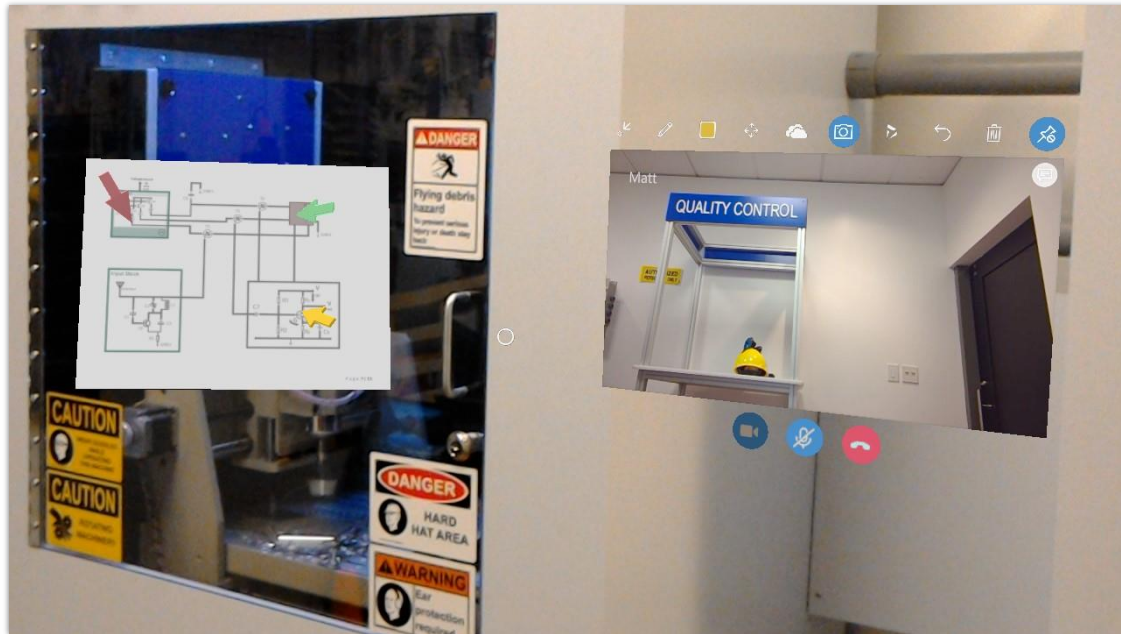


*Insert a PDF file*

[Learn more about inserting a PDF file in Remote Assist.](#)

## Take a snapshot to capture annotations

During a Microsoft Dynamics 365 Remote Assist call, take a photo of your mixed reality annotations to save for later. The photo is automatically saved to your HoloLens camera roll.

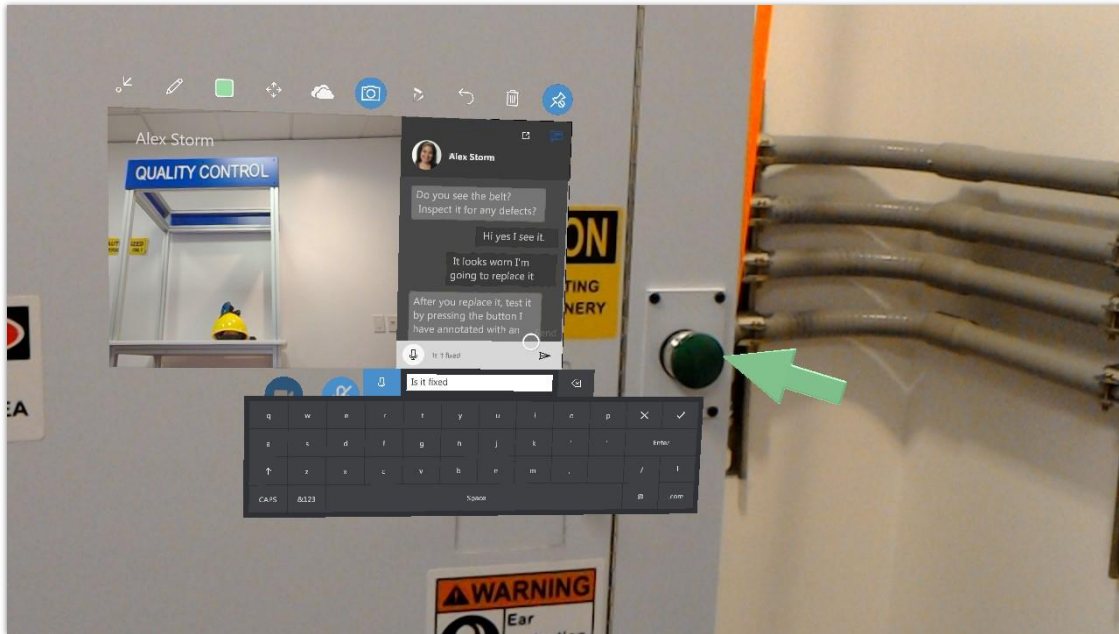


*Take a snapshot*

[Learn more about taking a snapshot in Remote Assist.](#)

## Text chat

Use the chat window to text chat with the other user on a Microsoft Dynamics 365 Remote Assist call. The chat window displays just the messages sent during the call.

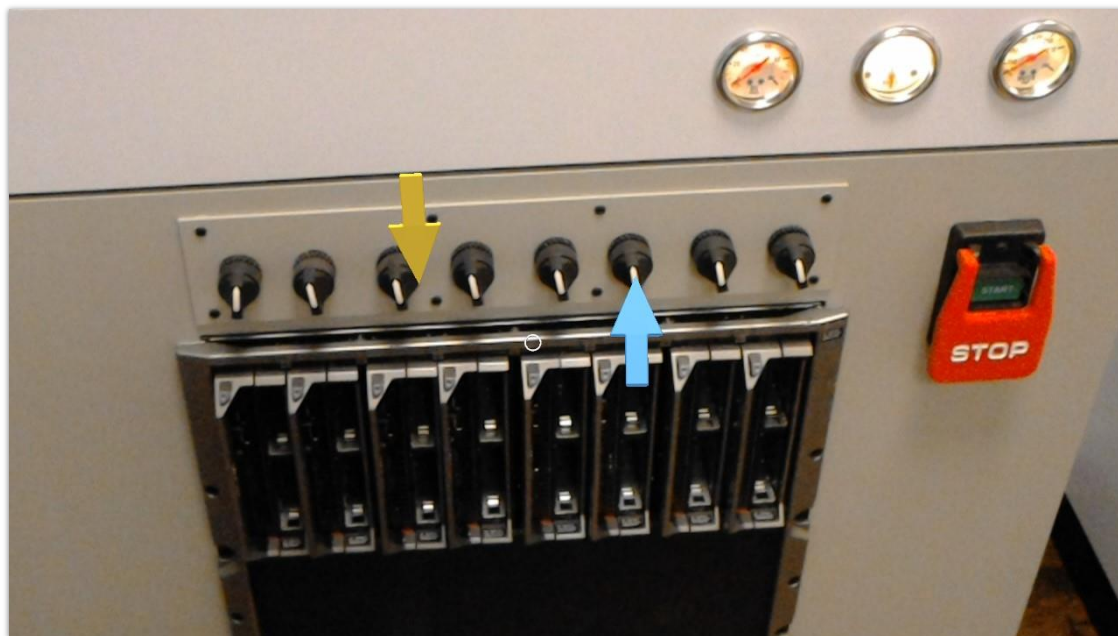


### *Text chatting*

[Learn more about text chatting in Remote Assist.](#)

## Add directional arrows

When you add an arrow as an annotation in Dynamics 365 Remote Assist, you can now specify the direction that the arrow points.



*Directional arrows*

[Learn more about adding arrows in Remote Assist.](#)

## Audio adjusts automatically during a Remote Assist call

During a Microsoft Dynamics 365 Remote Assist call, Dynamic audio adjusts the volume level based on ambient noise in the room. This makes it easier for the caller to hear if they're working in a loud environment.

## Use voice commands

In many cases, you can use voice commands instead of gestures in Microsoft Dynamics 365 Remote Assist. Voice commands are contextual, so some commands only work in certain parts of the user interface. To use a voice command, say "Remote Assist" and then say the voice command. For example, say "Remote Assist, Call" to call a contact.

[Learn more about voice commands in Remote Assist.](#)

## Launch Remote Assist from another app (protocol activation)

With protocol activation, you can embed code in your HoloLens application to switch to Dynamics 365 Remote Assist and begin a call. For example, let's say you're creating a helicopter maintenance app. You can add a button within your app that a maintenance engineer can use to call an expert if they get stuck. The button will launch Remote Assist and call the designated expert.

[Learn more about adding protocol activation to your app.](#)

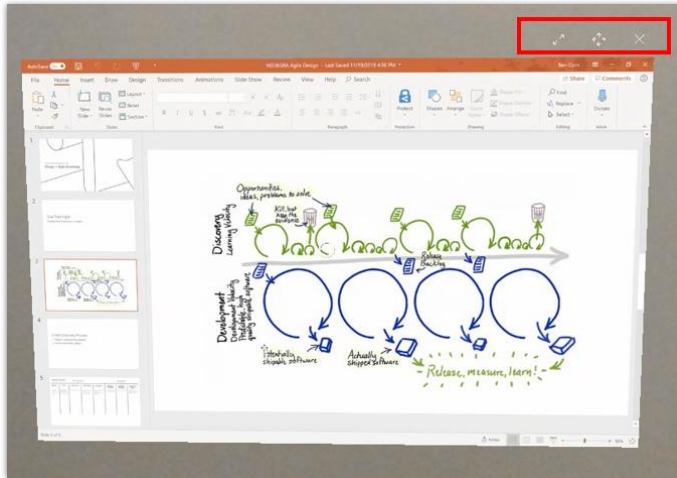
## Screen sharing

As of the December 2018 update, an expert on Microsoft Teams can share their desktop or a running application with a Remote Assist user on HoloLens.



*Shared desktop*

When the expert shares their desktop or a running application, the Remote Assist user's video feed changes to a solid color. The Remote Assist user can access all of the tools in the toolbar even though the video feed is no longer displayed. They can use the controls at the top of the shared screen to move and resize the shared content.



*Shared desktop controls*

## Ghost arrows show where arrows will be placed

When placing an arrow in previous versions, sometimes arrows would be placed where you didn't expect them. Now to help place them more precisely, you'll see an arrow silhouette that shows where the arrow will be placed and its direction.

To take advantage of ghost arrows, hold your index finger up within your field of vision. The ghost arrow will appear at the location of the gaze cursor and will remain in view until you air tap. For example, the following screenshots show an arrow before and after it's placed.



*Ghost arrow*

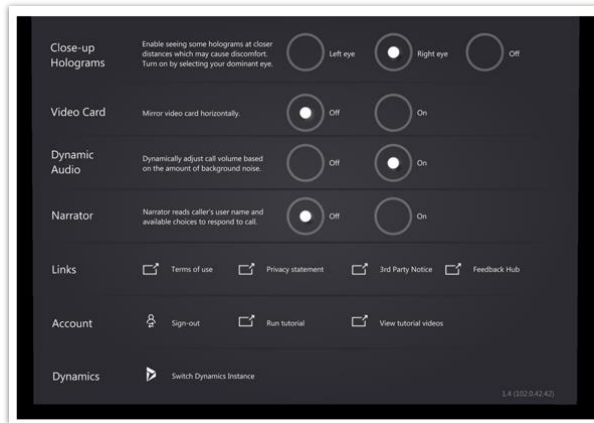


*Arrow placed*



## Narrator announces incoming calls

In addition to displaying an incoming caller's name on HoloLens, you can now turn on the Narrator setting to also have the caller's name announced.



### *Narrator*

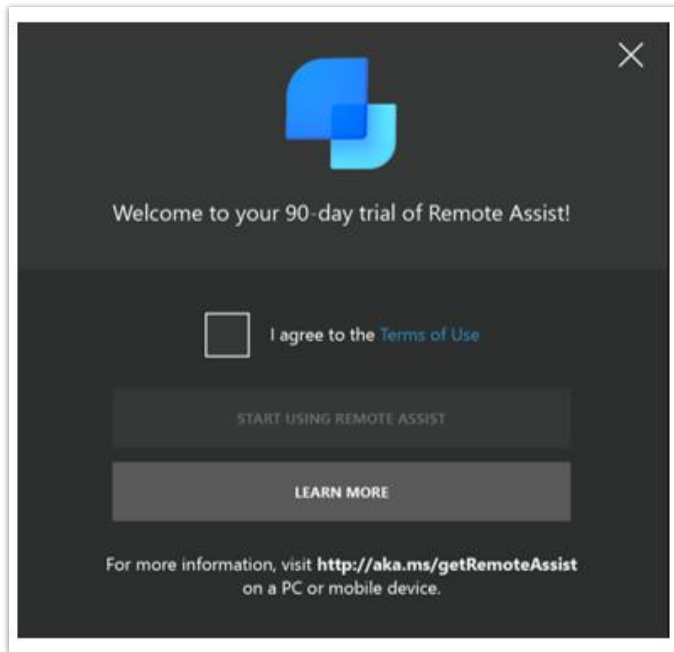
After the caller is announced, the Remote Assist user can use the "Video," "Audio," or "Ignore" voice command to reply.

## Additional voice and gaze commands

If you need to move or scale a window in Dynamics 365 Remote Assist, you can now do that using only your voice and gaze. For information on using the new Move and Scale commands, see the [User Guide](#).

## Try out Dynamics 365 Remote Assist for free for up to 90 days

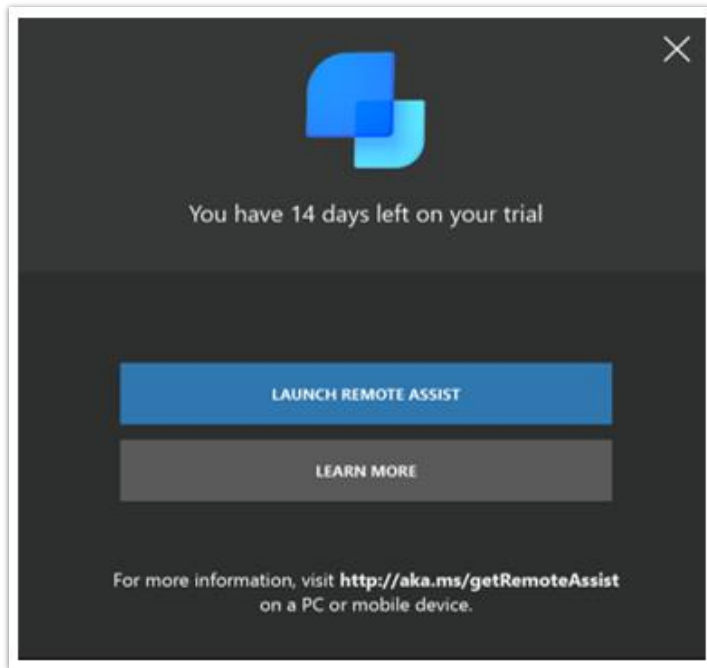
With the March 2019 update of Microsoft Dynamics 365 Remote Assist, we've made it nearly effortless for customers to try out the app without any obligation. To get a free 90-day trial, install the app from the Microsoft store, and then sign in to Microsoft Teams using your Azure Active Directory (Azure AD) credentials. If you don't already have a Teams account and an Azure AD account, the app helps you set them up for free.



### *Free trial screen*

After you're signed in, you can access any and all features and capabilities in the app without any restrictions.

With this new 90-day trial experience, you'll be prompted at certain intervals about the time remaining for the trial.



### *Expiration screen*

After the 90 days are up, you'll need to purchase a subscription to continue using the app. For more information on signing up for a free 90-day trial of Remote Assist, see [Try out Dynamics 365 Remote Assist for free](#).

## **Improved integration with Dynamics 365 for Field Service**

With the latest updates to Remote Assist, field service technicians using Remote Assist with Dynamics 365 for Field Service can:

- View and update booking status
- Automatically log Remote Assist call information
- Capture mixed-reality images in a booking

## View and update booking status

Remote Assist users can now view and select from multiple bookings scheduled for the current day. The bookings are categorized by active, upcoming, and completed bookings.



### Active, upcoming, and completed bookings

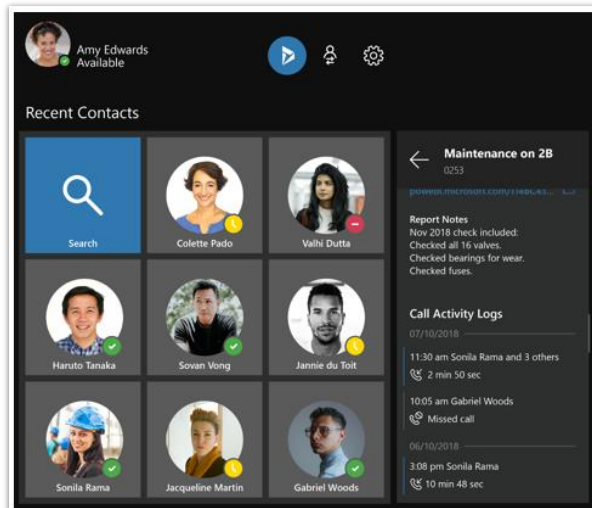
To change the status of a booking, open the booking, select the drop-down list next to the current status, select a new status, and then select **Save**. Status selections include any of the status values available in Dynamics 365 for Field Service. Administrators can also add or rename status values.



### Status selections

## Automatically log Remote Assist call information

Remote Assist call information is automatically logged with the booking, which saves valuable time for service technicians:




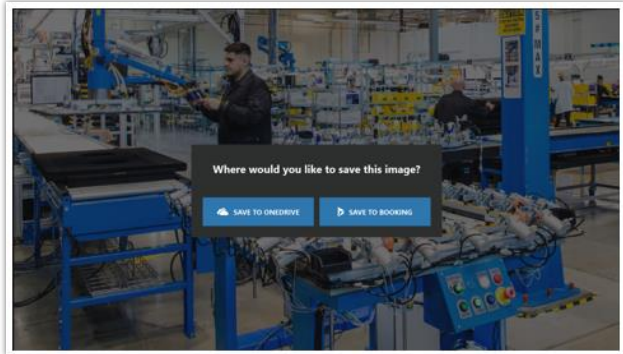
### *Recorded call information*

The following information is automatically captured:

- The participant(s) on the call
- The day and time the call was started
- The type of call – incoming or outgoing
- Call duration
- Assets related to the call (photo)

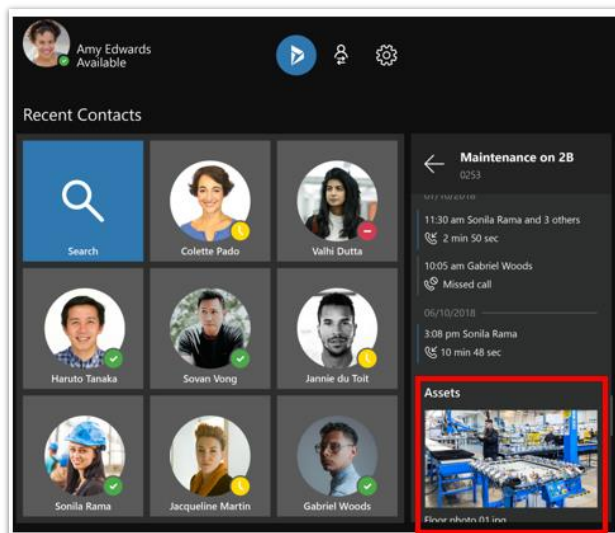
## Capture mixed-reality images in a booking

Remote Assist users can capture mixed-reality images in the call by selecting the **Camera**  button. Save images to OneDrive or to the booking.



### Save choices

The saved image thumbnails appear under **Assets** in the lower-right corner of the booking pane.



### Image thumbnails

For more information on using Remote Assist with Dynamics 365 for Field Service, see the following topics:

- [Remote Assist User Guide](#)
- [Troubleshoot Field Service integration](#)

# Microsoft PowerApps

## Overview of Microsoft PowerApps October '18 release

PowerApps is a suite of apps, services, connectors, and a data platform that provides an environment for rapidly developing applications and building custom apps for your business needs. Using PowerApps, you can quickly build custom business apps that connect to your business data stored either in the underlying data platform (Common Data Service) or in various online and on-premises data sources (SharePoint, Excel, Office 365, Dynamics 365, SQL Server, and so on). Use PowerApps [documentation](#) to get expert information and answers to address your needs, regardless of how you use PowerApps.

The October '18 release provides major improvements across the themes in this list to enable app makers to build higher-quality apps more easily, while still supporting more advanced enterprise and administrator requirements. Improvements in PowerApps focus not only on introducing capabilities but also on simplifying existing concepts to improve maker productivity.

### PowerApps platform provides fast, consistent user experience

PowerApps is a best-in-class, enterprise-ready platform that provides end users with fast, reliable, and consistent user experiences across web and mobile devices.

Customers of Dynamics 365 for Sales, Customer Service, Field Service, and Project Service, as well as IT and ISV apps, can use the Unified Interface for adaptable, performant, and responsive experiences that provide the functionality users need. A unified mobile player also provides a single place to find and launch model-driven and canvas apps built by Microsoft, ISVs, and IT departments.

### Enterprise-grade platform for administrators

PowerApps makes maintaining and managing apps across your organization easier than ever before. The [Power Platform admin center](#) offers admins and partners a more reliable, unified experience to manage storage capacity, environments, and deployments. Powerful analytics empowers admins to investigate and diagnose issues with their deployments, and the integrated Help & Support experience allows admins to find the help they need and escalate to Microsoft support when necessary.

## Capabilities for app creators

Following up on the April 2018 release, the creation experience for model and canvas apps, as well as Common Data Service, received significant updates. These updates enable a broad set of use cases for productivity apps through Office 365, in addition to deep business-app customization and creation with Dynamics 365.

## Summary of what's new in Microsoft PowerApps

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

## PowerApps platform provides fast, consistent user experience

We have doubled-down on providing high-quality end-user experiences.

Feature	Release type	Date
<a href="#">Entities added to the Unified Interface</a>	General Availability	October 2018
<a href="#">Enhancements to roll-up views in Unified Interface</a>	General Availability	October 2018
<a href="#">Faster loading model-driven apps</a>	General Availability	October 3, 2018
<a href="#">End users can create personal dashboards and share them with other users and teams</a>	General Availability	October 3, 2018
<a href="#">General usability, accessibility, and styling improvements in system charts</a>	General Availability	October 3, 2018





Feature	Release type	Date
<a href="#">Improved experience for building model-driven apps</a>	General Availability	October 10, 2018
<a href="#">Increased performance for globally distributed Common Data Service for Apps enterprises</a>	General Availability	October 10, 2018
<a href="#">Improved app discovery for consumers</a>	General Availability	October 17, 2018
<a href="#">Sync specific appointments to Exchange</a>	General Availability	October 17, 2018
<a href="#">Set Regarding lookup enhancements in Dynamics 365</a>	General Availability	October 25, 2018
<a href="#">PowerApps forms in SharePoint are faster</a>	General Availability	October 31, 2018
<a href="#">Filtering data on grids coming to Unified Interface</a>	General Availability	October 31, 2018
<a href="#">Access team on Unified Interface</a>	General Availability	October 31, 2018
<a href="#">Reporting Services Reports will be available on Unified Interface</a>	General Availability	November 7, 2018
<a href="#">End users can create charts and share them with other users and teams</a>	General Availability	December 5, 2018
<a href="#">More reliable Outlook Client v8.2 for Dynamics 365</a>	General Availability	December 5, 2018
<a href="#">More reliable Outlook Client v9.0 for Dynamics 365</a>	General Availability	February 2019



Feature	Release type	Date
<a href="#">Build model-driven apps of higher quality with Solution checker</a>	Public Preview	December 5, 2018
<a href="#">New model-driven form designer</a>	Public Preview	January 4, 2019
<a href="#">Improved reliability of offline experience for canvas apps</a>	Public Preview	January 23, 2019

## Enterprise-grade platform for administrators

Admin experiences are key to the adoption of any trusted platform.

Feature	Release type	Date
<a href="#">Control availability of user experiences on Unified Interface</a>	General Availability	October 2018
<a href="#">Enhanced help and support for admins</a>	General Availability	October 1, 2018
<a href="#">Unified environment administration from Power Platform admin center</a>	General Availability	October 3, 2018
<a href="#">PowerApps supports Intune</a>	General Availability	October 24, 2018
<a href="#">Test out new updates first in Preview</a>	General Availability	April 2019
<a href="#">Manage admin settings from the Power platform admin center</a>	Public Preview	September 26, 2018
<a href="#">New admin analytics reports</a>	Public Preview	October 3, 2018



Feature	Release type	Date
<a href="#">PowerApps audit events</a>	Public Preview	December 19, 2018

## Capabilities for app creators

Updates to the creation experience for model-driven and canvas apps, as well as Common Data Service for Apps, enable a broad set of use cases for productivity apps.

Feature	Release type	Date
<a href="#">Opting in to new features</a>	General Availability	August 14, 2018
<a href="#">Improved PowerApps authoring for makers of all abilities</a>	General Availability	August 14, 2018
<a href="#">Inline help for creating accessible apps</a>	General Availability	August 14, 2018
<a href="#">Easy to work with many-to-one relationships in canvas apps for Common Data Service for Apps</a>	General Availability	August 14, 2018
<a href="#">Faster load times with parallel data loading in canvas apps</a>	General Availability	August 14, 2018
<a href="#">Errors more discoverable by app makers</a>	General Availability	August 14, 2018
<a href="#">Formula formatting easier to read</a>	General Availability	August 14, 2018
<a href="#">Choose your own size of app</a>	General Availability	September 12, 2018
<a href="#">Improved default themes help embedded apps look like they belong in SharePoint</a>	General Availability	September 12, 2018



Feature	Release type	Date
<a href="#">Embed applications on SharePoint pages using a PowerApps web part</a>	General Availability	September 19, 2018
<a href="#">Easier to find and work with solutions from PowerApps</a>	General Availability	October 31, 2018
<a href="#">Sharing enhancements for canvas apps</a>	General Availability	November 14, 2018
<a href="#">Customizers can embed Power BI tiles and reports in entity forms</a>	General Availability	December 5, 2018
<a href="#">Simplified lookup field creation on entities</a>	General Availability	January 2019
<a href="#">Simplified management of advanced entity properties</a>	General Availability	January 2019
<a href="#">Rich Text Editor and HTML view controls for canvas apps</a>	General Availability	January 2, 2019
<a href="#">Canvas-app delegation of aggregate functions in Common Data Service for Apps</a>	General Availability	January 2, 2019
<a href="#">Deeper PowerApps integration in Power BI</a>	General Availability	January 23, 2019
<a href="#">Advanced relationships between entities</a>	General Availability	January 30, 2019
<a href="#">Create automatic number sequences</a>	General Availability	February 2019
<a href="#">Create entities and apps in the same tool</a>	General Availability	February 2019



Feature	Release type	Date
<a href="#">PowerApps makers can create mashup apps with SharePoint Document Libraries</a>	General Availability	February 20, 2019
<a href="#">Improved help for Access users</a>	General Availability	February 2019
<a href="#">Easier to configure cascading drop-down lists</a>	General Availability	March 6, 2019
<a href="#">Work with friendly display names in canvas apps when using Common Data Service for Apps or SharePoint</a>	General Availability	March 2019
<a href="#">Create Power BI reports using data in Common Data Service for Apps</a>	General Availability	May 2019
<a href="#">Catch, handle, and report errors, and write Null values to databases with canvas apps</a>	Public Preview	August 14, 2018
<a href="#">Improve ALM for canvas apps with solutions</a>	Public Preview	October 31, 2018
<a href="#">Model-driven view designer enhancements</a>	Public Preview	December 5, 2018
<a href="#">Native support for Common Data Service for Apps data types in canvas apps</a>	Public Preview	December 19, 2018
<a href="#">Extend Dynamics 365 entity forms with embedded canvas apps</a>	Public Preview	January 4, 2019



## PowerApps platform provides fast, consistent user experience

PowerApps is a best-in-class, enterprise-ready platform that provides end users with fast, reliable, and consistent user experiences across web and mobile devices.

Customers of Dynamics 365 for Sales, Customer Service, Field Service, and Project Service, as well as IT and ISV apps, can use the Unified Interface for adaptable, performant, and responsive experiences that provide the functionality they need. A unified mobile player also provides a single place to find and launch model-driven and canvas apps built by Microsoft, ISVs, and IT departments.

### Entities added to the Unified Interface

End users can edit and use record types (such as Users, Teams, Position, and Currency) on Unified Interface.

### Enhancements to roll-up views in Unified Interface

With enhanced roll-up views, you can see a roll-up of records, such as related accounts and contacts besides activities.

### Faster loading model-driven apps

Pages of model-driven applications load significantly faster as visible regions are rendered first and optimized for different browsers. Users will also see improved performance on Microsoft Edge and Internet Explorer 11 browsers with Unified Interface.

For dashboard pages, only the visible charts and views are rendered. The remaining charts and views are rendered as a user scrolls. On record forms, only the first tab is rendered. When a user navigates to another tab, it's fully rendered.

### End users can create personal dashboards and share them with other users and teams

Create personal dashboards to track progress and status using widgets that show real-time information. You can create them whenever you need them, instead of depending on your system admin. You can share these dashboards with other users and teams in your organization. These dashboards are highly customizable—you can add widgets of your choice, and you can even embed Power BI dashboards and tiles.

## General usability, accessibility, and styling improvements in system charts

Charts get more consistent interactions and capabilities across forms, dashboards, and grids. Visualize your data in two new kinds of charts—Doughnut and Tag. Customizers can also take advantage of general accessibility and styling improvements.

## Improved experience for building model-driven apps

App makers can more easily compose and test model-driven apps in the designer. The navigation and configuration was simplified to support both Web and Unified Interface. Editing app components is easier through quicker access to deep links. After saving and publishing changes, makers can run the app directly from the designer to quickly test the changes.

## Increased performance for globally distributed Common Data Service for Apps enterprises

End users across many geographies and network latencies see consistent, fast performance regardless of their location with respect to the data center. Fewer server trips are required when a page definition is initially loaded, and more page definitions are cached after the initial load, which makes subsequent loads faster.

## Improved app discovery for consumers

App consumers can be productive more quickly by discovering, previewing, and running their own and their org's model-driven and canvas apps through a unified landing page on PowerApps.

## Sync specific appointments to Exchange

End users can create appointments in Dynamics 365 and save them as drafts without synchronizing to Exchange.

### Resources

[Create or edit an appointment](#)

## Set Regarding lookup enhancements in Dynamics 365

Setting Regarding of emails and appointments with App for Outlook gets easier with a host of improvements to the lookup experience. Administrators and customizers can filter the list of entities and views that appear in the Set Regarding lookup. End users can reliably narrow the scope of their search and locate Dynamics 365 records with ease.

## **PowerApps forms in SharePoint are faster**

A number of performance improvements are available in SharePoint when using embedded PowerApps forms, including:

- Embedded forms load faster and deliver list data quicker.
- Faster authoring of custom forms through PowerApps Studio.
- SharePoint embedded forms load progressively by default.

These enhancements provide an overall better experience for end users and app makers.

## **Filtering data on grids coming to Unified Interface**

Users can use Excel-like filtering capabilities on grid columns of the read-only grids during Unified Interface runtime. This will enable a consistent filtering experience for users, whether they are using read-only or editable grids.

## **Access team on Unified Interface**

Access team capabilities will be honored during Unified Interface runtime. Access teams provide an alternate way of exposing and sharing records across functional teams without the need to modify or update the base security model via Business Units, Security Roles, or Teams.

## **Reporting Services Reports will be available on Unified Interface**

Use reports to manage your business, analyze the state of progress, or simply view a line-item level summary of data. You can manage your SSRS reports and run entity-level reports from any record or grid.

## **End users can create charts and share them with other users and teams**

Create personal charts to visualize data in real time. You can share these charts with other users and teams in your organization. These charts are highly customizable—you can add multiple series, and you can choose from a range of visualizations and aggregations.

## **More reliable Outlook Client v8.2 for Dynamics 365**

The new version of Dynamics 365 for Outlook will have performance enhancements to address Outlook boot and hang issues due to metadata cache refresh.



## More reliable Outlook Client v9.0 for Dynamics 365

The new version of Dynamics 365 for Outlook will have performance enhancements to address Outlook boot and hang issues due to metadata cache refresh.

## Build model-driven apps of higher quality with Solution checker (Public Preview)

Solution checker promotes higher-quality model-driven apps by helping app makers follow best practices when they customize and extend the PowerApps platform. By running the checker, app makers can answer questions such as these:

- What areas of my PowerApps implementation pose a performance or reliability risk?
- Am I using the PowerApps extensibility architecture and provided APIs appropriately?
- What APIs will be deprecated in the next major release of PowerApps?

App makers can access an actionable scorecard that lists top solution issues. For each issue identified, the scorecard points to specific occurrences within the code or customizations where improvements may be required. Most importantly, app makers can discover how to implement these improvements by following detailed guidance.

Solution checker is available in all worldwide regions, with the exception of Sovereign Cloud regions. You can find more information about how to run a solution check on the PowerApps [blog post](#) or the [documentation](#).

## New model-driven form designer (Public Preview)

Customizers can do more with their entity form authoring using our new form designer, available as a preview in this release. The new form designer provides a WYSIWYG authoring experience, helping to boost productivity by enabling customizers to directly see what their form will look like to end users. The form designer also provides full support for keyboard accessibility to meet customizers' needs and preferences.

## Improved reliability of offline experience for canvas apps (Public Preview)

Canvas apps on devices using SaveData/LoadData are more reliable in offline scenarios. App makers can store up to 20 MB of data or 20 images offline in a single call, which allows makers to create more robust field service apps.

## Enterprise-grade platform for administrators

PowerApps makes maintaining and managing apps across your organization easier than ever before. The [Power Platform admin center](#) offers admins and partners a more reliable, unified experience to manage storage capacity, environments, and deployments. Powerful analytics empower admins to investigate and diagnose issues with their deployments, and the integrated Help & Support experience allows admins to find the help they need and escalate to Microsoft support when necessary.

### Control availability of user experiences on Unified Interface

New and existing end users can access core commands during Unified Interface runtime. Admins can, at the organization level, turn these experiences on or off for their users.

- **Advanced find**  
Users can build queries to find targeted records and also create personal views.
- **Merge records**  
Users can merge two records.
- **Record sharing**  
Users can share records with other users and teams.
- **Bulk edit**  
Users can edit multiple records at the same time.
- **Email template with slugs**  
Users can create their own email templates and use system email templates with capabilities of auto-populating data that relates to the record that they are sending an email about.
- **Run workflow**  
Users can run on-demand workflows.
- Users can access their personal settings from within Unified Interface.

### Enhanced help and support for admins

With the Help & Support experience in the [Power Platform admin center](#), not only can admins escalate and engage with customer support more easily but also, with in-line self-help, admins have become even more successful at diagnosing and resolving solutions on their own.

## Unified environment administration from Power Platform admin center

Admins now have more visibility over the PowerApps, Microsoft Flow, and Common Data Service for Apps activity and usage within their organization. From the [Power Platform admin center](#), admins can review tenant-wide and environment-level reports detailing active users, app usage, and flow usage across their organization.

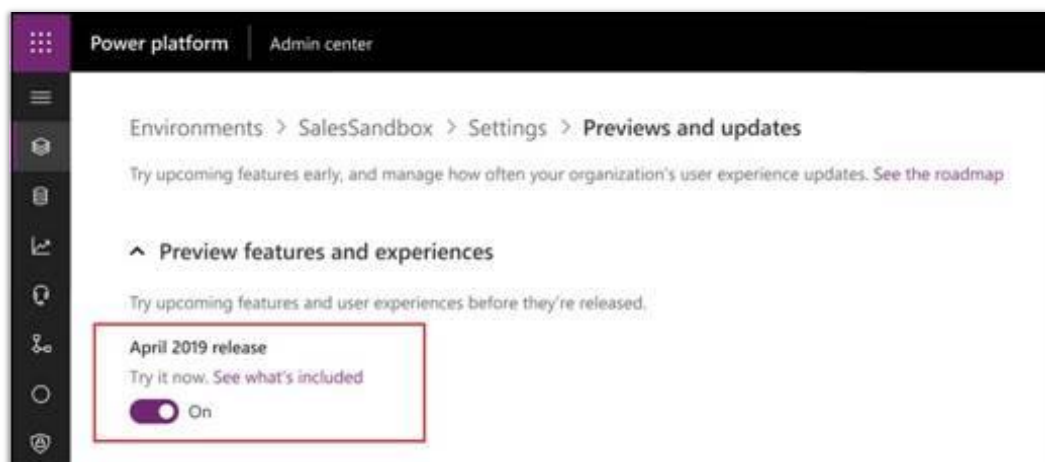
## PowerApps supports Intune

PowerApps apps on Android and iOS are now integrated with Intune and support Intune policies for mobile application management, enabling customers to have better control and security over their data.

## Test out new updates first in Preview

Since Customer Driven Updates (CDU) are no more, you can test out new updates in preview (for Dynamics 365 for Customer Engagement, PowerApps, and Microsoft Flow). Until now, customers were not able to sign up easily to get early access to the updates across Dynamics 365 for Customer Engagement; they were not able to develop and validate the apps on a regular basis prior to the next update.

With the new preview, customers now have a way to develop and test new updates to the platform before they are rolled out broadly to all production orgs, providing a self-service way to ensure continuity with their own deployed solutions. Customers can create a 'preview' environment in the United States or they can copy an existing environment over to 'preview' from the Power Platform admin center.



### Turn on preview of April '19 release

For more information, see the blog [Previewing April 2019 release functionalities and updates for Dynamics 365 for Customer Engagement](#).

## Manage admin settings from the Power platform admin center (Public Preview)

Administrators can quickly access content and links they need from the PowerApps admin center. Using the environment hub, admins can navigate to the settings wall of links to manage all their environment settings in one place. Easily find the settings needed to customize the environment to your business needs. To learn more, see [Manage settings](#).

## New admin analytics reports (Public Preview)

For Common Data Service for Apps admins, there is no longer a need to install the Org Insights solution in their environment; all of the org insights reports are available (by default) from the [Power Platform admin center](#).

## PowerApps audit events (Public Preview)

Admins have more visibility over the PowerApps adoption and activity within their organizations. Records of all admin and maker activities are available for admins to view in the Office 365 Security & Compliance center, in which admins can also configure activity alerts for more proactive monitoring.

## Capabilities for app creators

Following up on the April 2018 release, the creation experience for model-driven and canvas apps, as well as Common Data Service, received significant updates. These updates enable a broad set of use cases for productivity apps through Office 365, in addition to deep business-app customization and creation with Dynamics 365.

## Opting in to new features

App makers can opt in to new features in their current apps when they are ready. New features are available for a limited time before the features are auto-enabled in all apps. With this process, app makers can try out the features in existing apps and make any changes needed before the features are rolled out globally. If an app maker creates an app, it will take advantage of any new feature available.

### Related topic

[Understand experimental and preview features in PowerApps](#)

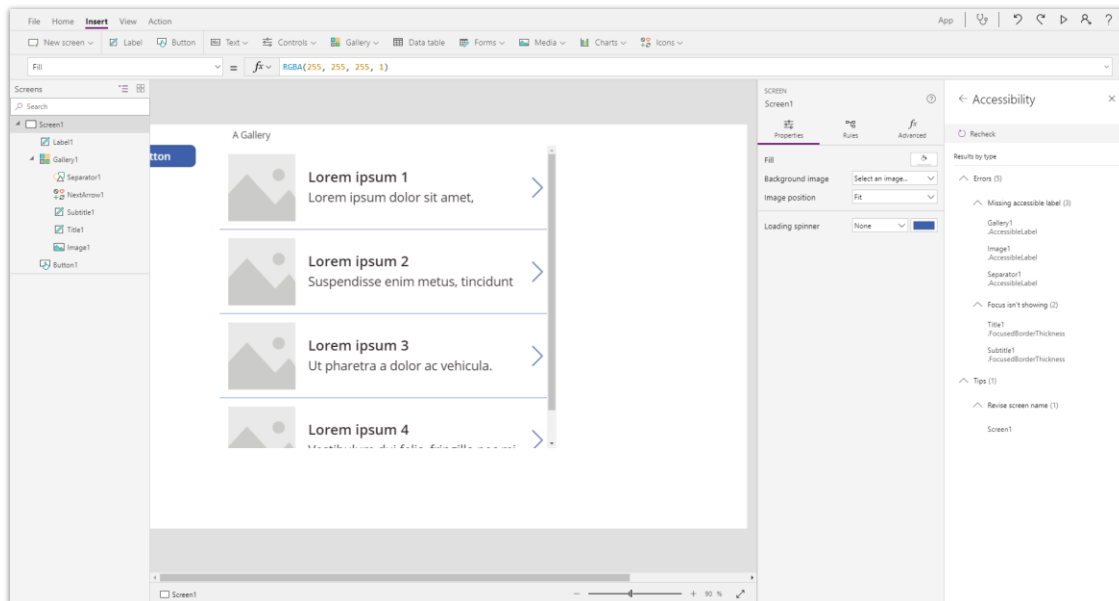
## Improved PowerApps authoring for makers of all abilities

Inline authoring experiences on PowerApps.com comply with the Microsoft Accessibility Standards, which helps more people create apps and helps all makers create apps more efficiently.



## Inline help for creating accessible apps

The accessibility checker guides makers to create accessible apps by providing a list of detected issues related to screen-reader capabilities and keyboard navigation items. For each issue, you can navigate to the affected property, get information about how to fix it, and find links to extra resources. Each app maker can review documentation that explains best practices, provides extra information about how to check for color contrast issues, and use the accessibility checker.



### *Accessibility checker*

## Easy to work with many-to-one relationships in canvas apps for Common Data Service for Apps

Working with relational data is key to most business applications. Yet it can be tedious to write queries that pull in the necessary information, join on foreign keys, and control the projection.

With this feature, it all becomes a lot easier for canvas app makers when they use Common Data Service (CDS) for Apps. For example, in the CDS for Apps standard model, there is an Account entity with a lookup for PrimaryContact that points to the Contacts entity. Let's say you need to display the last name of the primary contact in a gallery control. All you need to write is **ThisItem.PrimaryContact.LastName**. The Contacts data source doesn't even need to be loaded. PowerApps analyzes the app to determine which lookups are desired and to bring in only the fields that are required for the projection.



## Faster load times with parallel data loading in canvas apps

For better performance, many canvas-app makers will preload multiple tables and entities when their app starts. Today, this is done serially, one load after another, often in the **OnStart** formula of the app.

With this feature, app makers can load multiple data sets in parallel, dramatically reducing the end users' wait. And this facility isn't just limited to startup; makers can use it anywhere that parallel operations would improve performance.

### Related topic

[Enjoy faster startup times with the new Concurrent function](#)

## Errors more discoverable by app makers

The Error checker tool guides makers in debugging their apps by providing a list of detected issues for the entire application in a single place. App makers can navigate directly from the error list to the screen and control where the error exists. The error list provides detailed information about the error and how to fix it and links to extra resources.

## Formula formatting easier to read

Enhancements to the formula-bar editor provide the ability to format formulas, helping app makers read and understand them. As app makers create more complex line-of-business applications for their end users, this formatting allows multiple app makers to collaborate on apps.

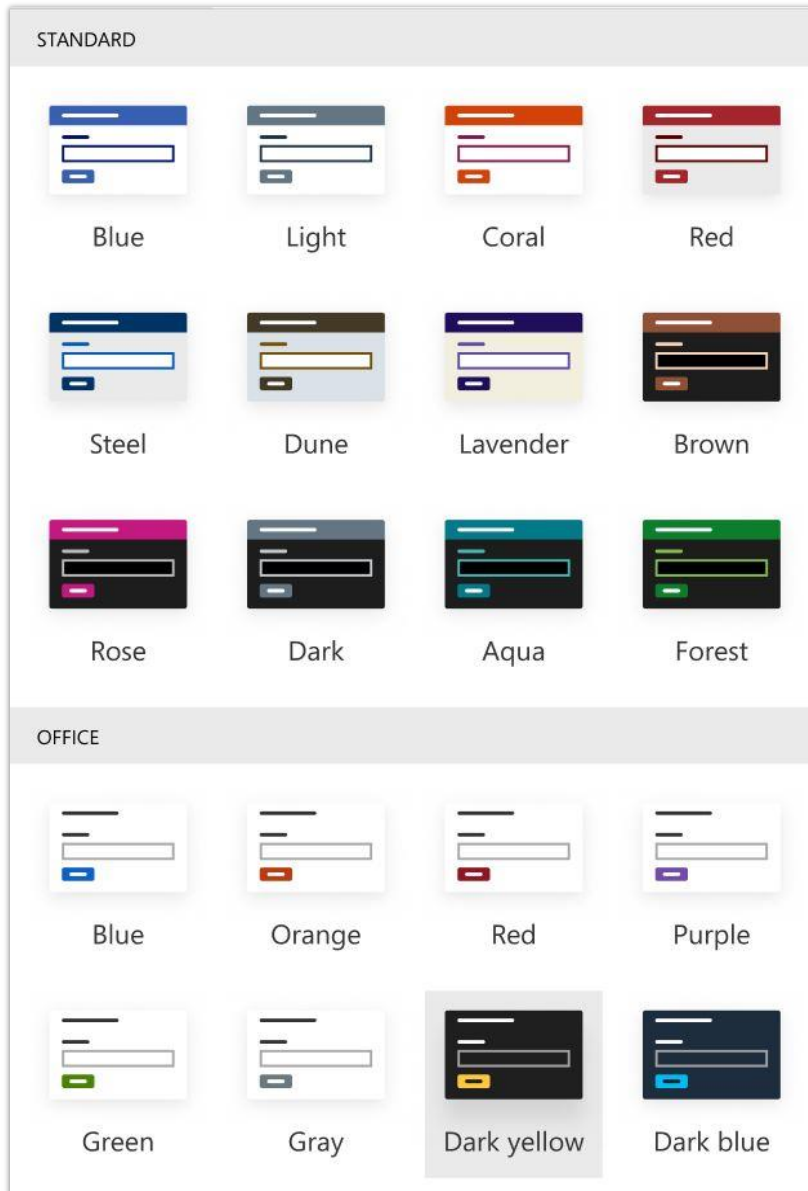
## Choose your own size of app

When you create or update a canvas app, you can customize its width and height. For example, you can configure an app for use on 4K monitors or embedded into a variety of applications inside of Office and Dynamics products.

Find [information about how to use this feature](#).

## Improved default themes help embedded apps look like they belong in SharePoint

App makers can apply any of eight Office themes to their canvas apps and forms. These new themes improve SharePoint embedding scenarios by aligning with the default SharePoint themes.



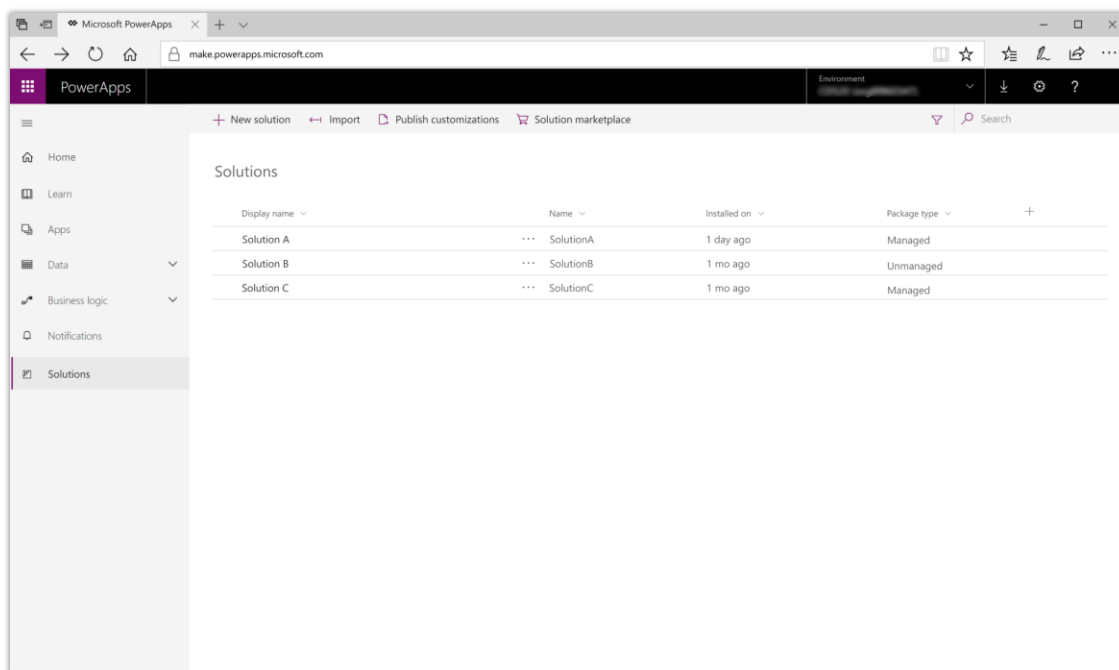
*Theme colors*

## Embed applications on SharePoint pages using a PowerApps web part

Content creators within SharePoint can leverage PowerApps within their pages using a PowerApps web part, providing richer content scenarios for their users. New theme options allow apps to look and feel as though they belong in SharePoint. Permissions from SharePoint propagate to the app, meaning creators don't need to manage special permissions.

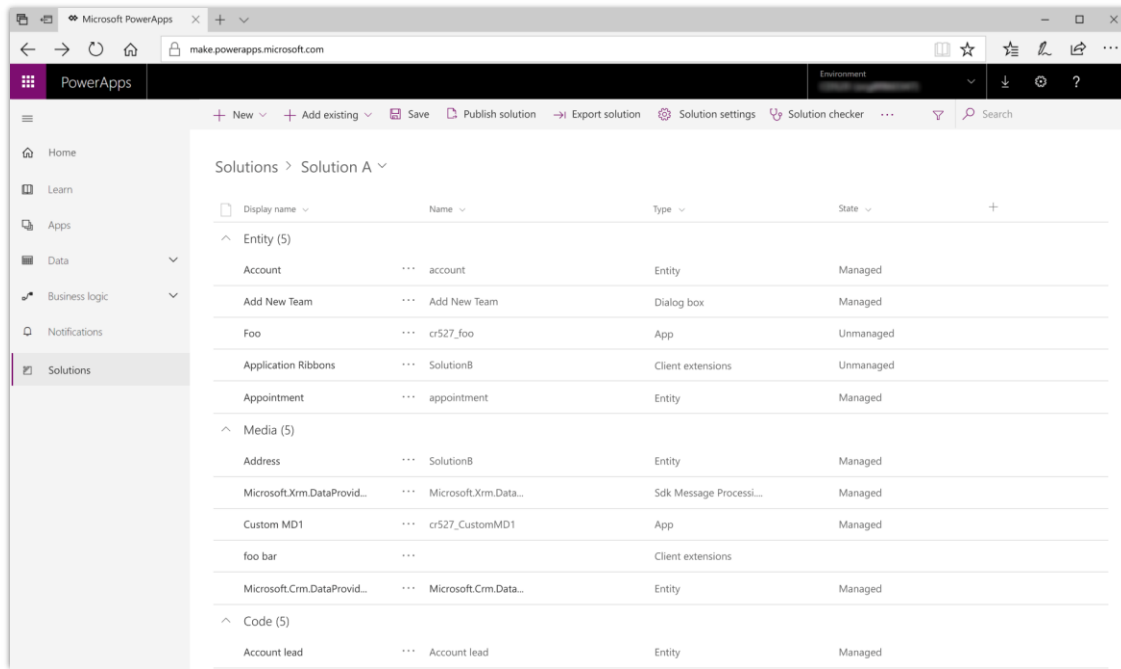
## Easier to find and work with solutions from PowerApps

You can work with solutions more easily by accessing the solution list in PowerApps. You can locate the solution that you need, open it, and search for a solution's component in the Solution Explorer. You don't need to access the classic Solution Explorer to manage the components within a solution.



*Solution list*

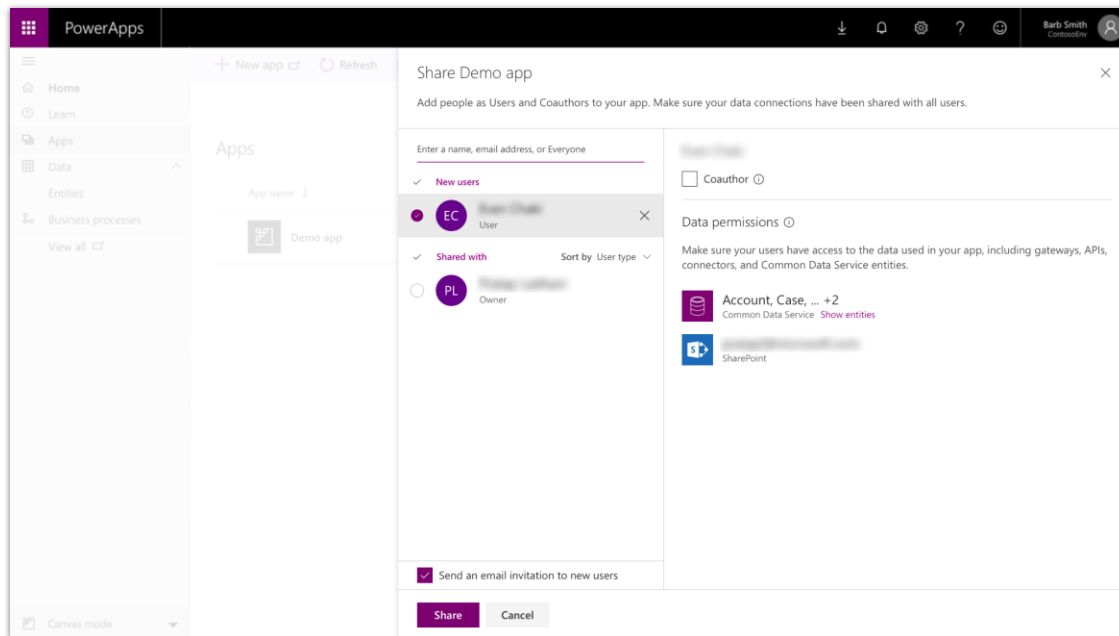




*Solution Explorer*

## Sharing enhancements for canvas apps

Canvas apps are easier to share because users can view the data sources that an app uses, making it easier to independently set up user permissions to access that data.



### *Sharing a canvas app*

## Customizers can embed Power BI tiles and reports in entity forms

Bring the power and richness of Power BI to your forms by embedding reports and tiles of your choice. Customizers can model the Power BI reports and tiles to provide more meaningful insights by passing the record context, including any attribute information about the record.

Find more information about how to configure the embedding at [Embed a Power BI report in a model-driven system form](#).

## Simplified lookup field creation on entities

Lookup fields are currently created as part of defining a many-to-one relationship. While this will still be supported with this feature, users will be able to create the same type of relationship and lookup field by simply adding a lookup field to an entity, similar to the way you would do this today in SharePoint or Access.

## **Simplified management of advanced entity properties**

Advanced properties related to entities and fields that are currently only available in the Solution Explorer will become available in the PowerApps portal for a simplified and consistent entity and field creation experience for app makers.

## **Rich Text Editor and HTML view controls for canvas apps**

App makers can leverage the new Rich Text Editor control in canvas apps to allow end users to style their text, include lists, and insert links. This new control gives end users of apps full control of customizing text for scenarios like email and report editing in an app.

## **Canvas-app delegation of aggregate functions in Common Data Service for Apps**

In canvas apps, makers can use aggregate functions to summarize data across larger sets of data in Common Data Service for Apps. Makers can delegate these calls because the local processing limit has been eliminated.

## **Deeper PowerApps integration in Power BI**

BI creators can consume PowerApps within their Power BI reports in production solutions. Report creators can refresh their Power BI reports from PowerApps, unlocking many more ways to work transactionally with their data warehouses within reports. BI creators also have simplified sharing options with their apps and reports.

## **Advanced relationships between entities**

In PowerApps, not only can app makers create one-to-many, many-to-one, and many-to-many relationships, but makers also can enable hierarchies and configure mapping between entities to assist in defaulting fields when relating records to each other. More advanced settings require the Solution Explorer.

## **Create automatic number sequences**

In PowerApps, you can define one or more sequences in which numbers are generated automatically and applied to entities in Common Data Service for Apps.

## **Create entities and apps in the same tool**

As you create or modify an app, you can modify entities and option sets in PowerApps Studio instead of having to open another site.

## **PowerApps makers can create mashup apps with SharePoint Document Libraries**

PowerApps app makers now get the capability to create mashup applications with SharePoint Document Libraries, which allows them to browse through folders, view and launch files in native applications. The SharePoint data connector has been enhanced to list Document Libraries within a specific SharePoint site, empowering the app makers to simply pick the Document Library they want to connect to, and removing the need to type in the name of the Document Library.

## **Improved help for Access users**

Access users can learn how to use PowerApps for building mobile and web apps that connect to more than 200 data sources. These users can receive relevant email content to stay up to date with PowerApps innovations, as well as getting access to white papers, case studies, and sample apps for understanding the combined capabilities of Access and PowerApps.

## **Easier to configure cascading drop-down lists**

With improvements to make filtering data easier, SharePoint form customizers are more successful at completing sophisticated forms, such as cascading drop-down implementations. Makers can use an interface to complete this scenario or continue to write formulas.

## **Work with friendly display names in canvas apps when using Common Data Service for Apps or SharePoint**

Both Common Data Service for Apps and SharePoint maintain two names for every table and field. First, there's a developer-friendly name, which is somewhat cryptic, with no spaces, odd capitalization, underscores, and a requirement to be unique. Then there's a user-friendly name, meant for end users to see, with spaces and standard capitalization, displayed in the app's UI.

To date, PowerApps has only supported the developer names. With this feature, authors can now work with display names instead, making reading and writing of formulas easier and clearer.

## **Create Power BI reports using data in Common Data Service for Apps**

Power BI offers an extremely powerful tool for visualizing and reporting data. With the connector for Power BI, app makers can connect directly to their environment, navigate relationships, and build compelling reports and dashboards against their data.

## **Catch, handle, and report errors, and write Null values to databases with canvas apps (Public Preview)**

Errors happen. Canvas apps provide a default behavior when they do, but this may not always match what you want. With this feature, you can catch, interrogate, throw, suppress, log, and message errors to your users.

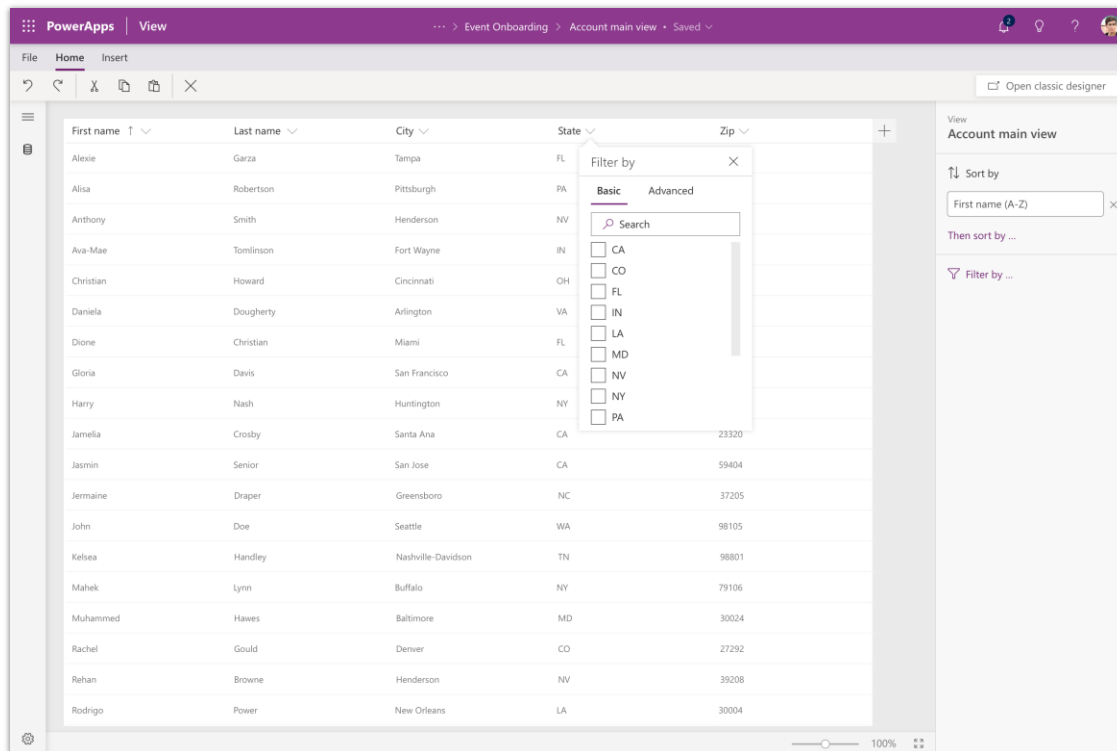
Errors and Null values were previously indistinguishable, so pushing Null values to databases was a problem. Null is a legitimate value in many database systems. With errors properly separated out in canvas apps, you can write Null values to all databases.

## **Improve ALM for canvas apps with solutions (Public Preview)**

App makers, system integrators, and ISVs can more easily move assets from one environment to another by including canvas apps in solutions along with model-driven apps, flows, and other components. When app makers create an app or any other asset, they can quickly pick a solution they want their app to be in. App makers can leverage import and export functionality to distribute composite solutions and manage app lifecycles across environments.

## Model-driven view designer enhancements (Public Preview)

An improved view designer within PowerApps will allow app customizers to see a live preview as they apply advanced filtering and sorting logic. Additionally, we are adding simplified sorting and sorting via the column headers like SharePoint and Excel to make it faster to get the view you want.



### View designer

## Native support for Common Data Service for Apps data types in canvas apps (Public Preview)

Today, support for some data types in Common Data Service for Apps is limited or hard to use. Optionset values must be looked up manually on the maker portal, GUIDs are handled through strings that can cause problems in comparisons, and there are time-zone issues with date only and date/time fields.

This feature cleans all that up, adding native support for optionsets and GUIDs and improving the time-zone handling for date/time values.



## **Extend Dynamics 365 entity forms with embedded canvas apps (Public Preview)**

Canvas apps enable app makers to deliver a rich, pixel-perfect user experience via low-code customization capabilities. They also support connecting to more than 200 data sources including a range of cloud services (such as Office 365 and SharePoint) as well as on-premises data sources (via a gateway). Now app makers can bring these capabilities directly into their model-driven apps by embedding canvas apps in their model-driven forms.

App makers can embed canvas apps in their model-driven forms just like they add custom controls. Model-driven forms can also pass data context of the current record, a related record, or a set of related records to an embedded canvas app. This functionality empowers app makers to create rich, contextual sections, grids, and other components, as well as visualizations that display data from Common Data Service for Apps and a wide array of external data sources.

This feature will be available on Unified Interface only. The preview release will enable browser-based, read-only support for the embedded canvas apps. A future release will enable support for mobile devices and edit support for the embedded canvas apps.

# Microsoft Flow

## Overview of Microsoft Flow October '18 release

Microsoft is modernizing business processes across productivity: CRM and ERP applications. It's easier for every business (and business function) to transform how people work. Microsoft Flow, Microsoft's workflow and business process management platform, is core to the success of this mission.

Microsoft Flow offers rich workflow and business process capabilities for the Business Application platform, and for the Dynamics 365 and Office 365 services that build on that platform. This October, Microsoft Flow is doubling down on the platform integration by releasing key capabilities that enhance the power of all the above products.

Microsoft Flow is the connective glue that's used by end users and app developers alike for digital transformation, no matter what application they are using.

## Summary of what's new in Microsoft Flow

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

## Integrated experiences

Better together with Office 365 and Dynamics 365 to provide integrated experiences in SharePoint, Teams, Excel and more.

Feature	Release type	Date
<a href="#">Microsoft Flow tab in Teams</a>	General Availability	November 29, 2018
<a href="#">Customize SharePoint page approvals with Microsoft Flow</a>	General Availability	January 7, 2019



Feature	Release type	Date
<a href="#">SharePoint Remind Me</a>	General Availability	February 5, 2019
<a href="#">Adaptive cards for Microsoft Teams</a>	General Availability	March 15, 2019
<a href="#">OneDrive for Business Flow launch panel</a>	General Availability	March 2019
<a href="#">OneDrive for Business request sign-off</a>	General Availability	March 2019
<a href="#">Flow for SharePoint admin scenarios</a>	General Availability	March 2019
<a href="#">Design flows in Visio</a>	Public Preview	March 2019

## Building the platform

An enterprise-grade platform that meets the lifecycle and compliance requirements of makers and admins.

Feature	Release type	Date
<a href="#">South America region</a>	General Availability	October 22, 2018
<a href="#">Microsoft Flow supports Intune</a>	General Availability	October 31, 2018
<a href="#">Improved ALM for flows with solutions</a>	General Availability	November 8, 2018
<a href="#">Microsoft Flow Web APIs available</a>	General Availability	December 10, 2018
<a href="#">HTTP and custom connector support for DLP policies</a>	General Availability	January 18, 2019
<a href="#">Microsoft Flow US Government is generally available</a>	General Availability	March 15, 2019
<a href="#">Sharing and Connectors Admin Analytics Reports</a>	Public Preview	October 31, 2018
<a href="#">Share copies of flows inside organizations</a>	Public Preview	January 30, 2019



## Democratize business processes

Democratize business process so any user can build and run the processes key to their business.

Feature	Release type	Date
<a href="#">Streamlined authoring for business process flows</a>	General Availability	January 18, 2019
<a href="#">Custom controls in business process flows</a>	Public Preview	March 2019

## Empower citizen developers

Provide the key features that citizen developers need to use Microsoft Flow to build more reliable, production-ready solutions.

Feature	Release type	Date
<a href="#">Repair tips in email for failed flows</a>	General Availability	October 16, 2018
<a href="#">New Microsoft Flow portal and designer experience</a>	General Availability	October 31, 2018
<a href="#">Flow checker</a>	General Availability	November 8, 2018
<a href="#">Edit rich text content in Microsoft Flow</a>	General Availability	November 16, 2018
<a href="#">Integrated help and support experience in Microsoft Flow</a>	General Availability	November 29, 2018
<a href="#">Filter resources in Microsoft Flow</a>	General Availability	December 14, 2018
<a href="#">Microsoft Flow button input enhancements</a>	General Availability	December 14, 2018
<a href="#">Reduced noise of failure notifications</a>	General Availability	December 14, 2018
<a href="#">Advanced condition builder</a>	General Availability	February 5, 2019
<a href="#">Peek code in the Microsoft Flow designer</a>	General Availability	February 5, 2019



Feature	Release type	Date
<a href="#">Custom response options in Approvals</a>	General Availability	March 15, 2019
<a href="#">Change actions that have dependencies</a>	General Availability	March 2019
<a href="#">Diet designer for all templates</a>	General Availability	March 2019
<a href="#">Word document generation</a>	Public Preview	January 18, 2019
<a href="#">Leverage device signals on mobile devices</a>	Public Preview	March 2019

## Integrated experiences

Microsoft Flow has deep integration with other Microsoft applications, enabling the transformation of business processes where they are already happening today.

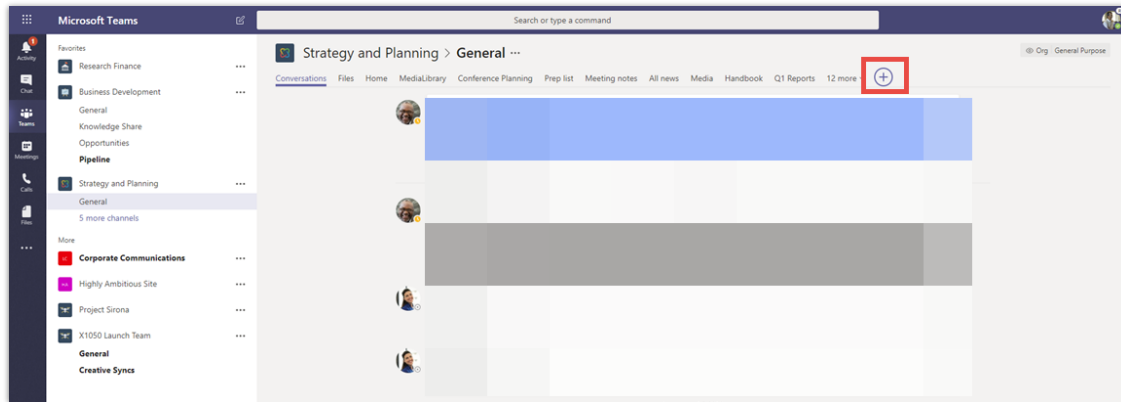
Microsoft Flow has made updates for users who are migrating to Microsoft Flow from SharePoint Workflows. We have added several missing triggers and actions in the SharePoint connector, and enhancements to Microsoft Flow's modern approvals functionality. In addition to SharePoint Workflow scenarios, Microsoft Flow has enhanced integrations with Microsoft Teams, OneDrive, and more.

### Microsoft Flow tab in Teams

Recently, we released a [personal Teams app](#) that allowed *you* to create and manage flows and launch flows from the Flow Bot—all within Teams. We've now extended these capabilities to *everyone in the team* with a Flow Tab. Let's imagine that you're a member of the Strategy and Planning team at Contoso. You'd like to alert the team whenever a document that contains the word "spec" is uploaded to SharePoint. With the Microsoft Flow integration in Teams, you can quickly create a flow that does exactly that, and immediately share it with your team so that others can make edits if required.

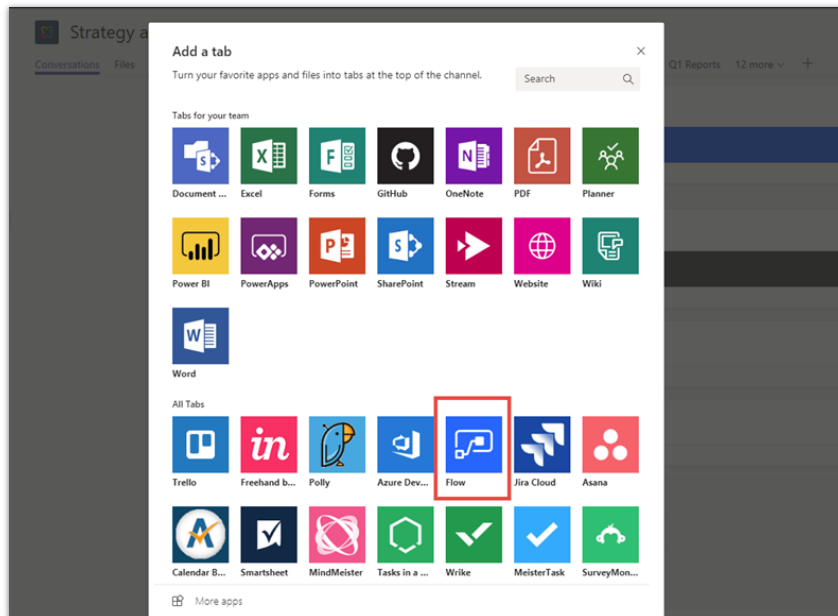
## Flow tab in Teams

To get started, navigate to the Strategy and Planning team in Teams and add the Flow tab to the General channel. To do so, select the Add a tab (+) button.



### Add a tab

Next, select **Flow** from the **All Tabs** category. Finish the installation by choosing **Install**, followed by **Save**. If prompted, sign in.

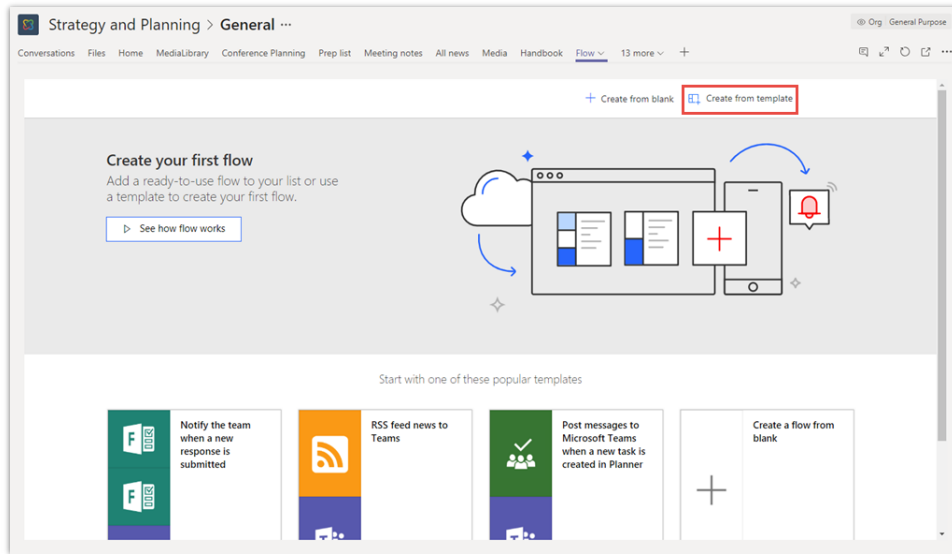


### Select from all tabs



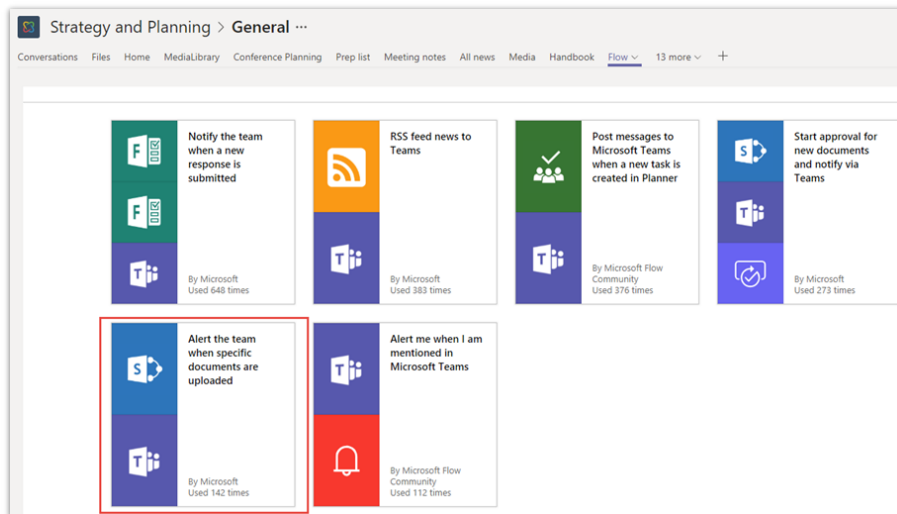
## Create a flow

Once you've signed in to Microsoft Flow, choose to create a flow from blank or select from a template. With Microsoft Flow, you can connect your team to a wide variety of services like SharePoint, Microsoft Forms, Twitter, and UserVoice. Select **Create from template**.



### Create from template

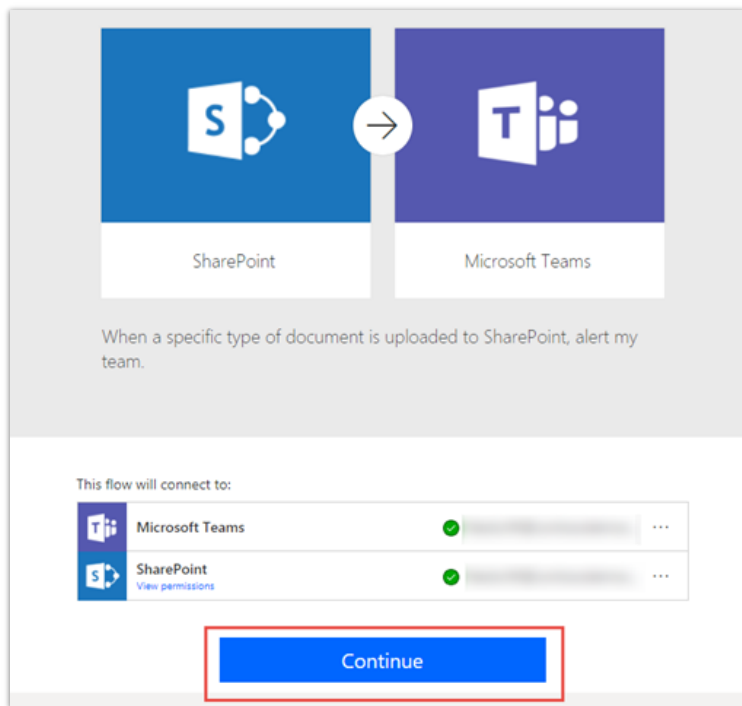
Now choose the template labeled **Alert the team when specific documents are uploaded**.



### Select template

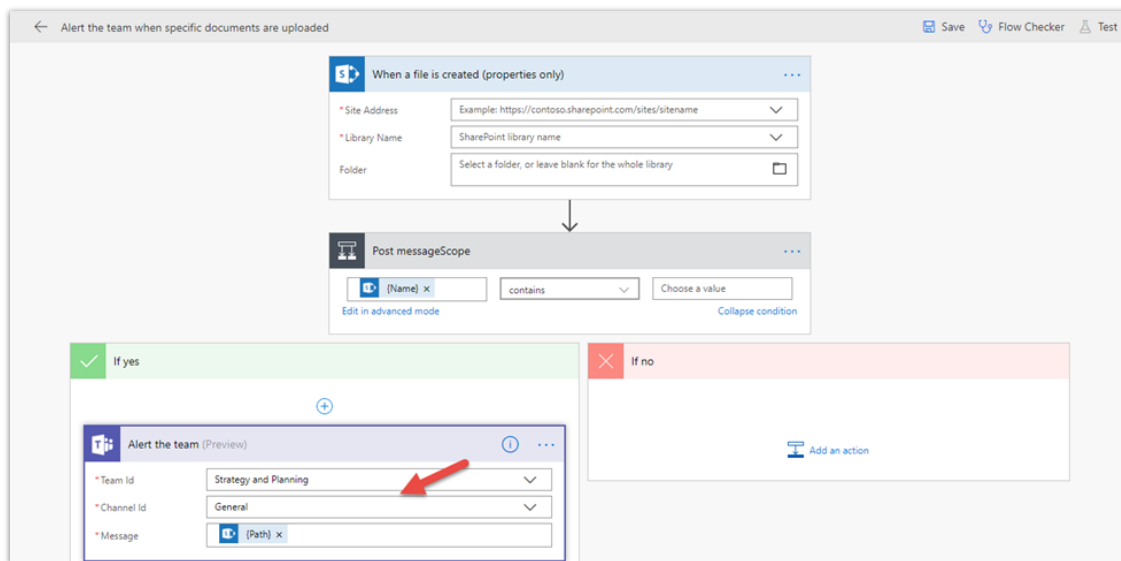


When prompted, verify your connections and select **Continue**.



### Select Continue

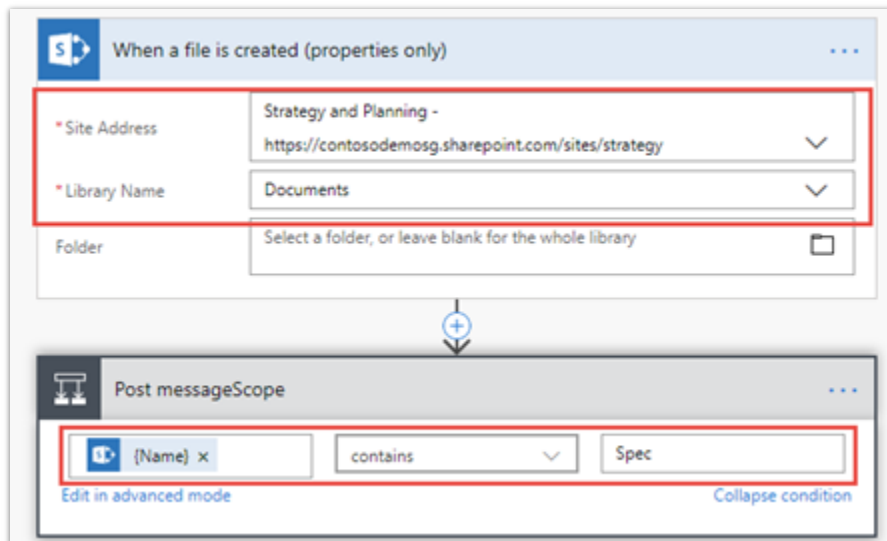
In the Microsoft Flow designer, the Teams action, Alert the team, is pre-populated with your current Team and Channel.



### Set the Yes branch action setting

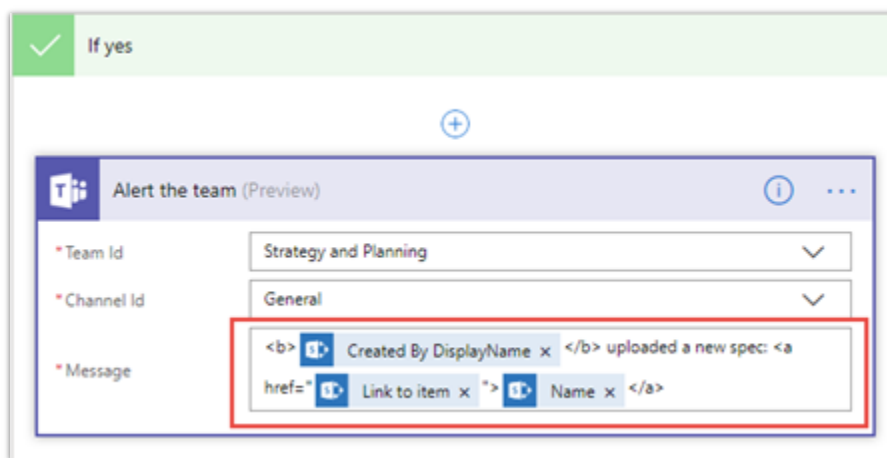


Choose a Site Address and Library Name for the trigger—when a file is created (properties only). In this example, we'll choose the Strategy and Planning site and the Documents library. In the Condition, we'll Alert the team when the file name contains "Spec."



*Flow condition*

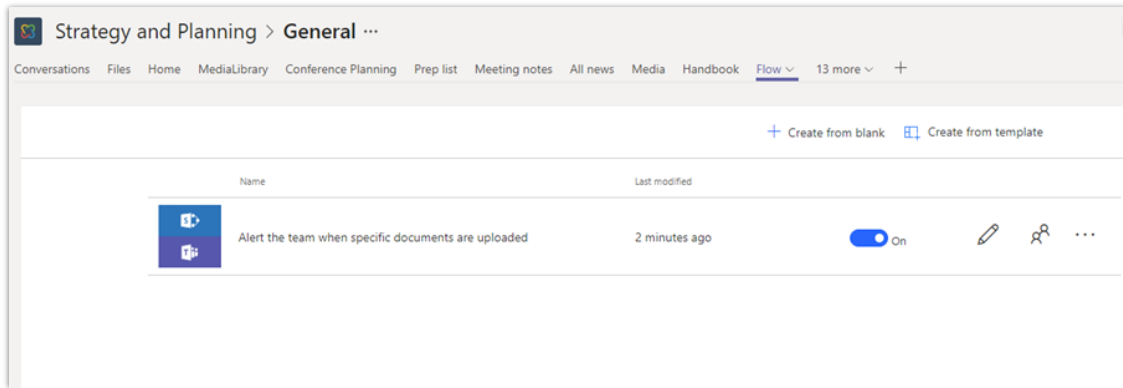
Finally, in the Alert the team action, customize the message to look like the following:



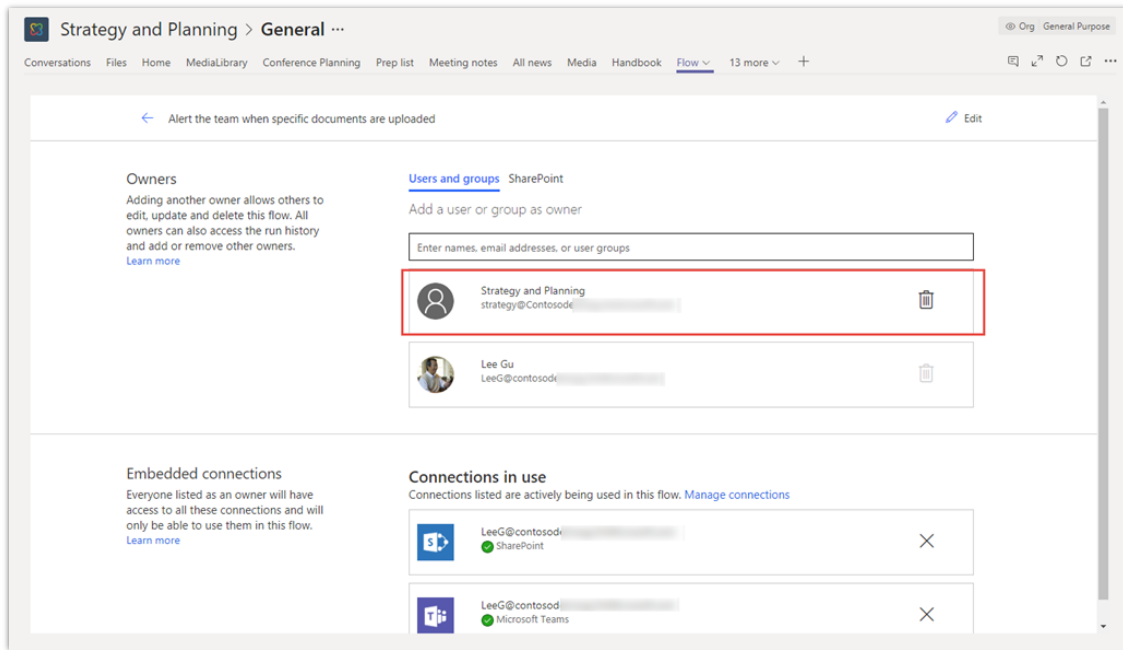
*Message content*



Save and then close the flow by choosing **Save**. Once the flow is saved, it is automatically shared with the team and any member of the team can edit the flow.



### List of flows

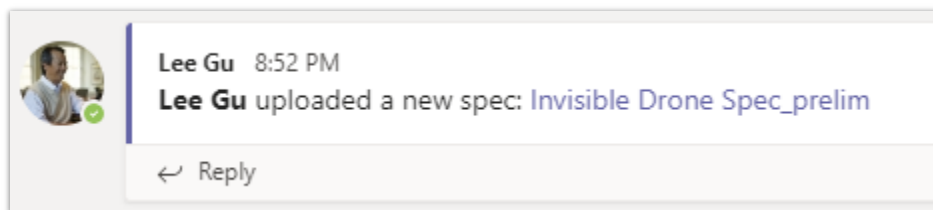


### Team ownership





When a new document containing the word “spec” is uploaded, a new message is posted to the channel with a link to the file and the text you set in the flow.

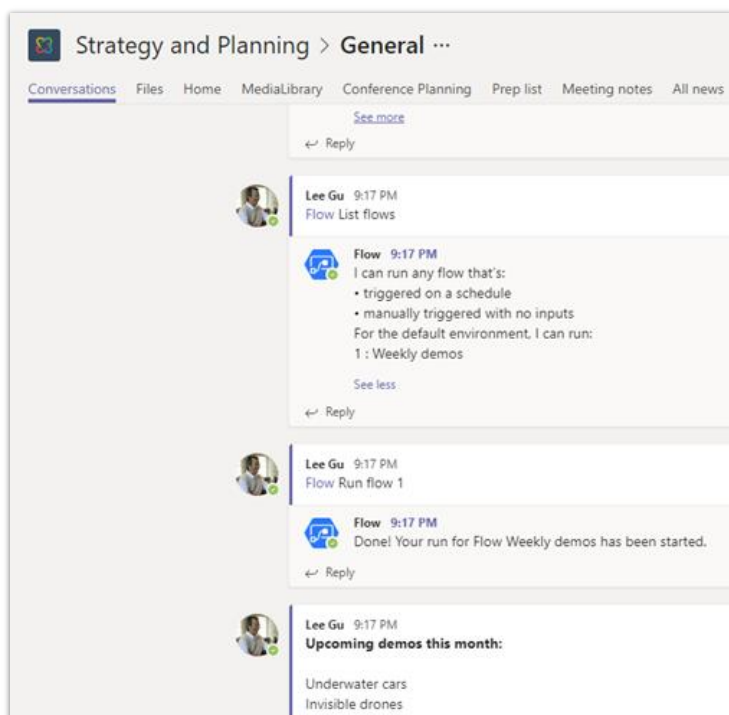


*Message posted*

### Use the bot to launch flows

Just like the personal app, the Flow tab includes a bot that enables you to run manual flows and those triggered on a schedule. Let’s suppose that we have a flow that runs weekly and posts a message to the team reminding everyone of upcoming tech demos. You can check out [this blog post](#) on how to create such a flow. With the Flow Bot, you can run this flow immediately.

In the Conversations tab, enter @Flow followed by the command `List flows`. Once you get back a list of flows, enter the command `Run flow` followed by the index of the flow you want to run. For example, `Run flow 1`.



*Bot messages*

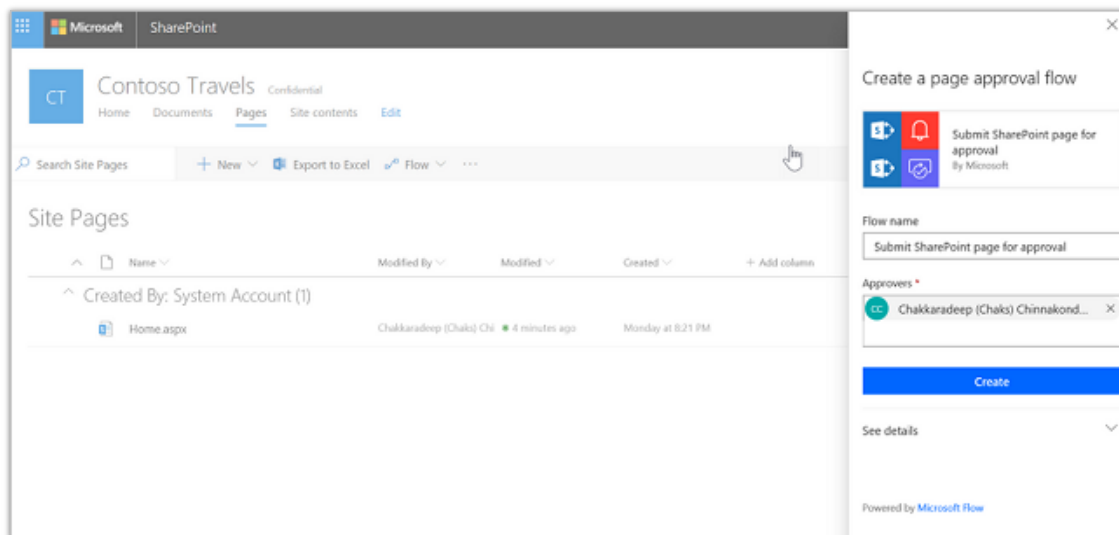
## Customize SharePoint page approvals with Microsoft Flow

For any modern SharePoint site, owners can configure page approvals to improve the standard publishing process for the site. After adding a page approval flow, new and updated pages will not be published directly. Instead, whenever a change is made to a page, it's put into pending mode and then submitted for approval. This in turn results in a new approval item for the designated approvers. An approver reviews changes and then either approves them directly in SharePoint by using the embedded Microsoft Flow experience or responds via the approvals center. Responses are done by phone or directly from email. When an approver responds, the content author is notified, the change is published, and then the page is updated.

Read more about how [page approval flows](#) work and how to [configure page approvals](#).

### Configure page approval

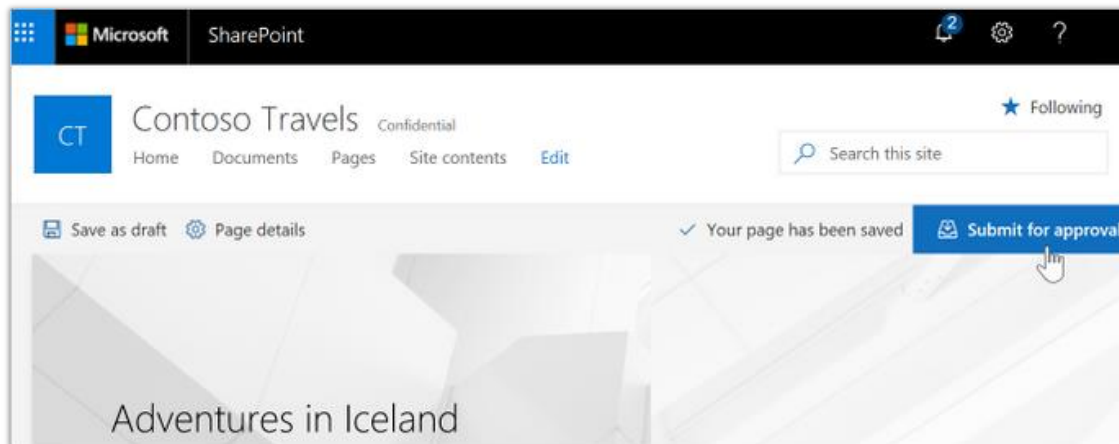
Site owners configure page approval flows from the **Flow** menu of a page's library.



*Create page approval flow*

## Submitting a page for approval

Once the page approval is configured, authors submit them for approval. The publish button is replaced by a submit for approval button.

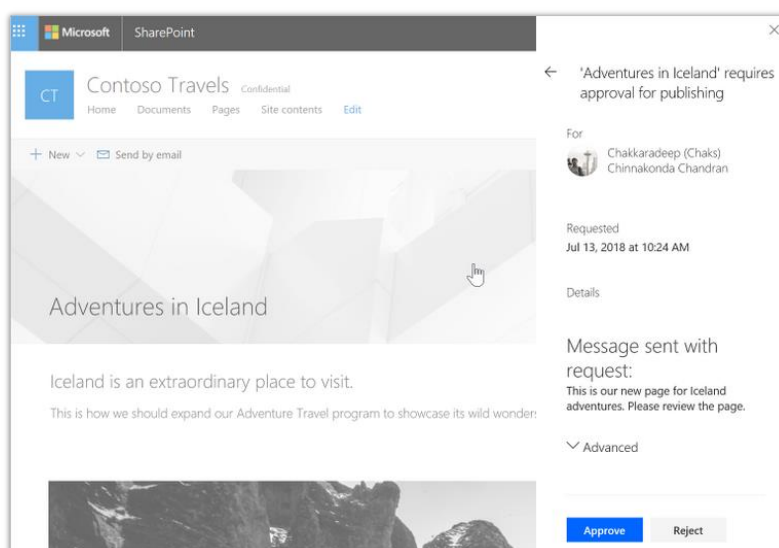


### *Submit page for approval*

The page is published after it is approved. The page goes back to draft status if it is rejected.

## Approving a page

Approvers get an email regarding page approval requests. They can either approve the page directly in the email (in email clients that support actionable messages) or open the page from the email to review, and then approve the page in SharePoint.



### *Approve page*

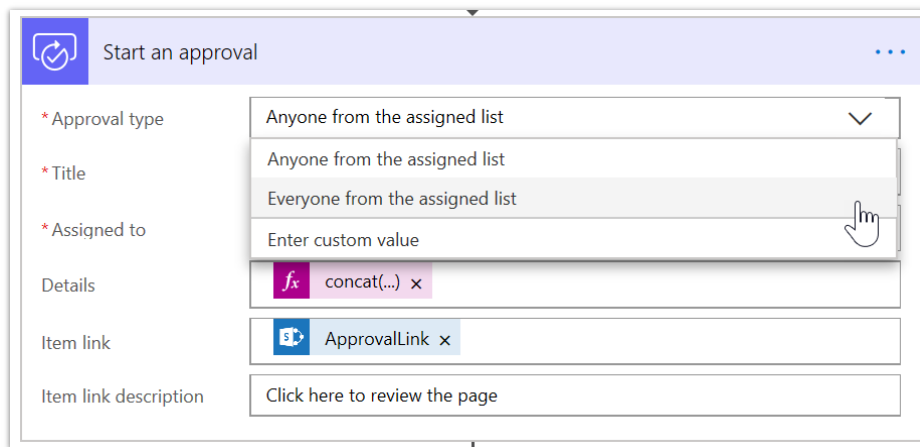


The changes become visible to all readers of the site after the approval flow completes.

### Customizing the page approval flow

Since page approvals use Microsoft Flow behind the scenes, the page approval flow is available to site owners to modify and add any custom business process items in the flow. After creating the flow, the site owner can select **Flows** > **See your flows** in the pages library to find the page approval flow.

For example, the default approval type is set to **anyone can approve**. Site owners can modify the flow and change the approval type to **everyone must approve** if that's the requirement.



The screenshot shows a 'Start an approval' dialog box with the following fields and values:

- \* Approval type:** A dropdown menu is open, showing three options: 'Anyone from the assigned list', 'Everyone from the assigned list', and 'Enter custom value'. A mouse cursor is hovering over 'Everyone from the assigned list'.
- \* Title:** 'Anyone from the assigned list'
- \* Assigned to:** 'Enter custom value'
- Details:** A formula bar containing 'concat(...)' with a close button.
- Item link:** 'ApprovalLink' with a close button.
- Item link description:** 'Click here to review the page'

#### Change approval type

#### Known issues

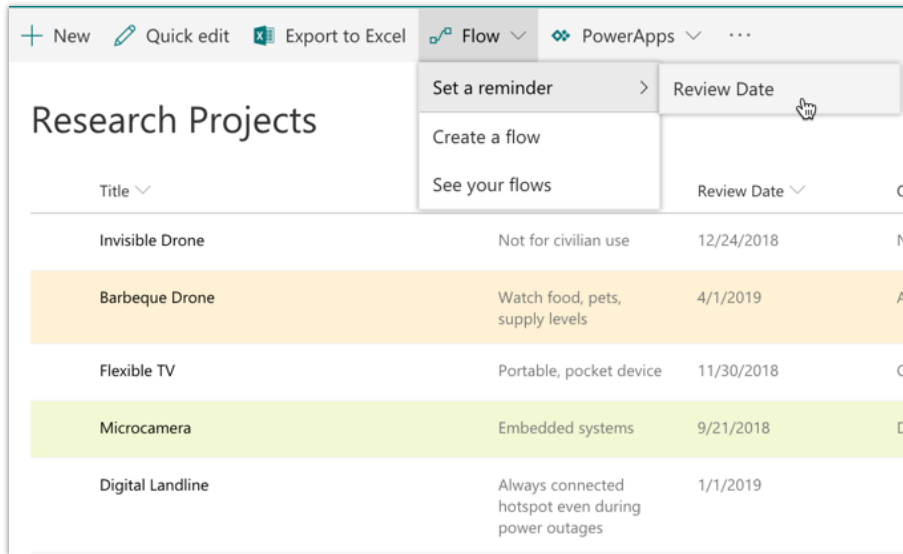
- If the page is checked out by another user and you (the author in this case) submit the page for approval, the page will not notify and proceed with the approval. The flow will run and send an email indicating to the author that an error occurred in publishing the page.
- If you have only major versions enabled for the Site Pages library, submit for approval results in the following error: `Could not complete that action: The type of data at position 0 is different than the one expected.`
- In the UK region only, any tenants you create after March 2018 won't support this feature. We expect to have this resolved by the end of September. [See this thread](#) for more information.

#### SharePoint Remind Me

Personal productivity is essential to teamwork. SharePoint lists and libraries have long allowed you to define custom metadata columns to track dates. We now are releasing a new capability

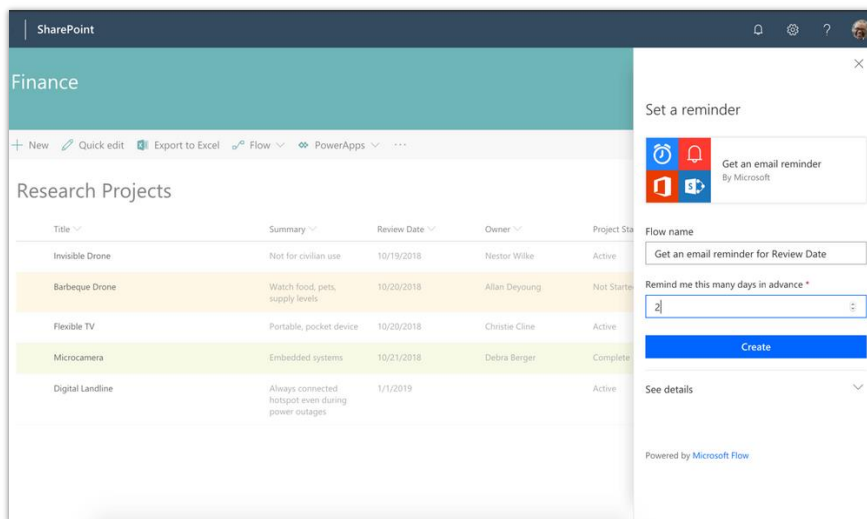
that lets you set reminders for any of these dates. You'll be able to receive a personal email alert x days in advance of a date on any document or item in SharePoint.

To create the reminder flow, your list or library should have at least one date/time column in the current view. You'll then be able to create a reminder by selecting the **Flow > Set a reminder** menu item.



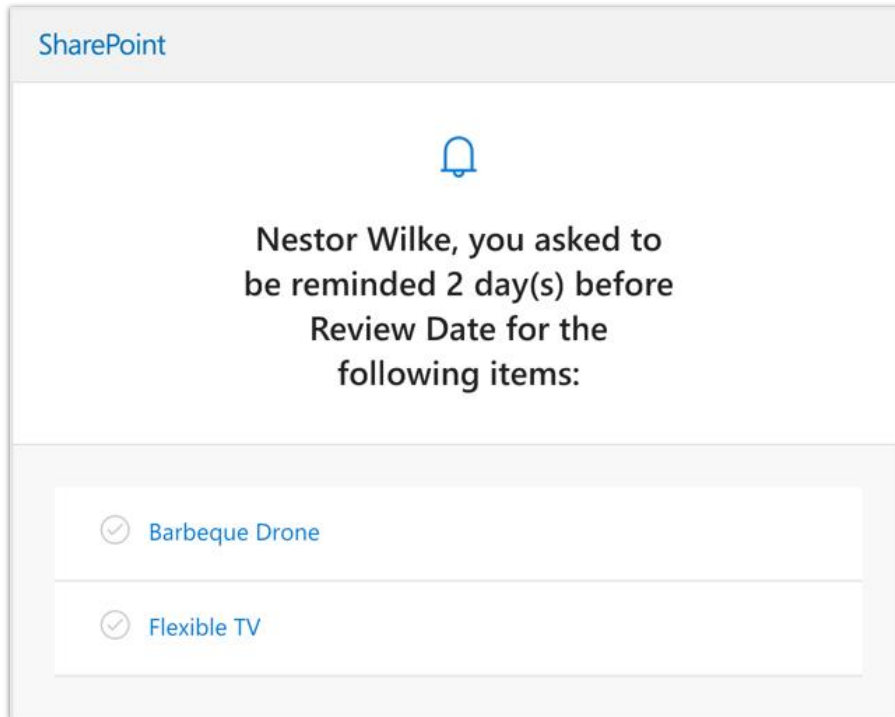
*Flow menu*

You can enter the number of days in advance for the reminder, based on the selected date column.



*Reminder panel*

Based on your selection, you'll get an email from Microsoft Flow for any items or documents x days in advance of the selected data column value.

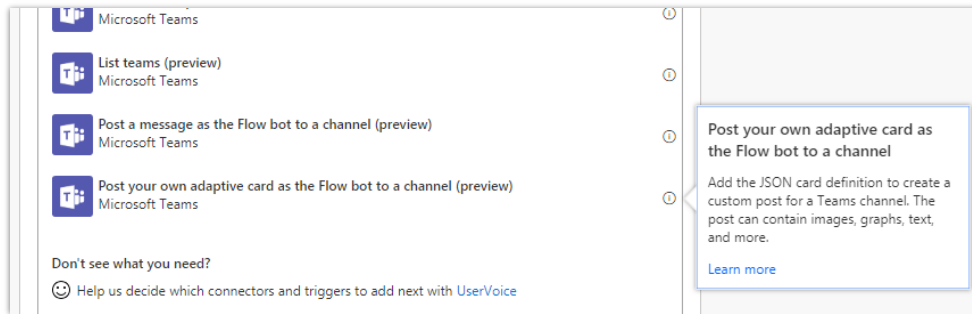


#### *Reminder email*

Once the flow is created, it can be edited from the Microsoft Flow portal. You can modify **days in advance**, or add additional actions. Read more about this feature in the [SharePoint documentation](#).

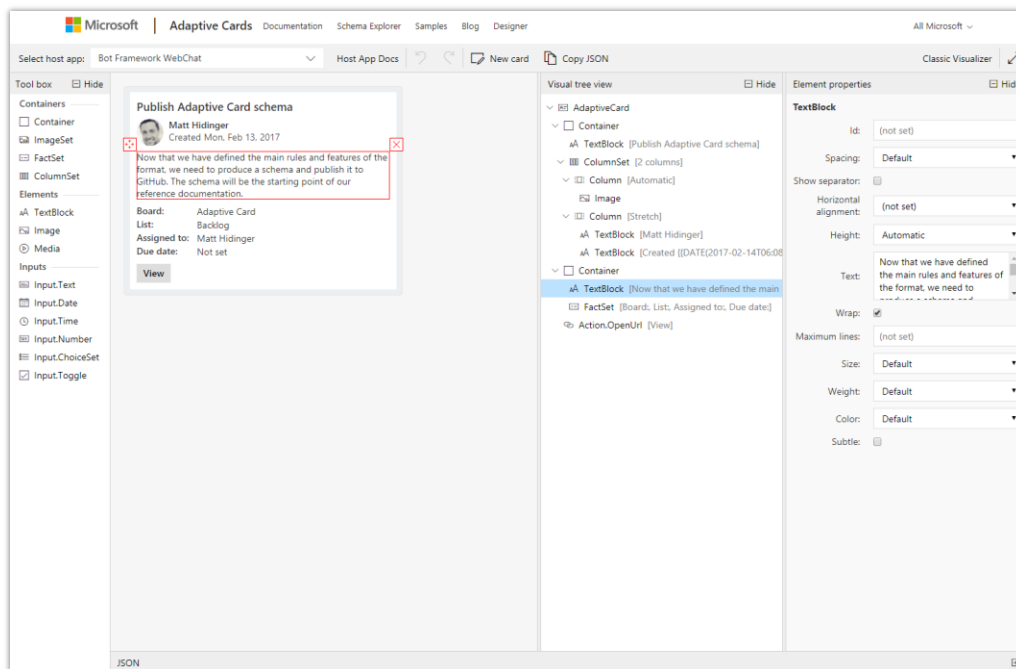
## Adaptive cards for Microsoft Teams

You can now post your own *adaptive card* as the Flow bot to a channel. An adaptive card is a way to present richly formatted content directly into a Microsoft Teams (Teams) conversation. Adaptive cards can contain components like images, graphs, richly formatted text, and more. To get started, select the new action on the Teams connector:



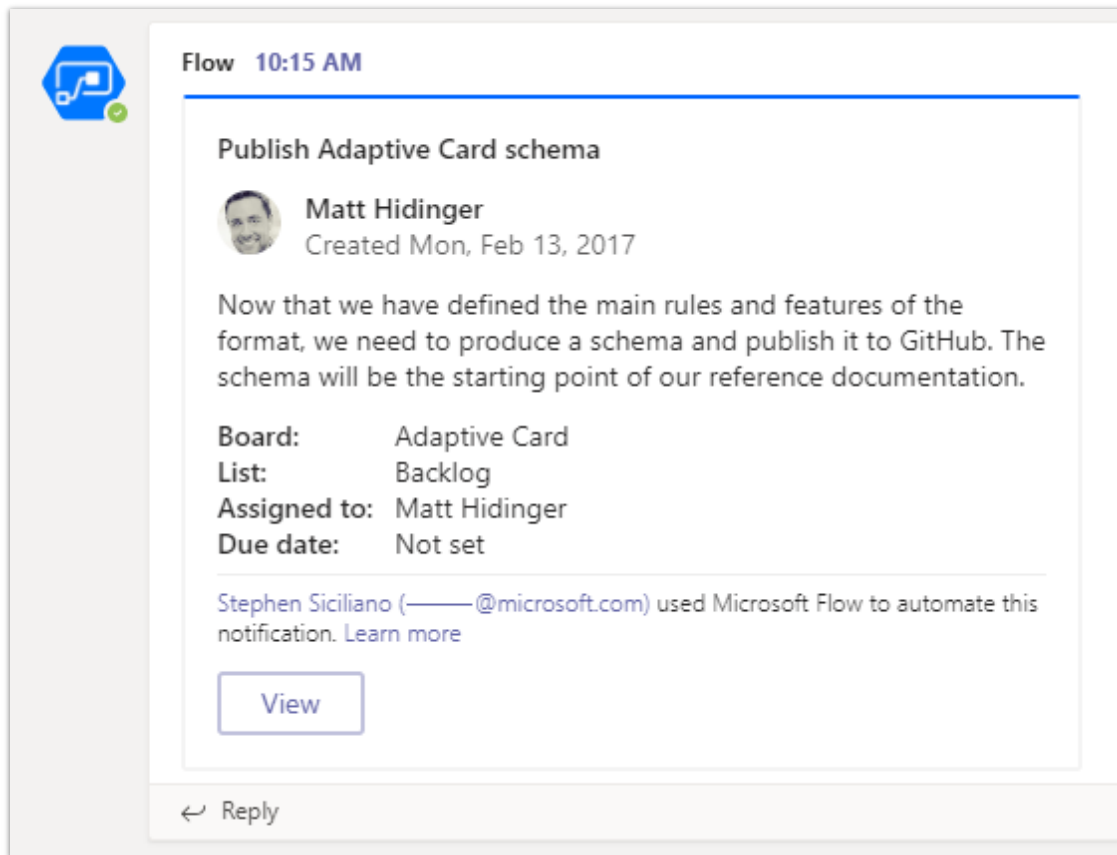
### List of Teams actions

Adaptive cards use a common JSON format that you can use across many different channels. However, you don't need to author this JSON by hand - you can use the [rich drag-and-drop designer on the Adaptive Cards website](#) to build your card.



### Adaptive card designer

Once you have added all of the elements that you want on the card, open the JSON pane at the bottom and copy everything there. Then, paste that content into the **Message** field on the action in the Microsoft Flow designer. When the action runs, a nicely formatted adaptive card appears in the Teams channel you selected:



### *Card in Teams channel*

In addition to posting an adaptive card, you can also post a simple message as a bot to a Teams channel. These messages can come from the Flow bot instead of your user account. In addition, these messages can contain @mentions of other users, so they will be notified when you post. To create an @mention you need to surround their email address or user ID with the <at> tag. For example:

```
Hello <at>stephen@example.com</at> - your request has been completed!
```

### **OneDrive for Business Flow launch panel**

Just like with the [Flow Launch Panel in SharePoint](#), users will be able to run flows on selected files from OneDrive for Business. This enables the invoker to bring in their own credentials, especially for flows that may have been created by IT, and get prompts for runtime inputs like Approver or Message, which can be of type Text, File, Email, Boolean, or Number.



## OneDrive for Business request sign-off

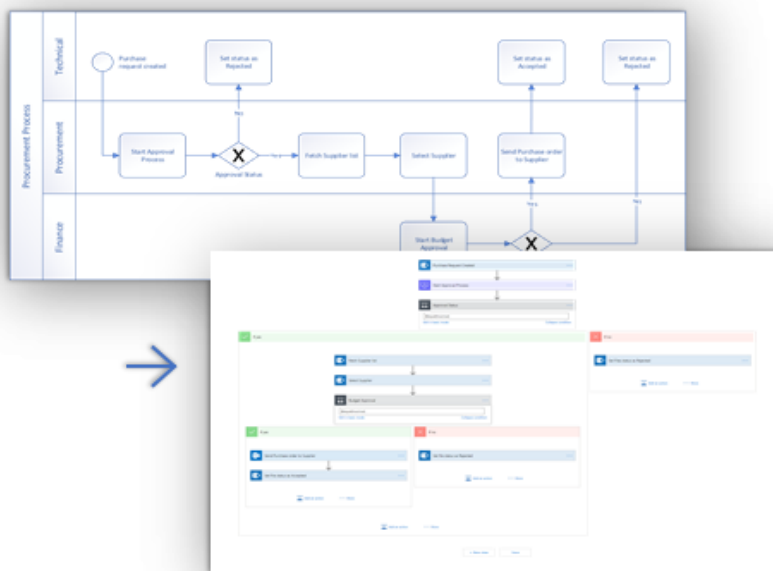
Through an embedded Flow launch panel experience, users will be able to create and run an out-of-box flow to send sign-off requests to any user in their tenant along with a message. Once the approver responds, the initiator is sent a confirmation email with feedback from the approver.

## Flow for SharePoint admin scenarios

As covered by [this idea](#), site owners will be prompted to create and run an approval process whenever they want to join a hub site in their tenant. Furthermore, for organizations that have turned off self-site creation, users can now request a site to be provisioned, which will initiate a request to SharePoint administrators before being provisioned.

## Design flows in Visio (Public Preview)

Microsoft Visio enables enterprises to capture their business processes using its rich modeling capabilities. Anyone who creates flowcharts or SharePoint workflows can now use Visio to design Microsoft Flow workflows. You can use Visio's sharing and commenting capabilities to collaborate with multiple stakeholders and arrive at a complete workflow in little time. As requested [here](#), you can publish the workflow to Microsoft Flow, then supply parameters to activate it.



*Screenshot of Visio*

Many processes share a common model but have minor variations throughout an organization. This allows an organization to create a master workflow model and adjust instances with specialized parameters.

This feature is available to Visio Online Plan 2 subscription users. [Go here to read more](#) about how to set up and use the Visio integration.

## Building the platform

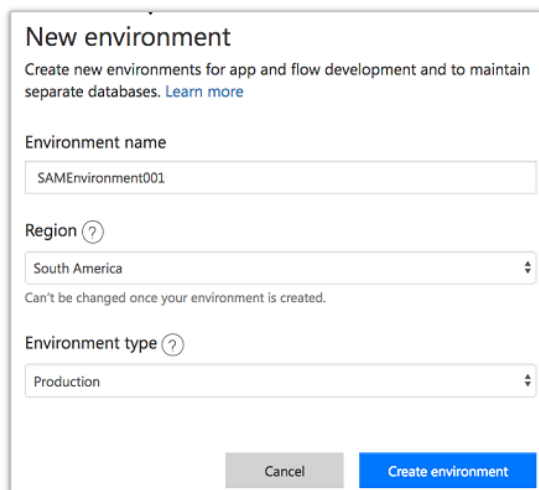
Microsoft Flow is part of the single maker experience for the Business Applications platform. There are two underlying concepts:

1. A single security model for all resources.
2. A common approach to solution management.

Makers can now distribute their applications and flows the same way, meaning they can share their flows—including recurring flows—within their organizations based on security roles in Common Data Service for Apps. Makers can also author and invoke flows from PowerApps Studio.

## South America region

The South America geography is now available for Microsoft Flow. This means that you can create environments in South America, and all the flow customer data will be maintained solely within the Americas, and key assets will be primarily located in Brazil. You can create an environment in the South America geography by selecting that option in the **New environment** dialog:



**New environment**  
Create new environments for app and flow development and to maintain separate databases. [Learn more](#)

Environment name  
SAMEnvironment001

Region (?)  
South America  
Can't be changed once your environment is created.

Environment type (?)  
Production

Cancel Create environment

*New environment dialog*

With this deployment, Microsoft Flow now has full parity with all Dynamics 365 regions in our commercial offerings. To learn more about our commitments to storing data, visit the [Microsoft Trust Center page for Microsoft Flow](#).

## Microsoft Flow supports Intune

We have now shipped a new version of the Microsoft Flow mobile application for Apple iOS and Android that supports Microsoft Application Management (MAM) without device enrollment. Using MAM allows IT administrators to create and enforce mobile data policies to safeguard company data.

### Support for Intune is important

Whether a customer has adopted a Bring Your Own Device (BYOD) strategy or is providing employees with a corporate phone, they are looking for more control over the data that resides on a mobile device. Organizations may want to restrict how data moves on the device and ensure the data is removed, should the employee leave the organization.

### MAM definition

MAM allows organizations to create policies that govern how an application is used within a tenant. This can include enforcing app data encryption, limiting the ability to copy/extract data to only approved applications or enforcing a PIN on a device.

### Your device doesn't need to be enrolled

Intune MAM without enrollment does not require a user to enroll their device in Intune MAM. However, the Company Portal application needs to be installed on the device to enforce policies. A user does not need to sign in to the Company Portal application for MAM to function. The Company Portal application can be downloaded from the Apple and Android app stores.



*Company Portal*

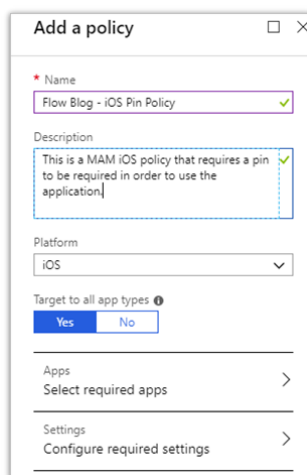
## Required version of the Microsoft Flow mobile app

Version 2.31.0 of the app is required. Our deployments for iOS have reached 100% coverage to all regions. For Android, we are staging our rollout so there may be a delay in this version of the app being available.

## Set up a MAM policy

An administrator can create policies from the Azure portal. For this example, we will create an App protection policy that enforces a flow user to require a PIN when using the Microsoft Flow mobile application.

- From the Azure portal, navigate to **Intune App Protection**.
- Select **App protection policies – Create Policy**.
- An **Add a policy** form will appear that requires a **Name**, **Description**, and **Platform**.



The screenshot shows a form titled "Add a policy" with the following fields and options:

- Name:** Flow Blog - iOS Pin Policy (with a green checkmark)
- Description:** This is a MAM iOS policy that requires a pin to be required in order to use the application (with a green checkmark)
- Platform:** iOS (dropdown menu)
- Target to all app types:** Yes (selected), No
- Apps:** Select required apps (with a right arrow)
- Settings:** Configure required settings (with a right arrow)

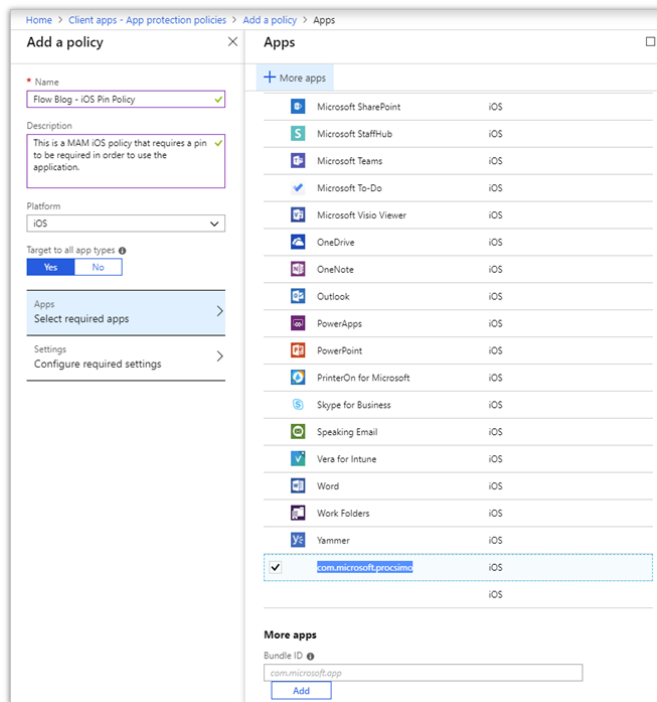
### *MAM policy*

We now need to select an application that we want to manage. Currently, the Microsoft Flow application can be identified as one of the following:

- **com.microsoft.procsimo (iOS)**
- **com.microsoft.flow (Android)**

**NOTE** A more friendly “Microsoft Flow” display name will appear in this experience later this month.

- Ensure the appropriate application is selected based upon the platform that you are targeting. If you do not find it in the list of apps, search for it by typing the appropriate value into the **Bundle ID** field. Select the **Add** button to add this application as a required app, and then select **Select** to complete this configuration.

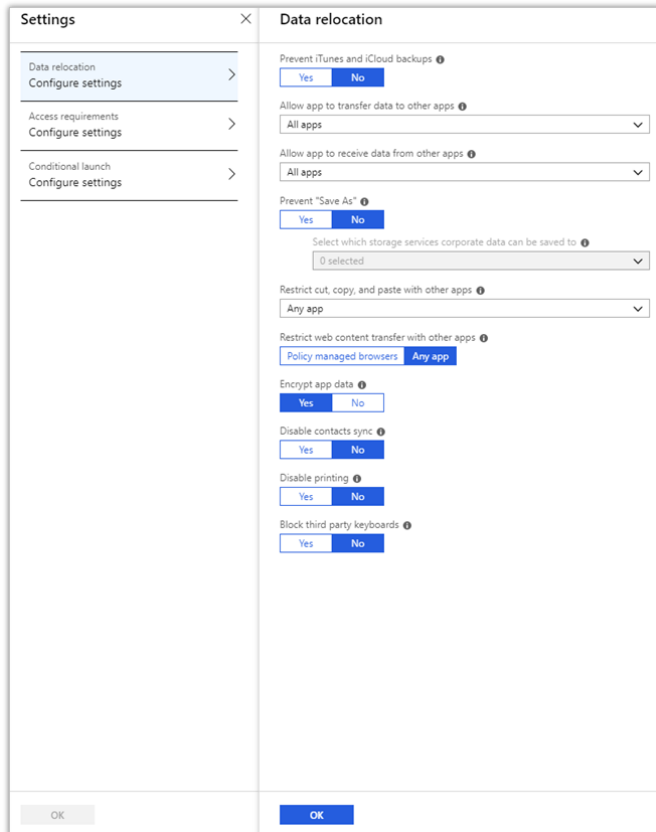


### Select required apps

- We now need to define our policy that will impose specific application behaviors by selecting **Configure required settings**.

- Within the **Configure required settings** experience, there are three areas that we need to configure: **Data relocation**, **Access requirements**, and **Conditional launch**. Let's start with the **Data relocation** settings. Since the Microsoft Flow app is not used to generate local data, we can use the default policy.

**NOTE** This policy has been used as an example. Please modify it to meet your organization's needs.



*Data relocation*

- Next, we are going to focus on **Access requirements** and can establish a policy like the one below. Once we are done configuring our **Access requirements**, we can select the **OK** button.

The screenshot shows the 'Access requirements' settings panel. The left sidebar has 'Access requirements' selected. The main panel contains the following settings:

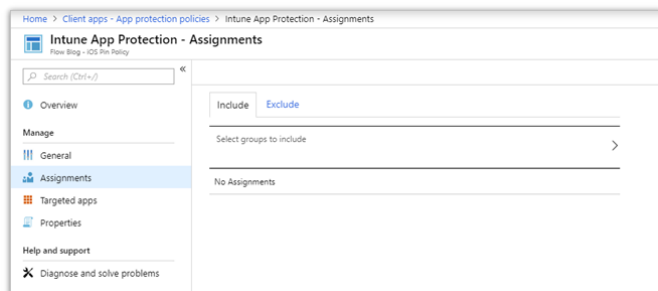
- Require PIN for access:** Yes
- Select Type:** Numeric
- Allow Simple PIN:** Yes
- PIN Length:** 4
- Allow fingerprint instead of PIN (iOS 8+):** Yes
- Override with PIN instead of biometric after (minutes):** Yes
- Inactivity timeout:** 30
- Allow facial recognition instead of PIN (iOS 11+):** Yes
- Disable app PIN when device PIN is managed:** Yes
- Require corporate credentials for access:** Yes
- Recheck the access requirements after (minutes):** 30

### Access requirements

**NOTE** When testing, you can lower the **Recheck the access requirements after (minutes)** setting to reduce the amount of time you need to wait for a prompt.

- In addition, we can also provide a **Conditional launch** configuration. For the purposes of this example, we will keep the default policy and you can select **OK** to complete this interaction.
- Select **OK** to close the **Settings** panel.
- Select **Create** to finalize the policy.
- Within our policy list, we should now see the policy that we just created.

- We now need to assign the Azure AD groups for which this policy should apply. We can assign access by selecting our policy and then by selecting **Assignments**.



### *Assignments*

To select an Azure AD group, select **Select groups to include**, and then select the appropriate group. For this example, we have created an Azure AD group and included members for whom we want these policies applied.

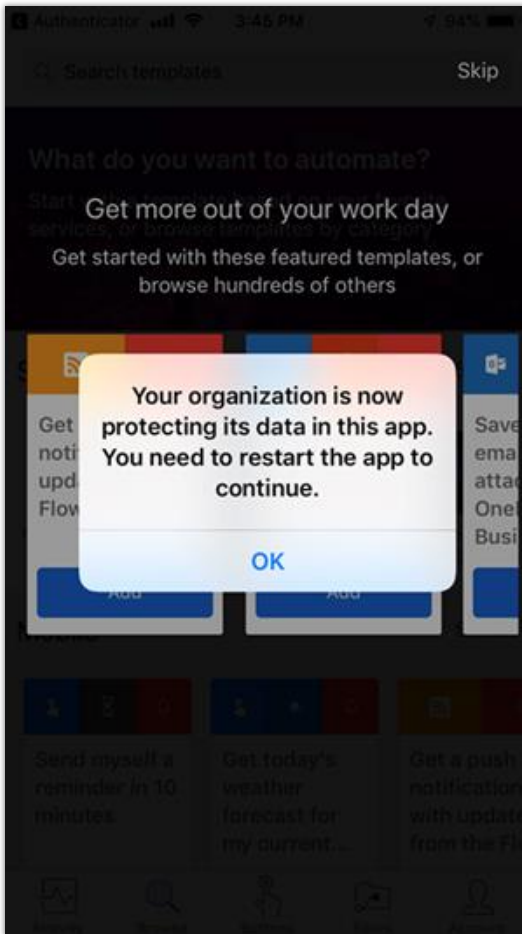
### Testing

We can now go ahead and test our MAM policy by signing in to the Microsoft Flow mobile app and following these instructions:

- Ensure you have the latest version of the iOS or Android app (**version 2.31.0** or later).
- Close the Microsoft Flow mobile app.

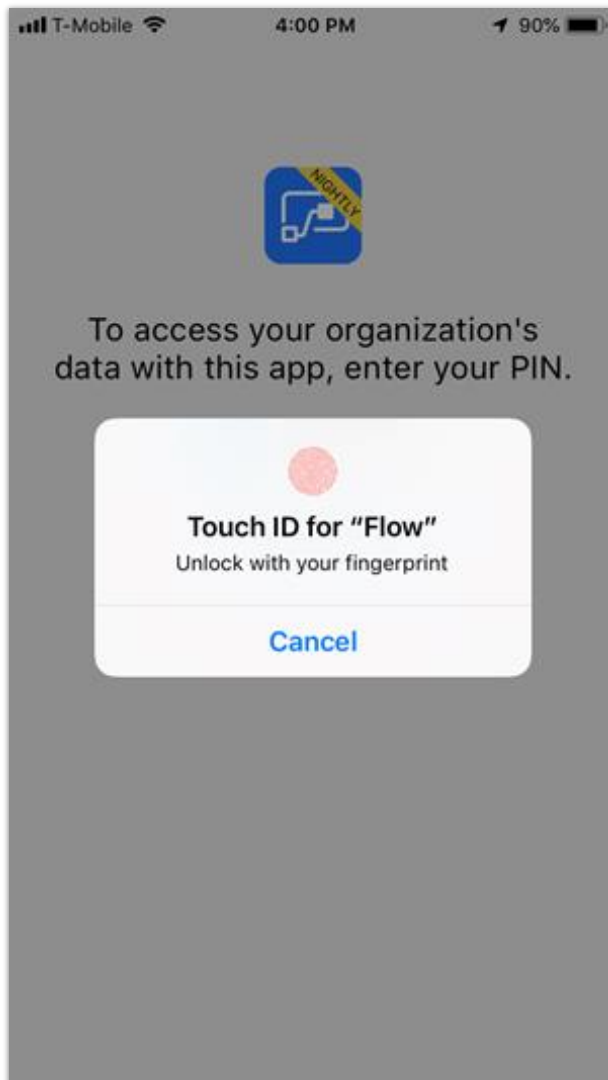


- Launch Microsoft Flow mobile app.
- You should be prompted with the following message:



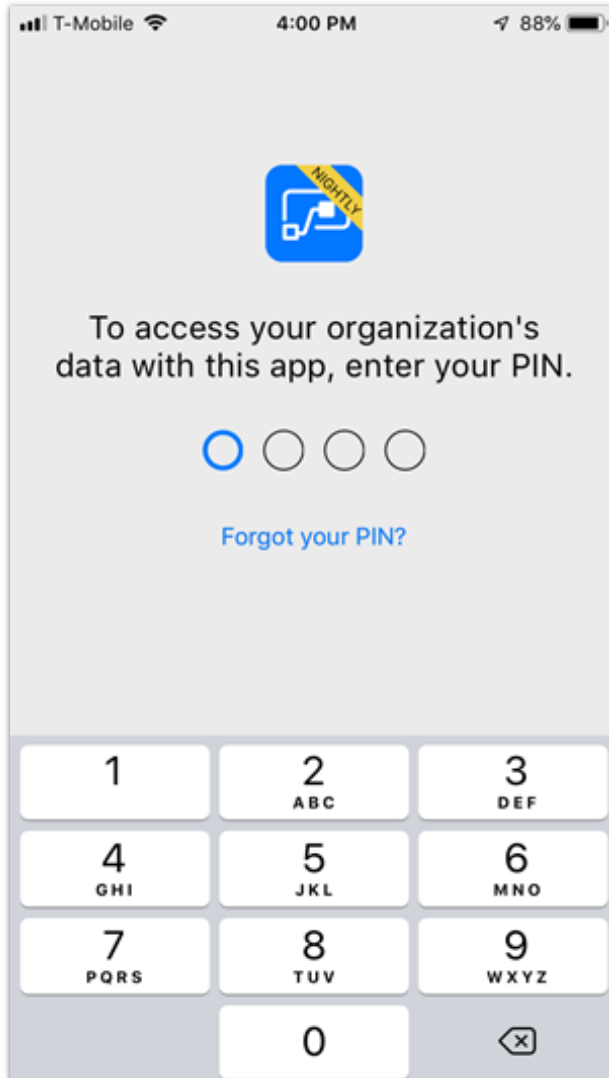
*MAM notice*

Since we opted to allow fingerprints when we created our policy, we can provide our fingerprint.



*MAM fingerprint*

Otherwise, a user will be required to set up and provide a PIN number.



*MAM PIN*

## Conclusion

MAM support has been a key ask by our customers who are using Intune App Protection to manage company data on mobile devices. By providing this support, we are aligning with Microsoft customer promises to ensure that organizations have a consistent way to manage their mobile data.

## Improved ALM for flows with solutions

In a recent [announcement](#), Microsoft shared news about a new application lifecycle management (ALM) capability for PowerApps and Microsoft Flow. This new capability is built upon Common Data Service (CDS) for Apps solutions, and allows you to bundle related flows (and apps) within a single deployable unit.

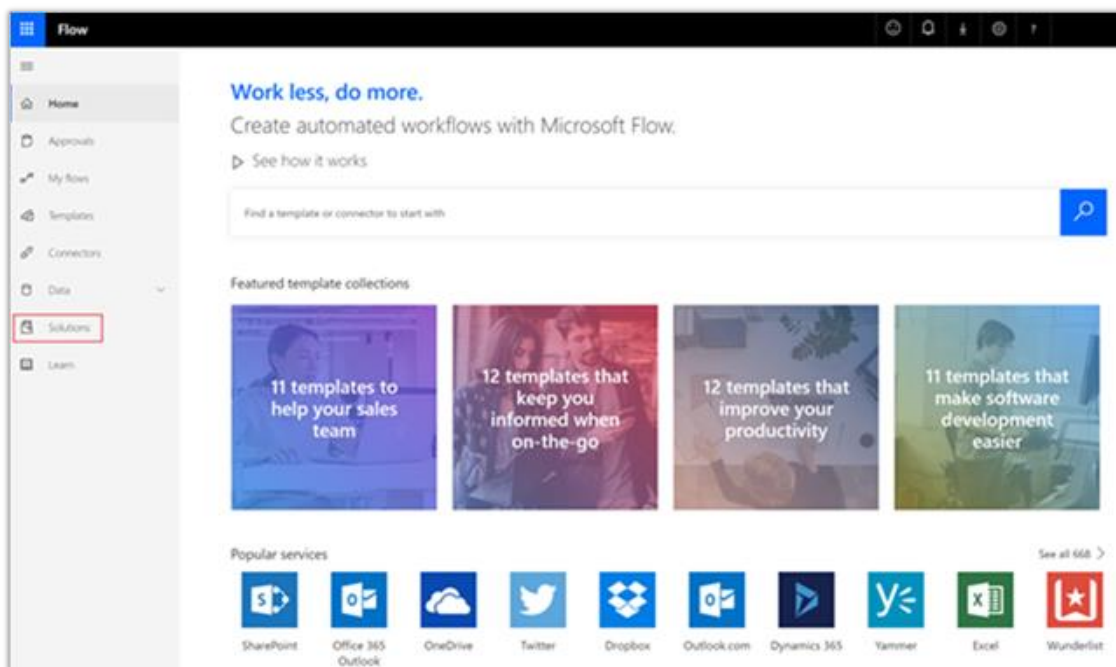
Previously, we provided the ability to export and import a single flow from one environment to another environment. While this feature was useful for promoting individual flows between environments, it required much effort to move multiple flows.

We have also received feedback from our customers regarding the ability to [logically group related flows](#) as they are being built and managing them. For example, you may have multiple flows that are part of a project you are working on. While working on, or managing these flows, you don't want to have to scroll, and then search for these flows when you want to access them.

Solutions address deployment needs by allowing you to export and import a set of flows (and apps). In addition, you can organize these flows within a single 'container,' which simplifies navigating and managing them.

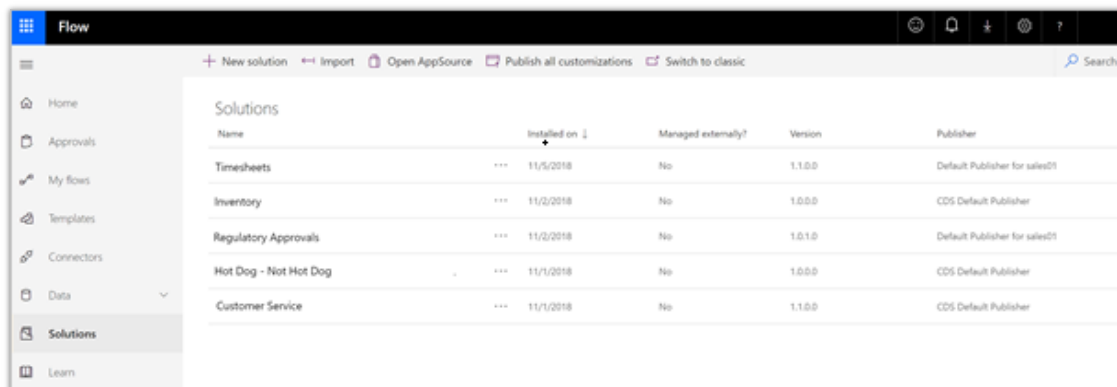
## Accessing solutions

A new **Solutions** link will appear within the left navigation of the Microsoft Flow portal. This experience is available in environments that have a Common Data Service database with version 9.1.0.267 or later. If you don't see **Solutions**, and you are the administrator of the environment, go to the [Microsoft Flow admin center](#) > **Environments** > **Select your environment** > **Details** tab. If you see a **Create my database** button, you will need to select that button to create a Common Data Service database to store the solution. If there is a database, you can check the **Instance version**.



## Accessing solutions

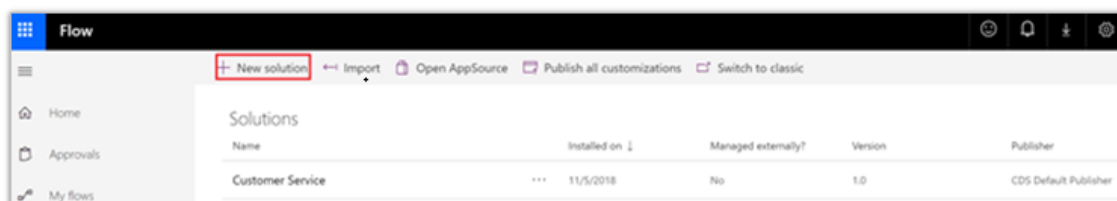
Selecting **Solutions** gives you a list of all solutions in your environment. As part of this experience you can see the **Date** it was created, the **Version**, and other details about the solution.



### Browsing solutions

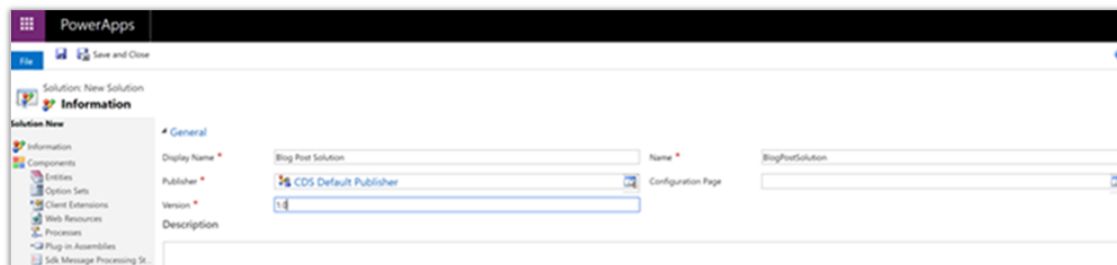
### Creating a new solution

To create a new solution to group your flows, from the Solutions experience, select the **New Solution** button.



### New solution

A new tab will open where you can provide the **Display Name**, **Publisher**, and **Version** of your solution. Once you have provided these details, select **Save** and **Close**.

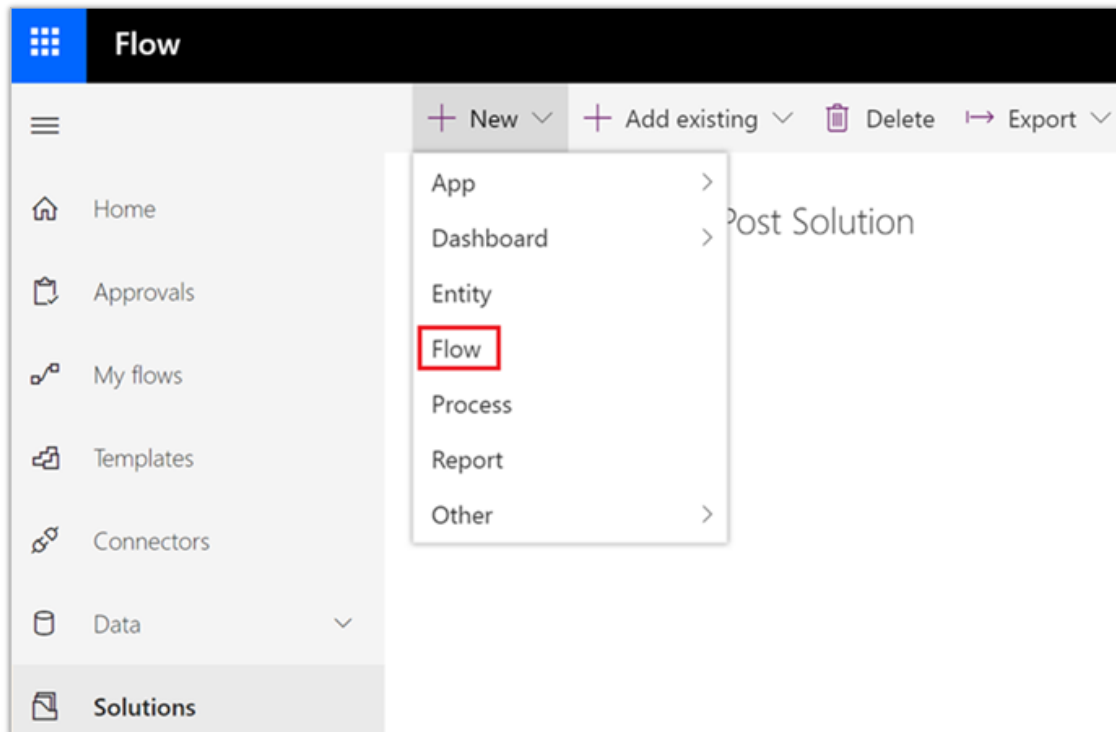


### Save solution



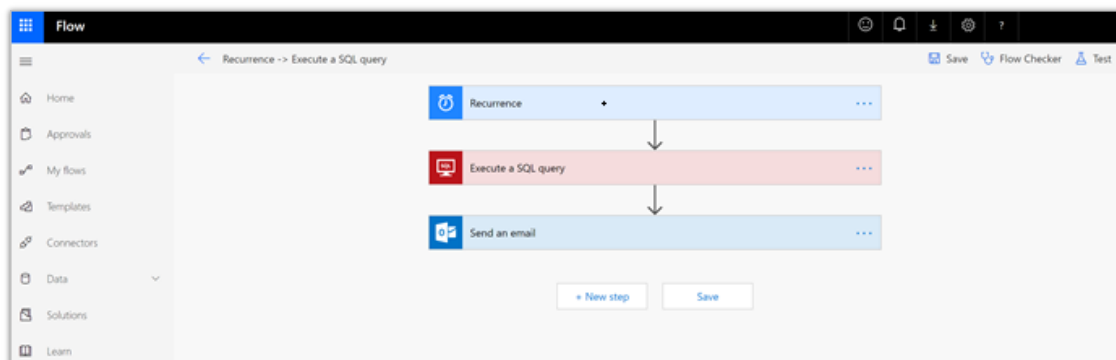
## Adding flows to a solution

From the Solutions experience, you can select your newly created solution and navigate to its default view. A context-aware menu will appear that allows you to add **New** and **Existing** assets to your solution. Select **New – Flow** to add a new flow to your solution.



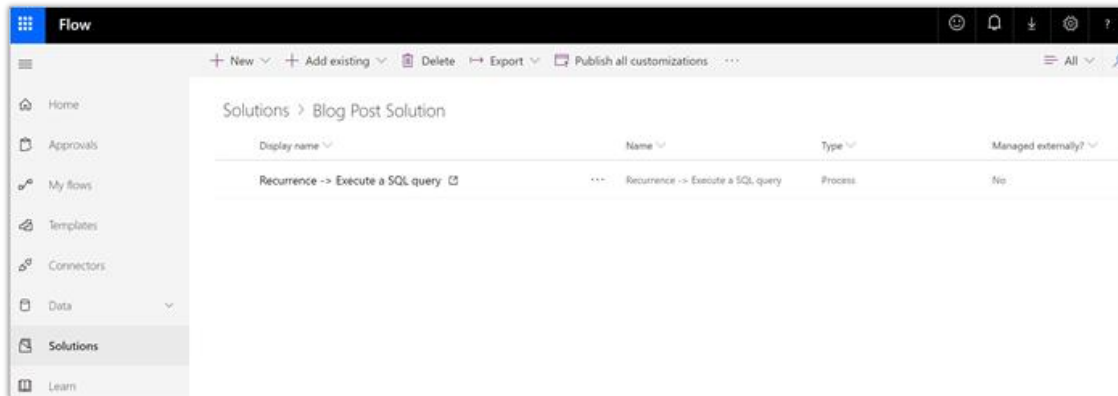
### *New flow*

A new tab will open that will take you to the flow designer where you can construct your flow and add your related trigger and actions. Once you are done editing your flow, press **Save** to save your flow.



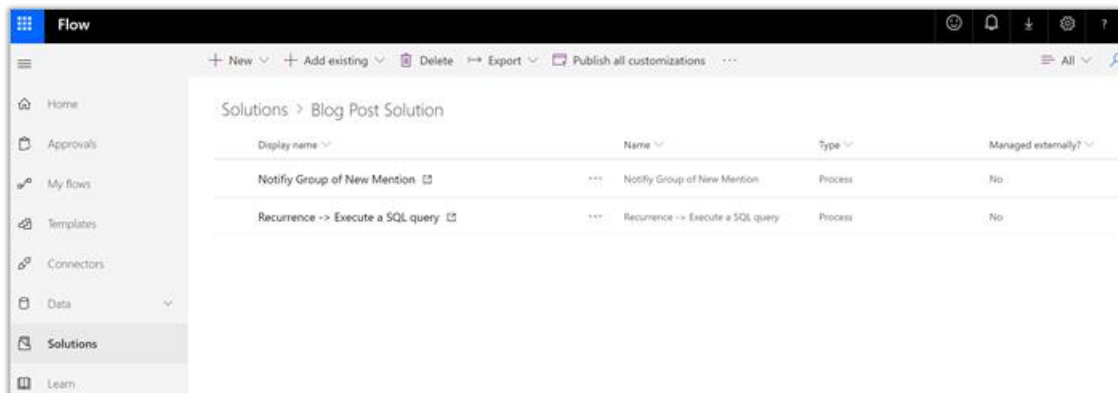
### *Save flow*

Once you have saved your flow, this flow will be part of your solution.



### *Flow in solution*

You can repeat these steps to add subsequent flows in your solution.

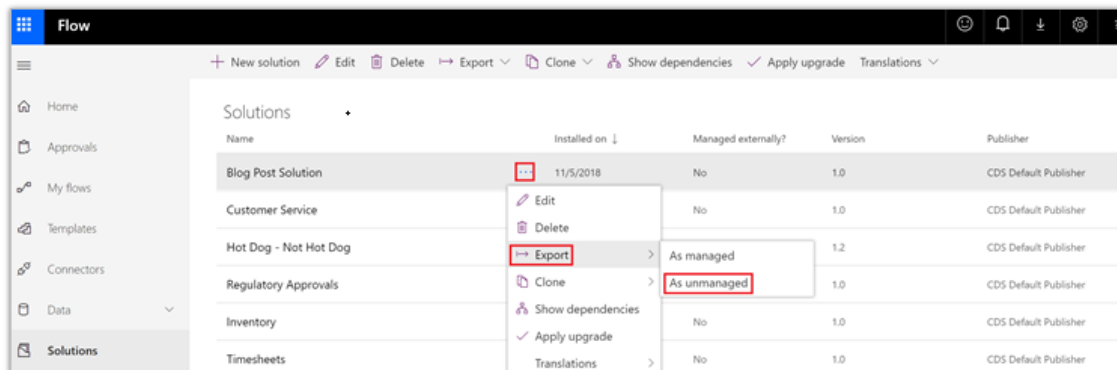


### *Multiple flows*



## Exporting your solution

An important aspect of ALM is you can validate if your flows work in a sandbox or test environment first, and then in a single action, move your flows to your production environment. Export your solution by finding it in your **Solutions** experience, selecting **...**, selecting **Export**, and then selecting **As unmanaged**.

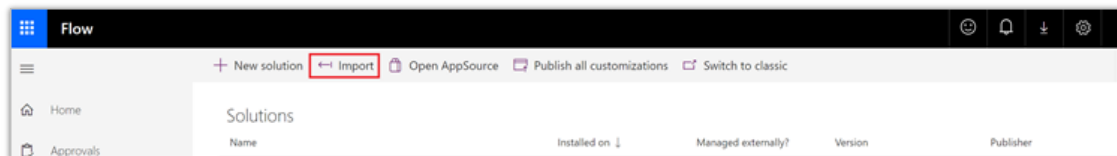


### Export

Once you select **As unmanaged**, a zip file will be made available for you that you can download and store locally.

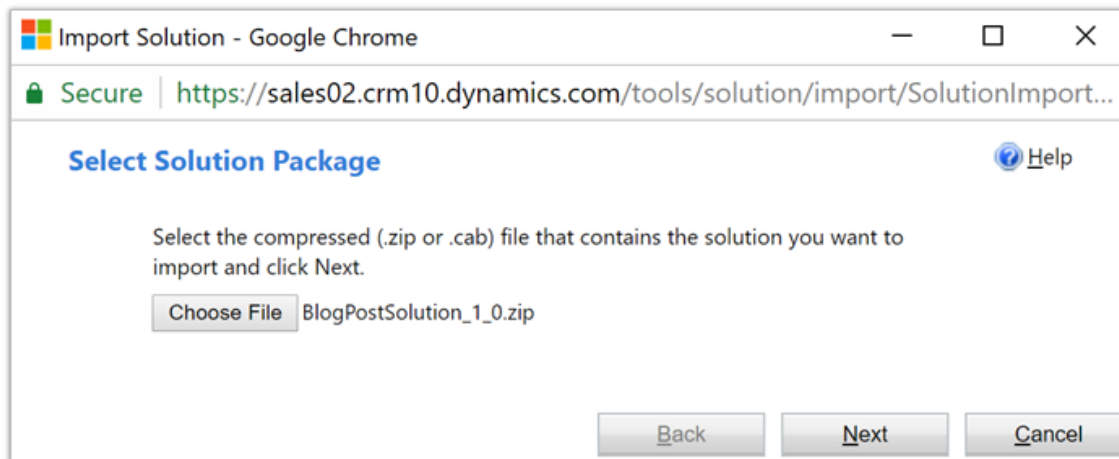
## Importing your solution

With your solution exported, you can now import it into another environment, such as a production environment. With your production environment selected from the environment picker, you can now choose to import your package by selecting **Import**.



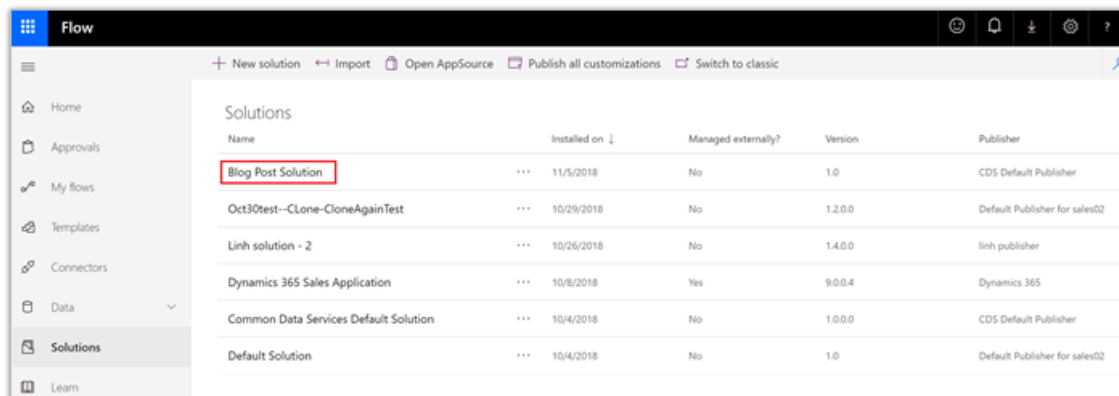
### Import

You now need to **browse** to select your solution package and then complete the wizard to load the solution.



### *Select package*

Once you complete the import process, you will find your solution deployed within your new environment.

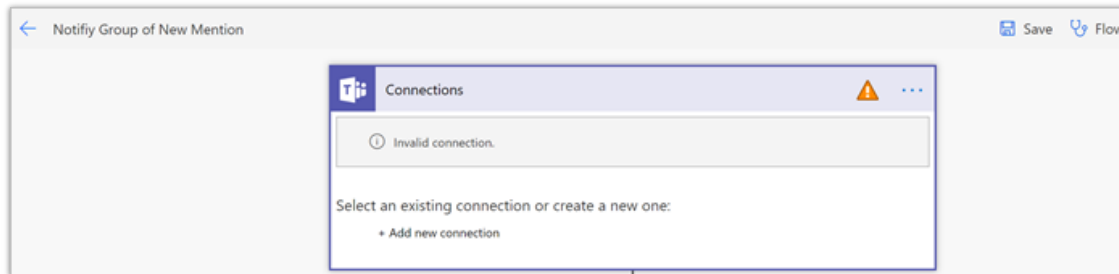


### *New solution imported*

## Configuring and enabling your solution

With your solution imported, there are still a couple of activities that you must perform:

- For each flow that you have imported, you need to wire up connections for your triggers and actions.



### Connections

- By default, when flows are imported, they will be in a disabled state since connections still need to be established. Upon establishing connections and saving the flow, the flow will become activated.

**NOTE** You cannot save changes to a flow that is activated. You need to deactivate it first either from the Solutions experience or from the flow maker portal by turning the flow off.

## Microsoft Flow Web APIs available

We are seeing greater demand from makers and administrators who want to automate application lifecycle management tasks and the permissions and governance of flows within a tenant. Last semester we released [this detailed guidance](#) about governance of Microsoft Flow, including [rich management connectors](#) that allow you to automate lifecycle tasks from Microsoft Flow.

Now, we're fully documenting all the APIs that organizations need to build additional tooling to streamline their processes—in whatever language they want. The APIs are based on the [Common Data Service for Apps Web API](#). They cover:

- List flows
- Create a flow
- Update a flow
- Get all users with whom a flow is shared
- Share or unshare a flow

- Export flows
- Import flows

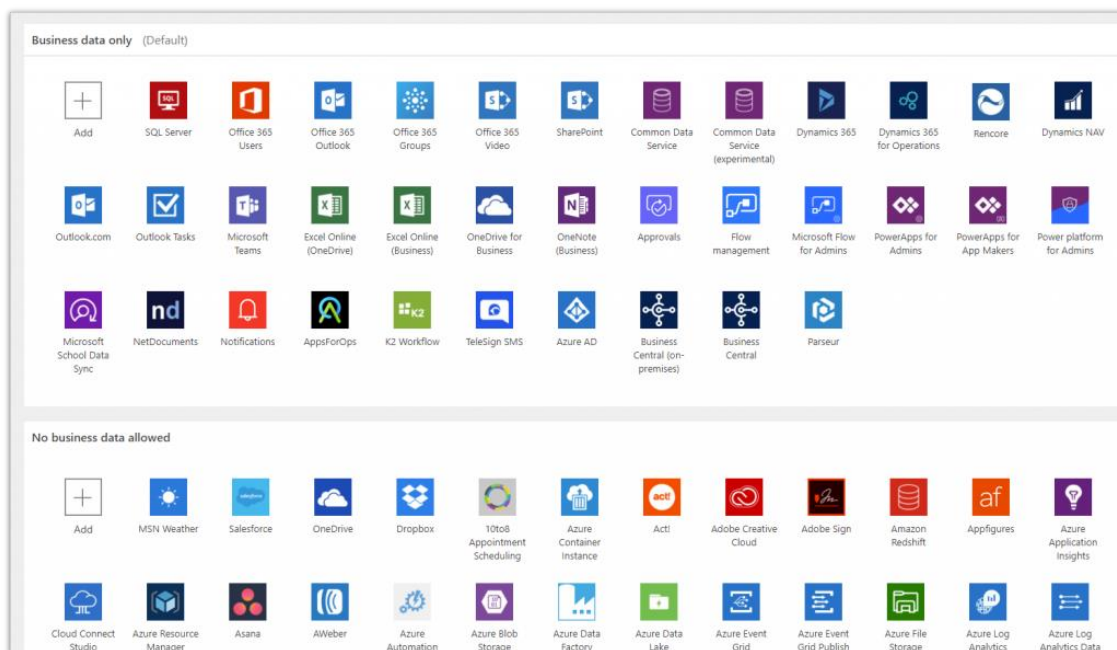
These APIs work for both makers and environment administrators. These APIs cover the management of flows included on the **Solutions** tab in Microsoft Flow. Currently, flows under **My flows** are not supported by these APIs. Start on [our documentation site](#) with the full Microsoft Flow Web API.

## HTTP and custom connector support for DLP policies

We have made some recent investments into our Data Loss Prevention (DLP) capabilities. More specifically, we are adding support for HTTP and custom connectors to DLP policies that can be created or modified using PowerShell or the given Flow Templates.

### Data Loss Prevention policies

Data Loss Prevention policies provide an ability to restrict which connectors can be used within the same app or flow. These policies can be established by either Environment or Tenant Administrators. Each DLP policy includes two data groups: Business and Non-business data. An administrator can choose a default data group to automatically include any new connectors that become available to PowerApps and Microsoft Flow.



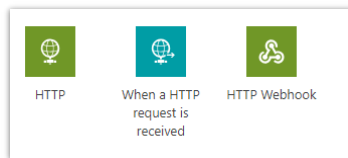
### DLP policies

## HTTP connector support

The HTTP actions and triggers up to this point have not been considered connectors. Due to customer feedback, we decided to go ahead and re-categorize those items so they could be subject to DLP to offer customers a greater level of flexibility and control over their environments.

We have added the option to support these triggers/actions when a policy is created or modified using the PowerShell cmdlets or given Flow Templates. More specifically, you can now manage:

- HTTP (and HTTP + Swagger)
- HTTP Webhook
- HTTP Request



### *HTTP actions*

## Custom connector support

We have also added the ability to include and manage custom connectors in DLP policies. These connectors must also be added to a policy via the PowerShell or Flow Template and will then be manageable in the Admin Portal.

**NOTE** Only custom connectors stored in a tenant's default environment will be displayed with its given icon and display name in the policy editor. All other custom connectors will be displayed with the default connector icon and their internal name.

## Prerequisites

To perform the administration operations in the admin cmdlets, you'll need the following:

- A paid Microsoft Flow/PowerApps Plan 2 license or a Microsoft Flow/PowerApps Plan 2 trial license. You can sign up for a [30-day trial license](#). You can renew trial licenses if they've expired.

- [Office 365 Global Administrator](#) or [Azure Active Directory Global Administrator](#) permissions if you need to search through another user's resources.

**NOTE** Environment Admins only have access to those environments and environment resources for which they have permissions.

- The latest [PowerShell cmdlets](#).

## Implementation

We are currently implementing HTTP and custom connector support for DLP policies as Flow Templates and PowerShell scripts with plans for UI support in the future. This provides administrators with an opt-in choice as to whether they would like to implement this new capability. To add a custom connector, please use [this template](#). To add HTTP support to a DLP policy, please use [this template](#).

**NOTE** Modifying a DLP policy programmatically requires careful attention to avoid DLP policy corruption. As a result, the following precautions should take place: - Backing up existing policies using the PowerShell cmdlets or the Power Platform management connector. - Running the following PowerShell cmdlets in a non-production tenant. A corrupt policy might impact other DLP policies from being displayed within the PowerApps/Flow admin portal.

## Templates

To add a custom connector to a policy via the new template, simply enter the policy name, the group to add the connector to, and the connector's name, ID, and type. Run the flow once and the custom connector will be added to the policy and group specified.

To add the HTTP connectors to an existing policy via the new template, enter the name of the policy you'd like to add them to and run the flow.

## PowerShell

To add support for custom connectors and/or HTTP connectors to a policy using the PowerShell, download and import the latest PowerApps PowerShell scripts from the link above and use the cmdlets 'New-AdminDlpPolicy', 'Set-AdminDlpPolicy', 'Add-CustomConnectorToPolicy', and 'Remove-CustomConnectorFromPolicy' to modify a policy. The cmdlet 'Get-Help -detailed' can be used as a reference.

Use the schema version `2018-11-01` when creating or updating a DLP policy to include HTTP connectors. Adding HTTP support using the template or PowerShell will only affect the specified policy. New policies created via the Admin Center will not contain the HTTP connectors.

**IMPORTANT** You can't downgrade from schema version `2018-11-01`. HTTP support cannot be removed from a policy. If you attempt to remove HTTP support, the DLP policy might be corrupted. Further, if a DLP policy is updated to support HTTP connectors, current flows using these HTTP capabilities might be shut off.

## Microsoft Flow US Government is generally available

Microsoft is committed to enabling government agencies to reduce the complexity of IT, meet compliance and security regulations, and turn data and insight into intelligent action – making interactions with citizens impactful and driving government efficiencies.

Agencies are adopting the cloud to store data from a multitude of sources like web traffic and business systems. Once an organization has the infrastructure for harnessing data, they also need a layer atop that data that enables them to get insights easily. That's what the Power Platform is—a system that enables users to do three key actions on data: Analyze, Act, and Automate. Power BI, PowerApps, and Microsoft Flow work together to help anyone, regardless of technical ability, drive decisions with data.

Now, Microsoft Flow for the US Government is generally available. Microsoft Flow general availability will also land in Dynamics 365, Microsoft 365, and Office 365 in Spring 2019. This environment supports compliance with US government requirements for cloud services, including FedRAMP High, and requirements for criminal justice.

Microsoft Flow US Government does have different URLs, and there are some features that are not yet enabled. You can read the full details about these topics in [our documentation page](#). To learn more about our commitments to storing data, visit the [Microsoft Trust Center page for Microsoft Flow](#).

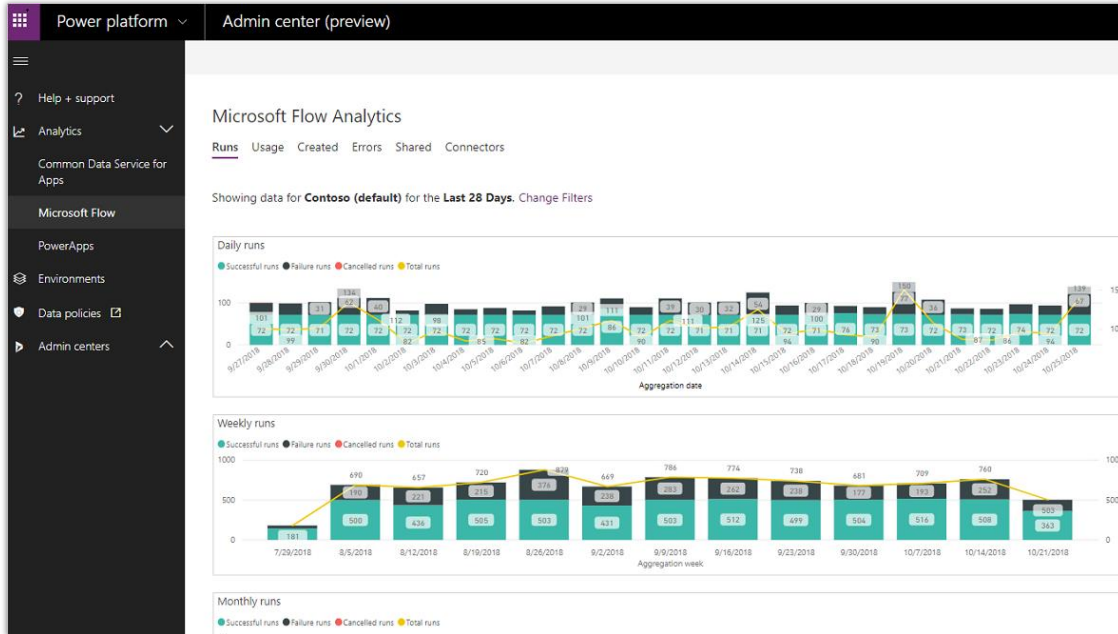
## Sharing and Connectors Admin Analytics Reports (Public Preview)

In late September, we [announced the public preview release](#) of Power platform Admin Analytics. In that post, we discussed a couple of upcoming reports, including sharing and connectors. Both the sharing and connectors reports now are available in Microsoft Flow Admin Analytics.

**NOTE** The prerequisites for accessing these reports have not changed, but we are working on them. Please review the requirements in our previous post.

Both reports provide insight into how users are using Microsoft Flow within your tenant. From a sharing perspective, you are able to understand who your champions are and then figure out how you can empower them to provide even more automated solutions for your organization. The connectors report will identify Microsoft, third party, and custom connectors that are in use within your organization.

When you navigate to the [Power Platform admin center](#), you will find an Analytics menu where you can choose to browse analytics for the Common Data Service for Apps, Microsoft Flow, and PowerApps. For the Sharing and Connectors report, select Microsoft Flow.



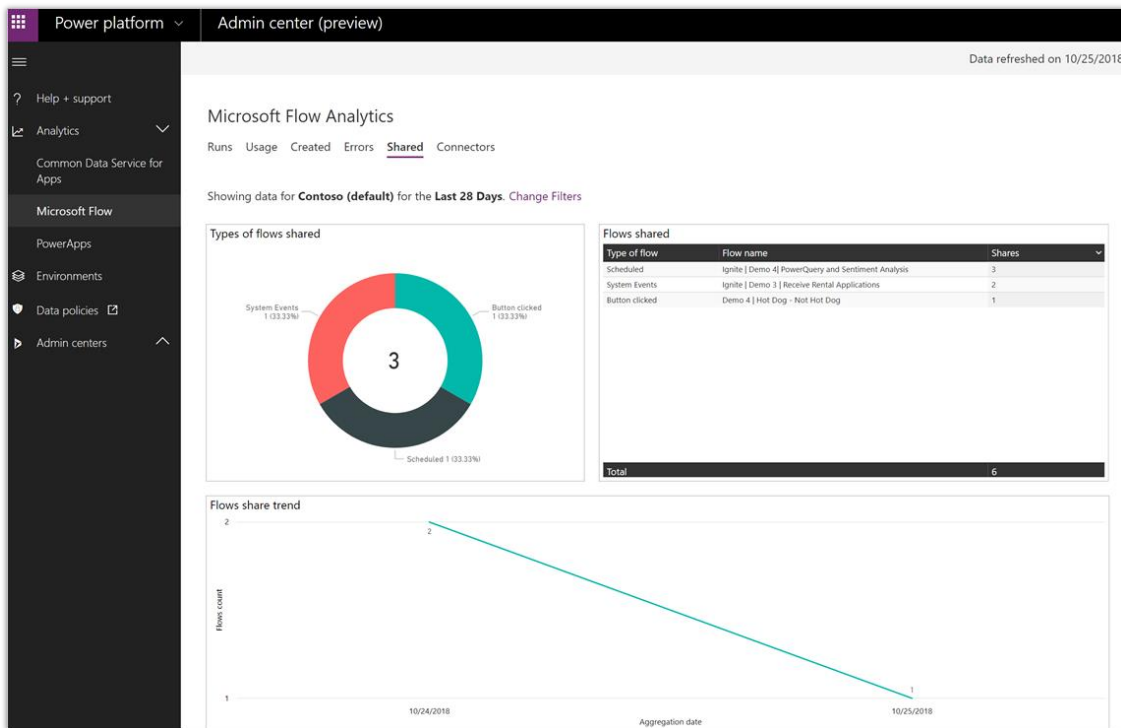
*Run usage*





From within the Microsoft Flow Analytics feature, you can select **Shared** to access your sharing report. Within this report you will see three different visualizations that capture:

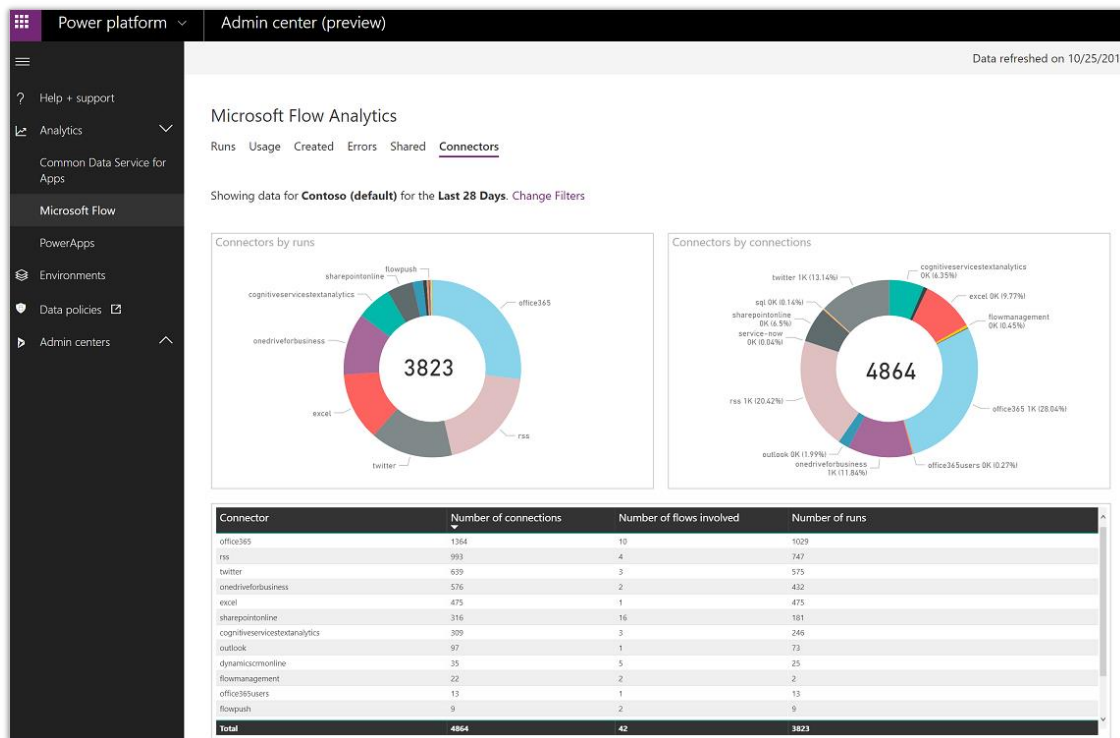
- The types of flows shared (System Events, Scheduled, or Button clicked).
- The name of the flow that has been shared.
- The number of shares that have taken place.
- A trendline report of these shared events.



Sharing report

In addition to the sharing report, we have also released a report that highlights connector usage. The Connectors report provides:

- Two visualizations that display connector usage by:
  - Flow runs.
  - Connector connections (calls to the connector).
- A table visualization that lists:
  - The name of connector.
  - Number of connections.
  - Number of flows involved.
  - Number of flow runs using that connector.



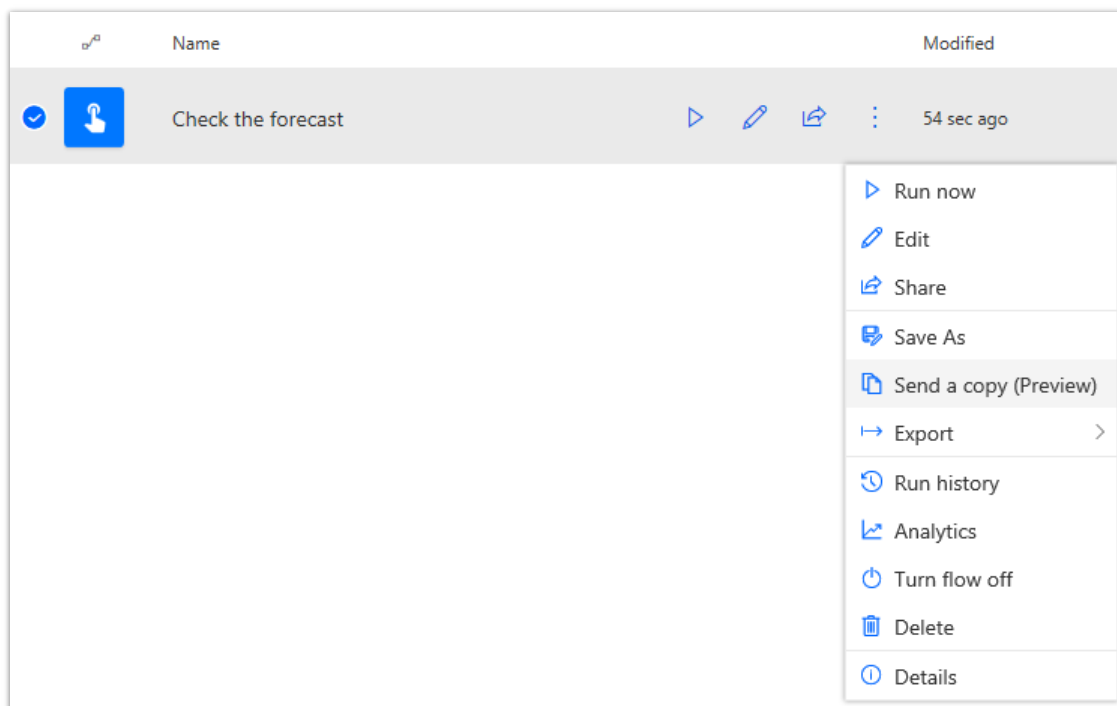
*Connector report*

## Share copies of flows inside organizations (Public Preview)

If you have a flow that you want other people in your organization to create copies of, there is a new **Send a copy** feature available. To send a copy of the flow, you must first ensure that it does not contain any personal information. For example, a flow that sends something to your email address would likely not be appropriate to send as a copy to others.

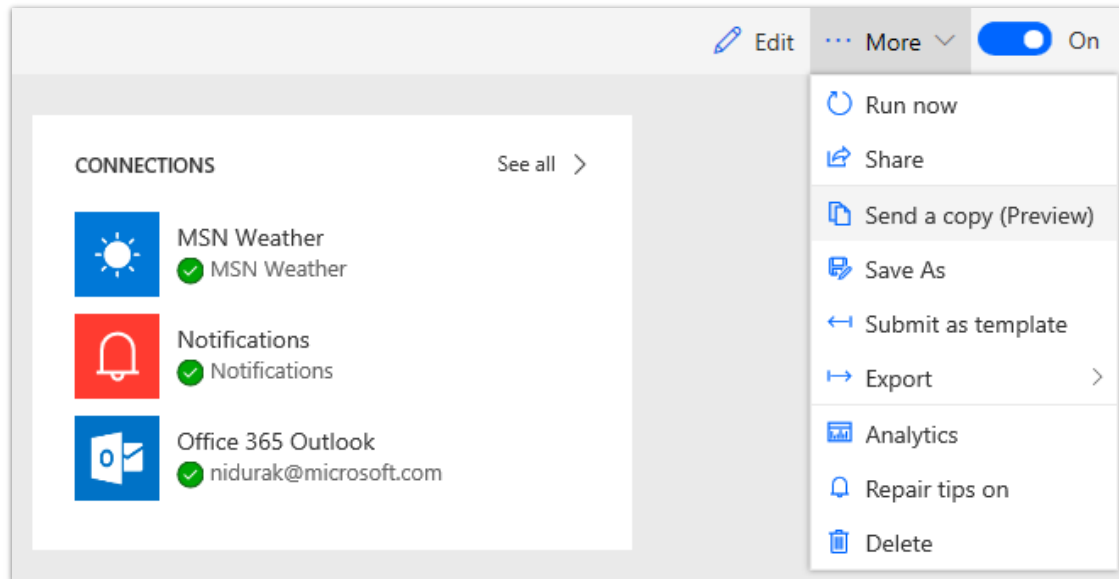
Sending a copy of a flow means that recipients will be able to create their own copies of the original flow. These copies will use the recipient's connections and be owned by the recipient if they want to make changes after creating the flow.

There are two main entry points for sending a copy of your flow. First, from the flows list:



*"Send a copy" option in flow list*

Second, from the flow properties page:



*"Send a copy" option from flow properties page*

Before sending your flow as a copy you must have at least one successful run since the last time you updated the flow. This helps to ensure that the flow will work for anyone you send it to. Also, it is important that you remove any personal information from the flow before sending it out, especially because after you share the flow as a copy, the copy cannot be retracted.

When someone uses a copy of a flow, there is no way for them to adjust its configuration when creating it—the copy will be created as-is, but with that person's connections. Thus, we recommend designing your flow to retrieve all data dynamically based on the recipient's connections. For example, you can use actions such [Get my profile](#) rather than hard-coding your or the recipient's email address into the flow.

When you select **Send a copy**, you are prompted to customize the title and description of the template as well as the recipients. These recipients can be any combination of users and security groups within your organization. Only the people you send the flow to will have access to it.

*"Send a copy" panel input*

The recipients receive an email prompting them to create their own copy of the flow you just sent.

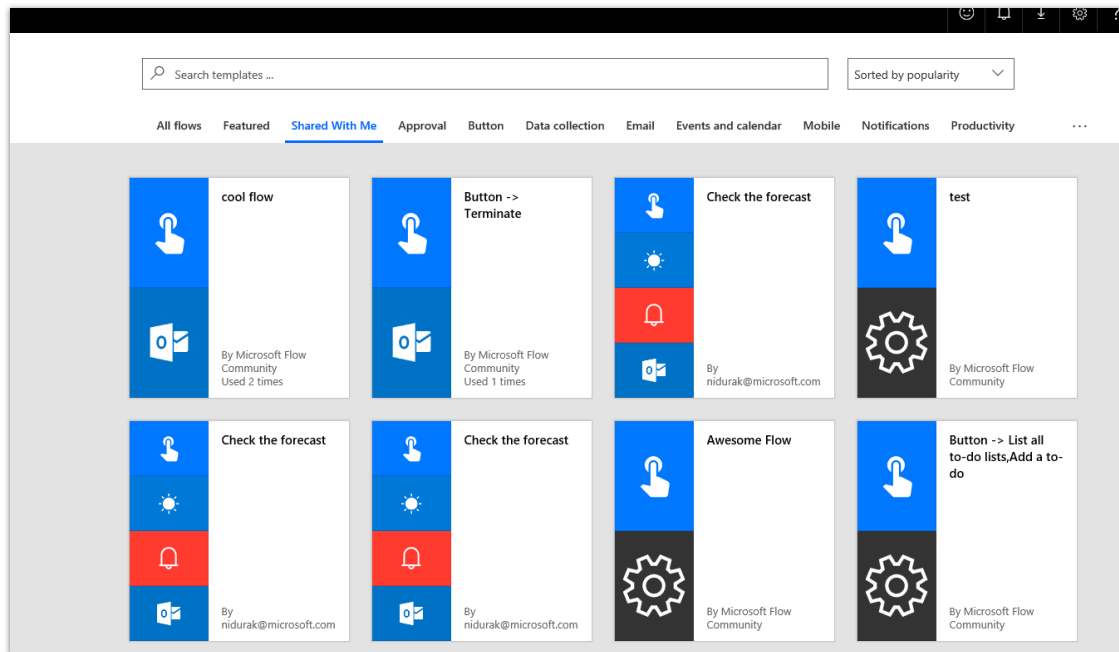
The screenshot shows an email notification with the following elements:

- Header:** "Nick Durak has shared a Flow template with you." with action buttons for Reply, Reply All, Forward, and a menu icon.
- Sender:** "Account No Reply" with a profile picture and "To: Process Simple FTE Engineers".
- Timestamp:** "9:04 AM".
- Info:** "You replied to this message on 12/6/2018 9:05 AM. If there are problems with how this message is displayed, click here to view it in a web browser."
- Microsoft Flow Banner:** A blue banner with the Microsoft Flow logo and text.
- Message Body:** "Hi, Process Simple FTE Engineers", "Nick Durak has shared a Flow template with you.", "Check the forecast", and "This button flow will send you an email and push notification with todays weather at your current location." followed by a "Create My Flow" button.
- Footer:** "Get the power of Flow to go, with the Microsoft Flow app. [Learn more](#)" and three app store download buttons: "Download on the App Store", "GET IT ON Google play", and "Download from Windows Store".
- Microsoft Logo:** The Microsoft logo is centered at the bottom.
- Privacy Statement:** "Microsoft respects your privacy. To learn more please read our [privacy statement](#)" and "Microsoft Corporation, One Microsoft Way, Redmond, WA 98052".

*"Send a copy" received email*



Additionally, you can view any templates shared with you from the **Shared with me** tab.



*The "Shared with me" template gallery*

## Democratize business processes

Modernizing business processes is one of the core missions of the Business Applications platform at Microsoft, and Microsoft Flow is the offering that brings business processes to everyone in an organization.

We previously introduced a key concept to all Microsoft Flow users from Dynamics 365: business process flows. This new type of flow is defined by a set of stages that end users walk through. Just like automated flows, these stages can have branching conditional logic but, unlike automated flows, end users can jump forward or backward to previous stages.

By building business process flows into Microsoft Flow, we make it possible for any user, without customization experience, to create these flows for their organization.

## Streamlined authoring for business process flows

There are several improvements to the authoring experience of business process flows to bring them more in line with the other experiences in Microsoft Flow.

First, you no longer need to specifically opt-in a Common Data Service (CDS) entity to use it from a business process flow. Since business process flows leverage a separate entity in CDS to store the business process data, there is no longer a reason to limit business process flows to certain entities.

Name \*

new\_ ⓘ

Common Data Service entity \*

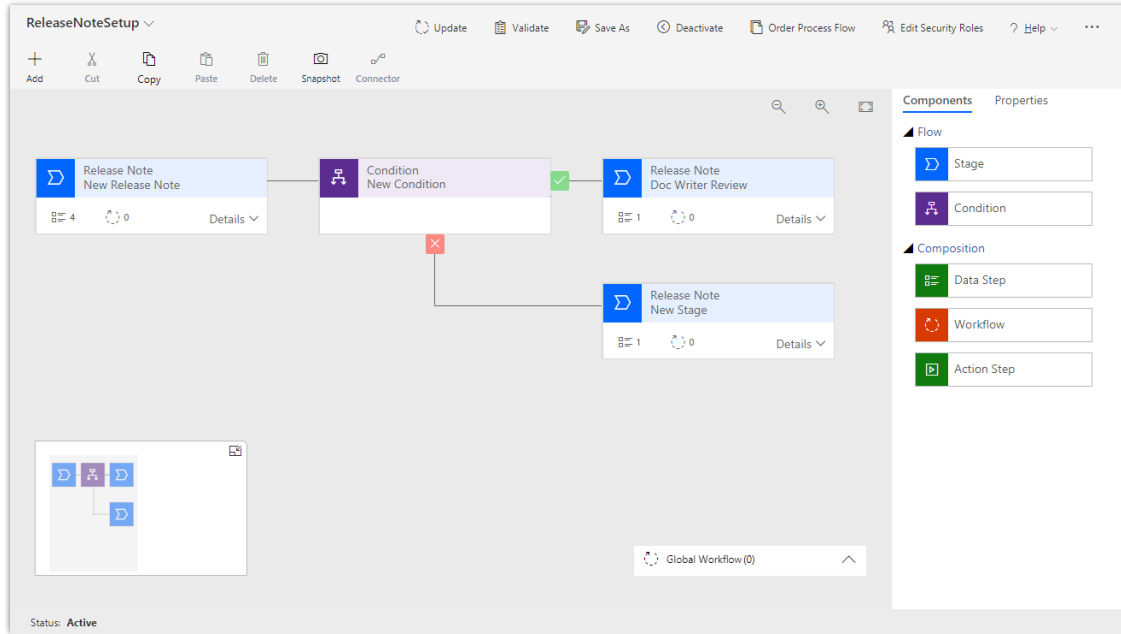
ⓘ

- Job Position
- Job Type
- Language
- Leave Bank Transaction
- Leave Enrollment
- Leave Plan
- Leave Request
- Leave Request Detail
- Leave Type
- Pay Cycle
- Pay Period
- Payroll Earning Code
- Person Identification Issuing Agency
- Position Type
- Position Worker Assignment
- Skill Type
- Tax Region
- Veteran Status
- Work Calendar
- Work Calendar Day

*Create a new business process flow*



Second, the authoring experience now opens directly in the Microsoft Flow designer, instead of in a separate tab. Finally, the appearance of the business flow designer has been modernized to match the rest of the Microsoft Flow experience.



*Business process flow designer*

## Custom controls in business process flows (Public Preview)

Business process flows provide a guided way to get work done in stages and steps. Stages tell you where you are in the process, while steps are action items that lead to a desired outcome. Steps are bound to fields in a Common Data Service (CDS) for Apps entity and until now, only allowed default visualizations for the field type (text boxes, dropdowns, numbers, and so on). With this release, business process flow steps support custom controls for rich visualizations in the form of sliders, radial knobs, the LinkedIn control, and more. This feature is available in the Unified Interface.

Qualify (5 Min)

Active for 5 minutes

Existing Account? ---

Estimated Budget ---

✓ Identify Decision Maker \*  completed

✓ Annual Revenue \* 79000

✓ No. of Employees 7147

Next Stage >

### Example of custom controls

This feature increases the potential for intuitive and immersive process runtime experiences.

## Empower citizen developers

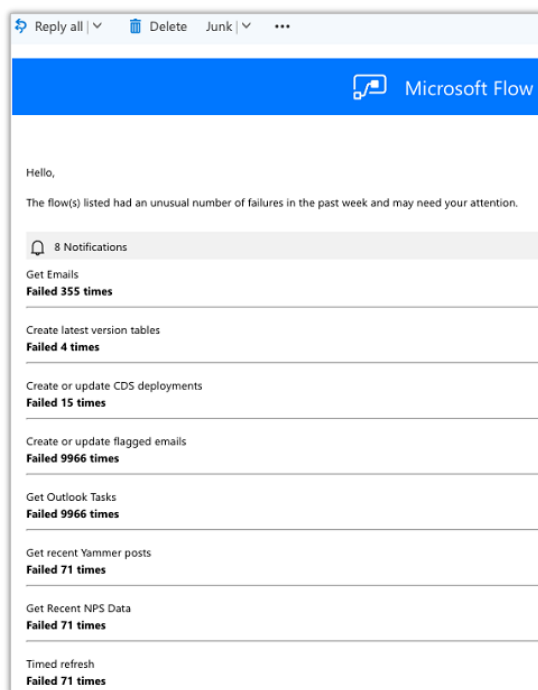
Every time a flow fails, there could be a critical business process that is not being completed. As a result, for Microsoft Flow to address the most rigorous and complex customer scenarios, we are adding many different features that will help citizen developers to build and deploy flows more easily and reliably.

The new **Flow checker** feature promotes higher quality flows by ensuring citizen developers follow best practices. By running the checker, they will be able to get answers to questions like *which areas of my flow implementation pose a performance or reliability risk?*

For each issue identified, **Flow checker** points to specific occurrences within the flow where improvements might be required. And more importantly, you learn how to implement these improvements by following detailed guidance.

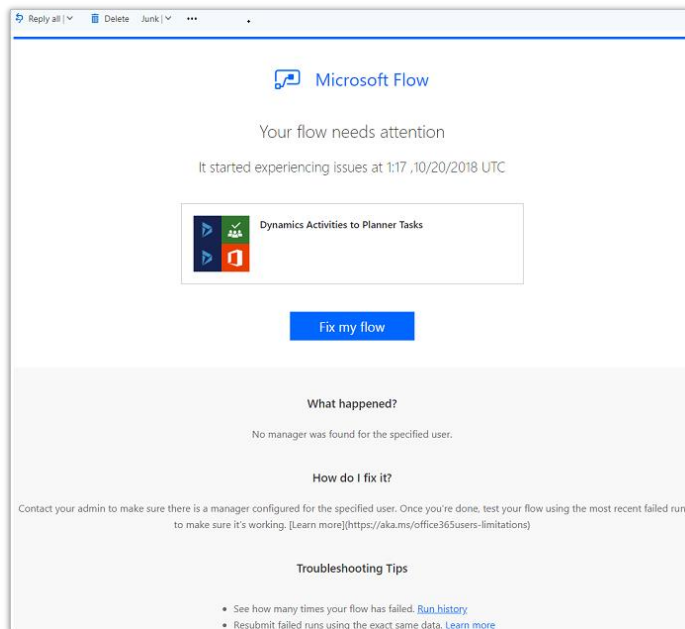
## Repair tips in email for failed flows

The flows that you build may fail sometimes. If they do, it is important that you know how to fix them quickly. When you have flows that are failing, we have always sent you an email notification about those flows:



*Failure digest email*

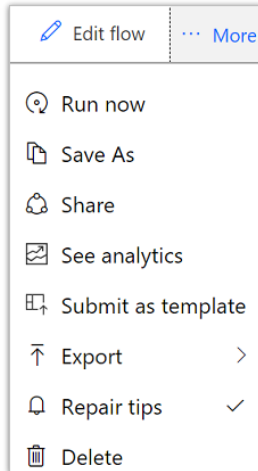
However, these notifications do not contain specific recommendations on what you can do to repair your flows. To help, we are now introducing **Repair tips**. Repair tips send you emails with specific, actionable feedback about certain errors. For example, one common error is setting up a flow that attempts to get a person's manager in Office 365—but there is no manager configured in Azure AD. Previously, you would just see a 404 – Not Found error, and most people don't know what that means. Now, you get an email like this:



### *Repair tips email*

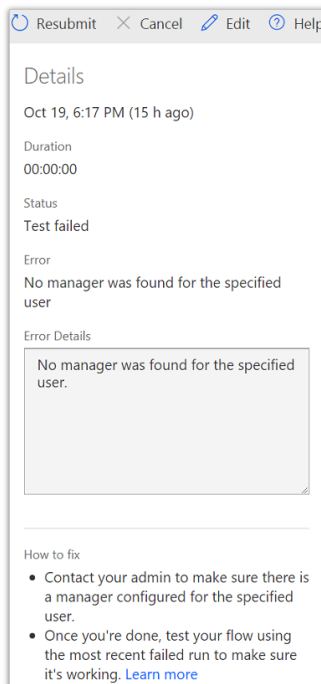
This email contains sections for **What happened** (no manager was configured), and, **How do I fix it?** (set up a manager in Azure AD). We also provide repair tips for connection failures due to multi-factor authentication (MFA).

If you do not want to receive repair tips for a given flow, you can disable them from the **More...** menu on the Flow properties page. You'll see a new menu item for **Repair tips** that you can select to turn them off:



### *Repair tips menu item*

Finally, even if you don't want to receive emails, you will now see repair tips whenever you open a flow run that has a failure with a repair tip available. You can see the **Error details** and **How do I fix it?** sections in the run's **Details** pane:



### *Repair tips menu item*

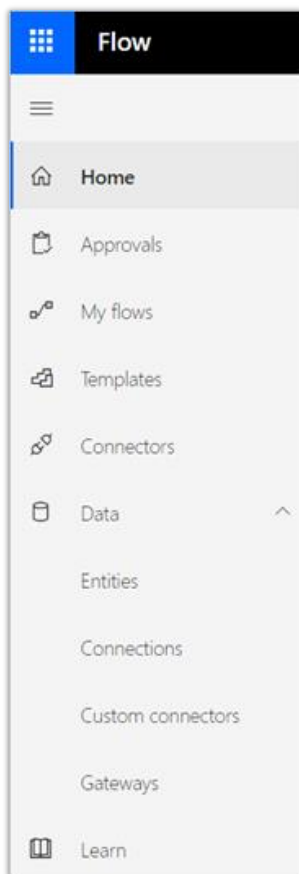
## New Microsoft Flow portal and designer experience

As a part of the October release, we are overhauling several key aspects of the Microsoft Flow portal and designer experiences.

### Navigating in the Flow portal

We have an all-new way to find the different key pages on the Microsoft Flow portal. Previously, there were a few links along the *top* of the portal. Some pages, such as **Connections** and **Custom connectors**, were relegated to the Settings gear in the top right, and many people had difficulty finding these pages.

With the October release, we are moving to a *left-side* navigation. This new navigation has a **Data** section, which includes access to aspects of **Connections**, but also to your Common Data Service for Apps **Entities**:



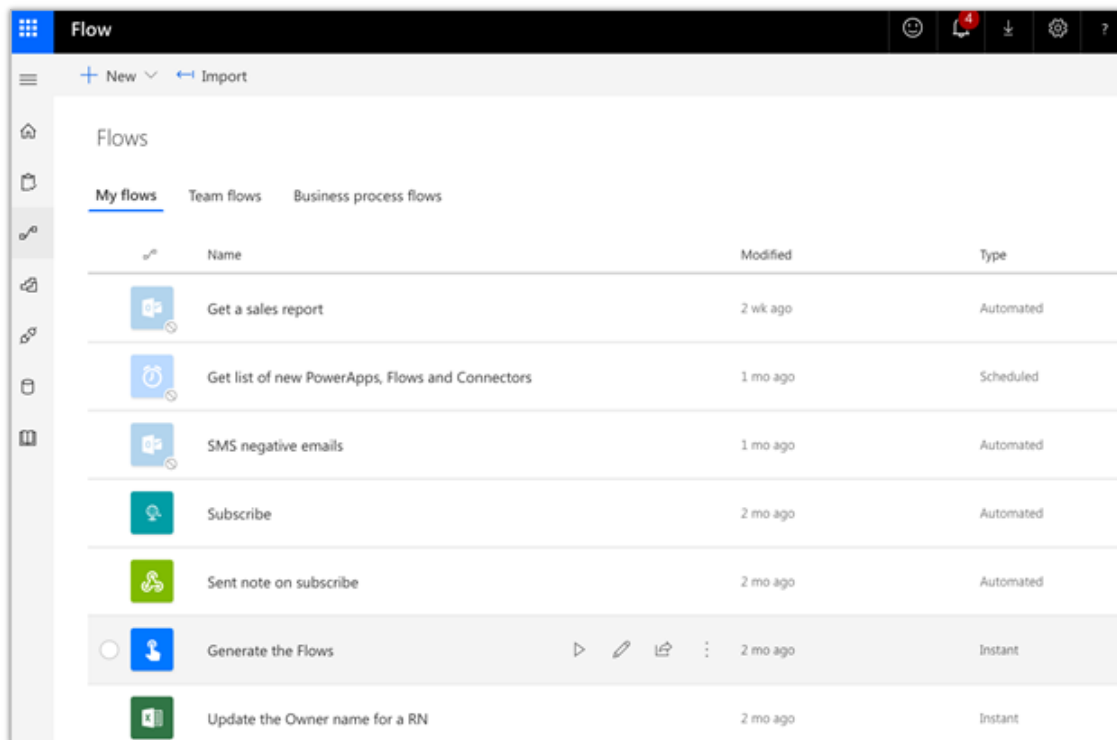
*New left-side navigation*

This change is also important because it allows us to add more items into the navigation in the future, such as the solution management feature that is coming soon. This will enable you to group your flows into logical components (one of the [top ideas](#) in the Ideas forum).

Finally, you can expand and collapse the left navigation from the button at the top of the nav.

## The My flows list

We are simplifying the experience in the My flows list and making it consistent with other Microsoft user interfaces.

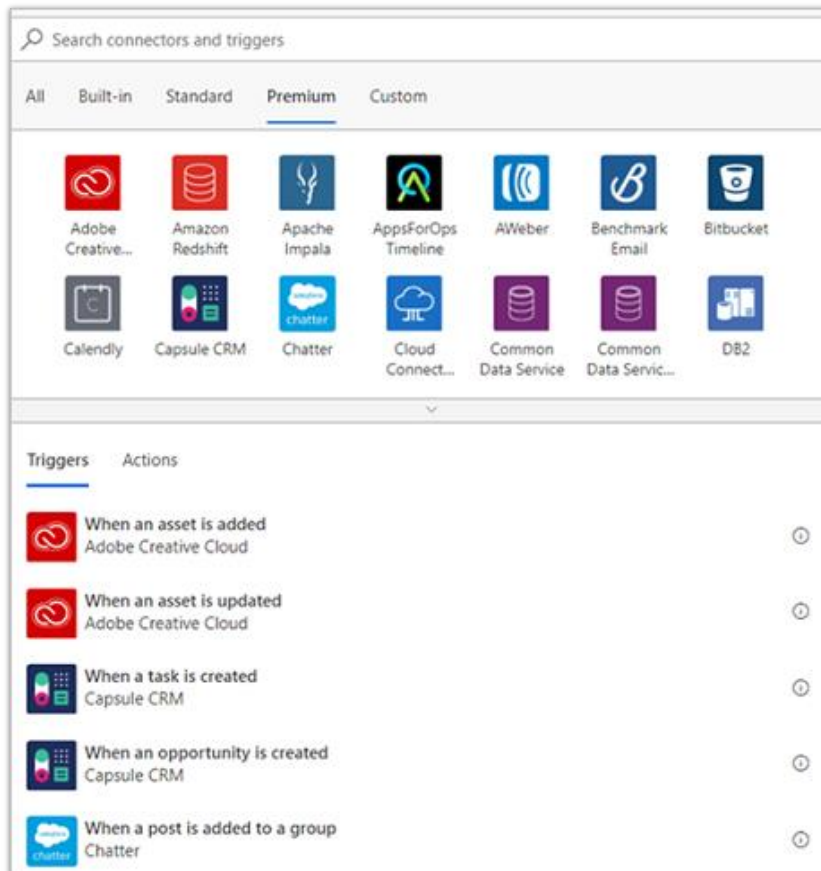


### *Simplified My flows list*

In this new experience, you can run *Instant flows* (those flows triggered manually, such as flows triggered by the Flow button for mobile) by selecting the Run button from the Flow list. We have also made it easier to identify which flows are on by dimming the icons of flows that are off.

## Adding triggers and actions in the Flow designer

Third, we have a new experience for adding triggers and actions in the Flow designer. When you add a **trigger** you will see an experience like this:

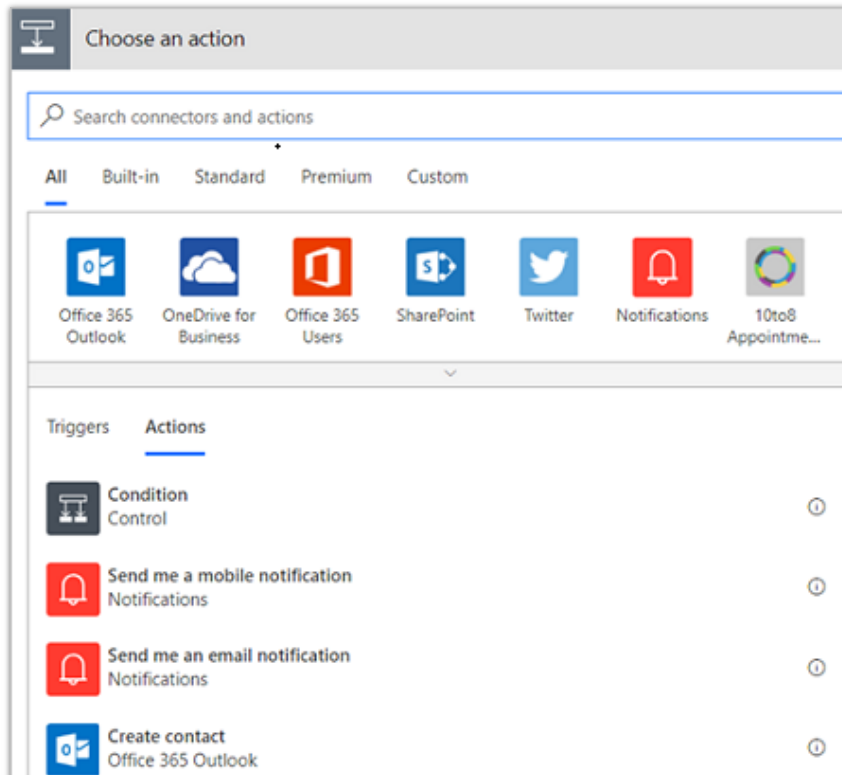


### *Add a trigger*

This new experience gives you the ability to browse your connectors by category. For example, you can see which connectors are **Premium** or the **Custom** connectors in your environment.

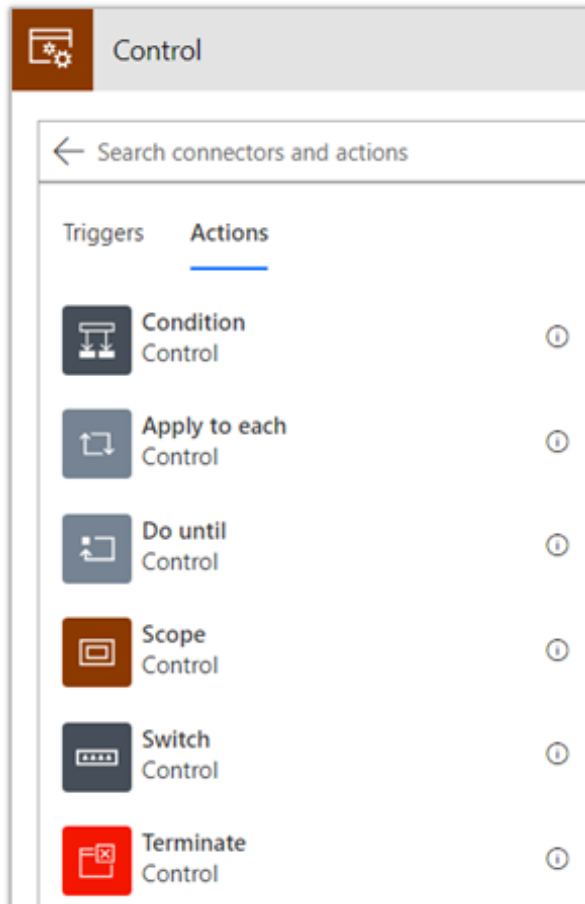


Next, when you select **New step**, you'll no longer see the secondary flyout where you would choose between adding an action, condition, or more. Now, you'll immediately be taken to the **Choose an action** dialog, which saves you from always making an extra selection.



*Choose an action*

We have combined all of the **Control** actions into this dialog, so you can still select **Condition** immediately. You can search, or select the **Control** connector to get to the other control-flow concepts like Apply to Each or Scopes:



*Control connector*

## Flow checker

The new **Flow checker** feature will promote higher quality flows by ensuring you follow best practices. By running the checker, you will be able to get answers to questions like: which areas of my flow implementation pose a performance or reliability risk?

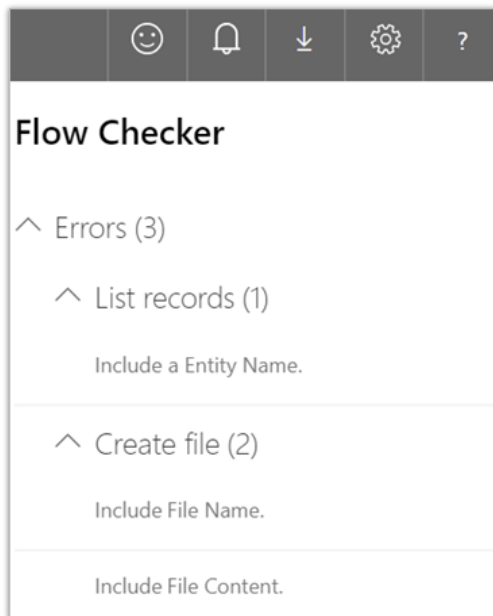
For each issue identified, the **Flow checker** points to specific occurrences within the flow where improvements may be required. And more importantly, you learn how to implement these improvements by following detailed guidance.

To begin, the Flow checker appears in the command bar in the designer and will show a red dot when one or more errors are identified in your flow.



#### *Flow checker in the command bar*

Select this button to open the checker. If there are errors in the flow, the checker opens when you try to save it. Once the checker opens, it shows all errors and warnings in your flow. Inside each section, the checker calls out the actions where the error or warning occurs.

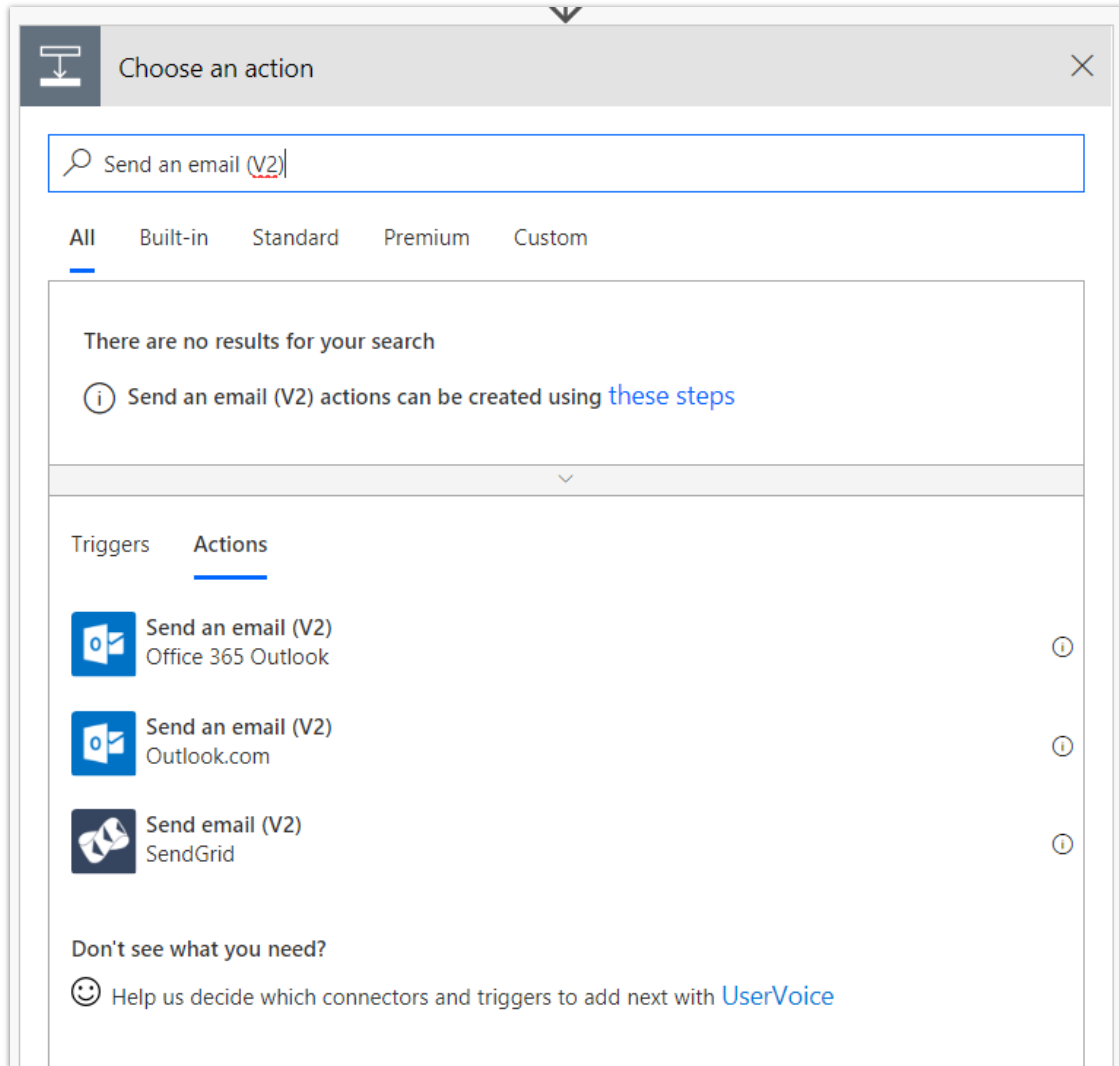


#### *Flow checker pane open*

If you need more details to fix an error, select the row to receive additional guidance. The Flow checker is now starting with some basic scenarios, but look forward to more guidance being added over the coming months.

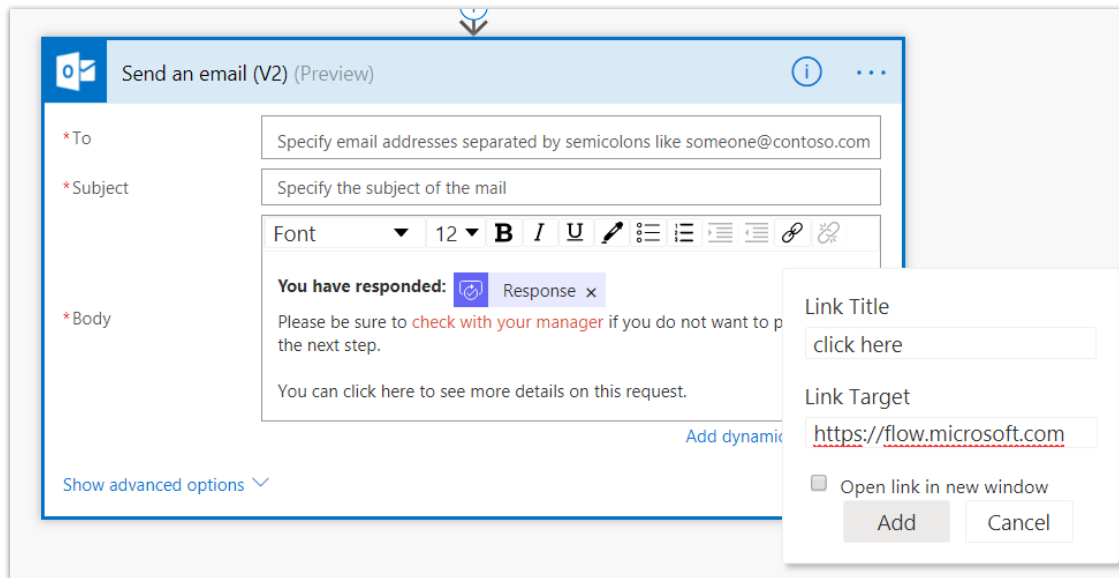
## Edit rich text content in Microsoft Flow

We've added a new, rich, HTML-based text editor that will help you write HTML-based emails. You can start using this today with the new **Send an email (v2)** action on the Office 365 Outlook and Outlook.com connectors:



*Send an email action*

This editor allows you to customize the font, use bold, italic or underline, customize the color and highlight, and create lists or links.

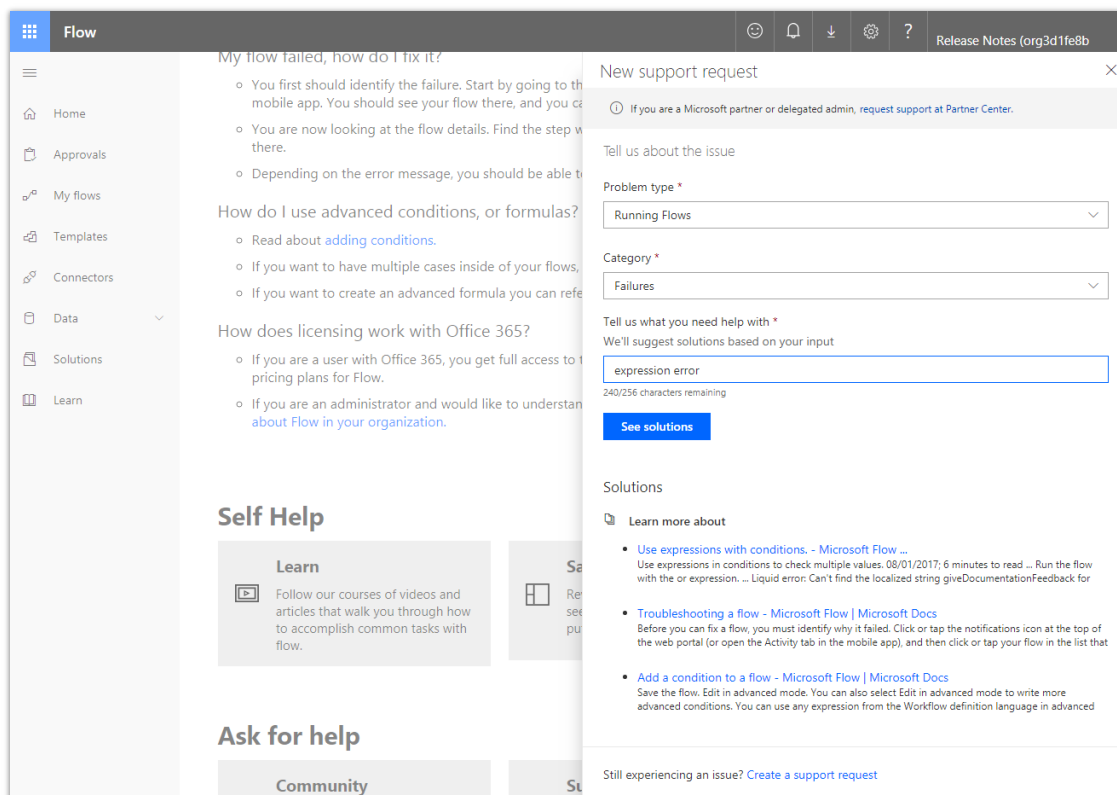


### *Rich text editor*

At this time, it doesn't support advanced capabilities like tables, but we will add additional capabilities in the future. We will also be adding this rich text capability to more connectors and actions soon, like: creating pages in **OneNote**, sending messages in **Microsoft Teams**, writing stories in **Medium**, and posting to **WordPress**.

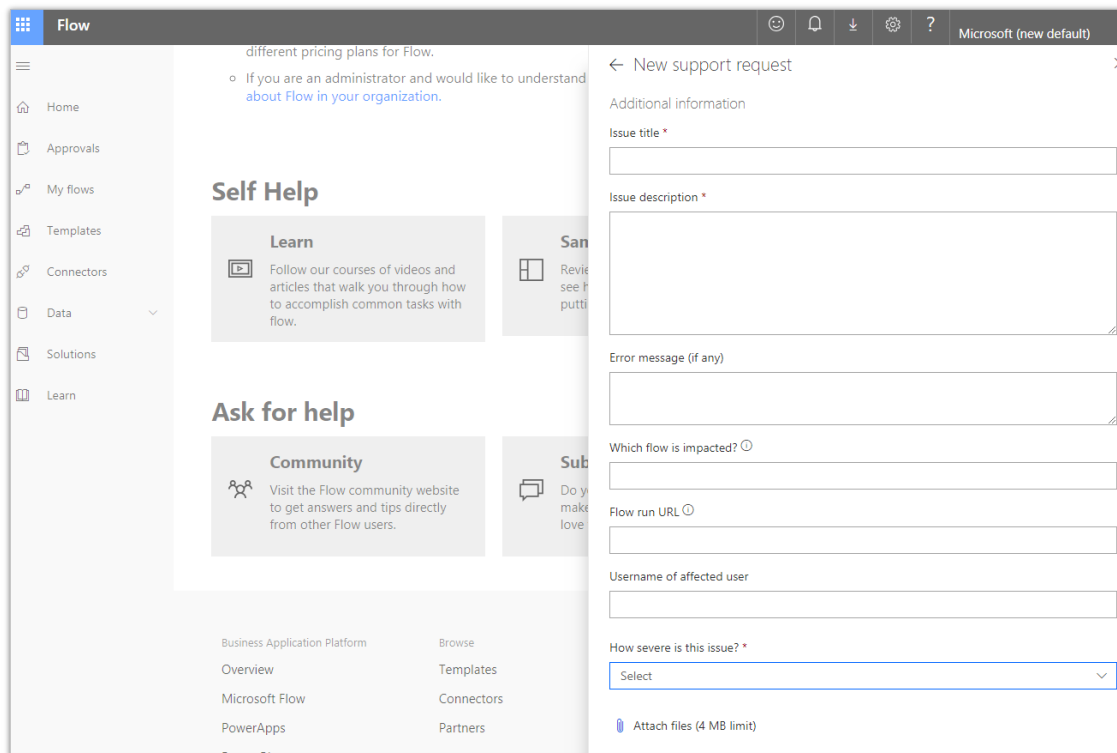
## Integrated help and support experience in Microsoft Flow

It's now much easier to seek help and support from within Microsoft Flow. Previously, you would be redirected to a generic experience on our support site. Now, when you need support, you get started from [Microsoft Flow](#). You first filter by walking through a logical set of questions. Next, receive a curated list of possible solutions. These solutions are sourced from the Microsoft Flow official documentation, blog posts, community forums, and KB articles.



*New support request*

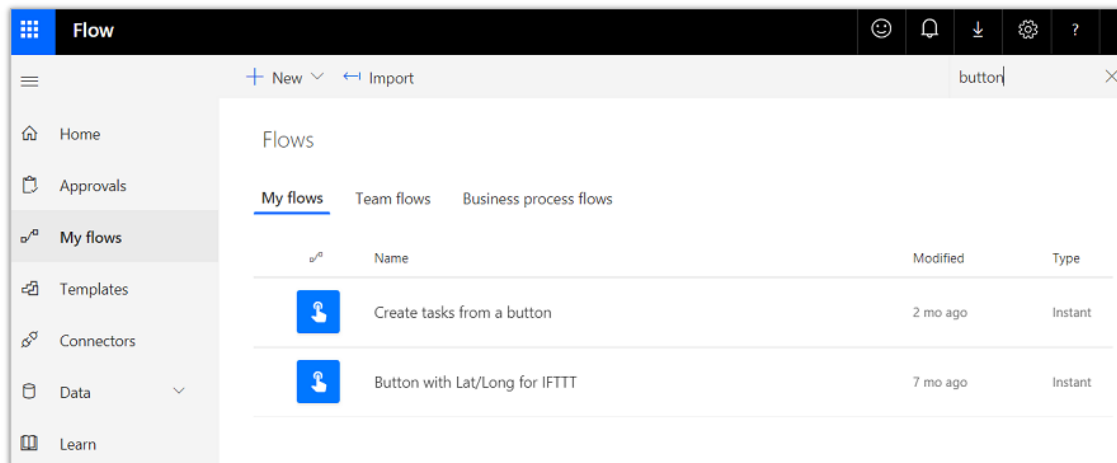
These self-help solutions should enable you to fix issues quickly. If you still want further assistance, you can open a support ticket from Microsoft Flow without losing your context. Finally, you can provide more specific details like the URL of the flow that is impacted and run details.



*Support request details*

## Filter resources in Microsoft Flow

If you have many flows, it's now easier to find the right one with a new filter box at the top-right of the **My flows** list.



### *Search in the flow list*

Filtering searches across the names of all the flows that you see on the page. It's now enabled across other pages in Microsoft Flow, including:

- My flows and Team flows
- Connections
- Solutions
- The contents of a solution

**NOTE** This filter only finds flows that have been loaded into the page. If you don't find your flow, try selecting **Load more** at the bottom of the page.

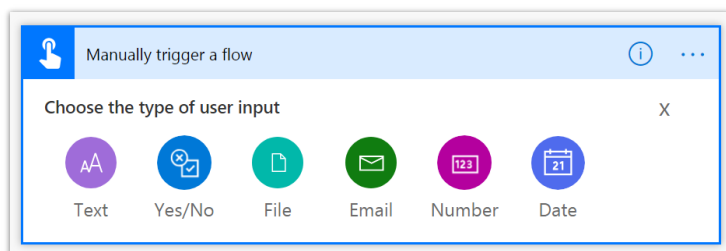
## Microsoft Flow button input enhancements

There are many repetitive tasks that we all wish we could run with just a tap of a button. For example, you might need to quickly email your team to remind them to join the daily team sync, or you might want to start a new Visual Studio Online build after you've been notified that no more check-ins are planned for the day. Button flows allow you to accomplish these and other tasks simply by tapping a button on your mobile device.



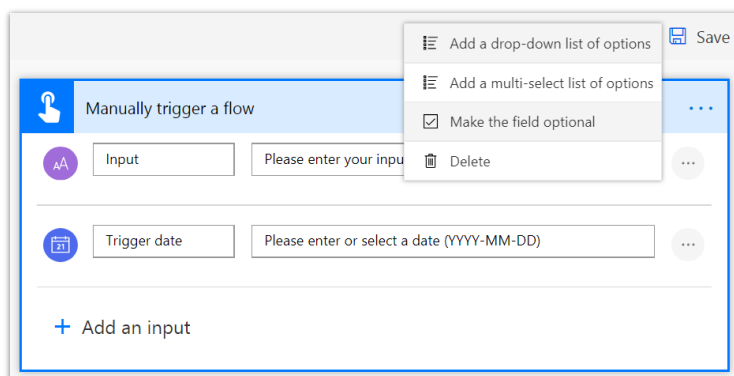
With the initial release of buttons, a button could receive basic input like text. However, as covered by [this idea](#), you have asked to be able to pass richer data to button flows. We've listened, and now you can ask for all the following types of data for a button flow:

- Text
- Drop-downs (like radio buttons)
- Email address
- File (for example, a photo on your phone)
- Yes or No check box
- Number
- Date (with a calendar picker)



### *Add an input*

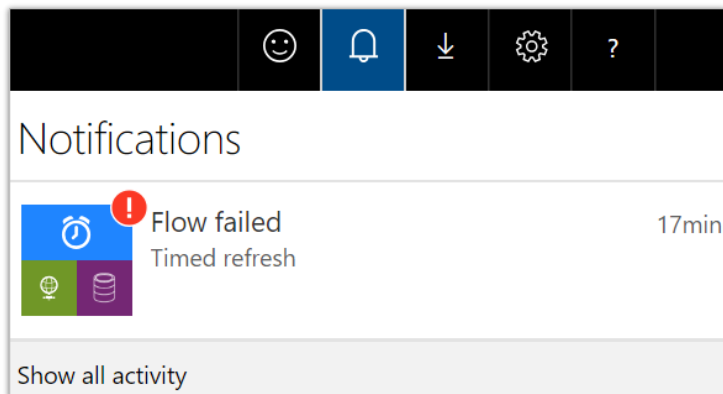
Additionally, you might want to designate some inputs as required and others as optional. That's now possible from the action menu (the ... button at the right side) on each input field. We have also raised the limit of five inputs per button.



### *Make input optional*

## Reduced noise of failure notifications

When you navigate to Microsoft Flow, at the top-right of your screen is a notification center that shows you how many of your flows have failed recently. From here you can easily navigate to the [Activity page of Microsoft Flow](#) to see all your flows that recently ran, sent notifications, or failed.

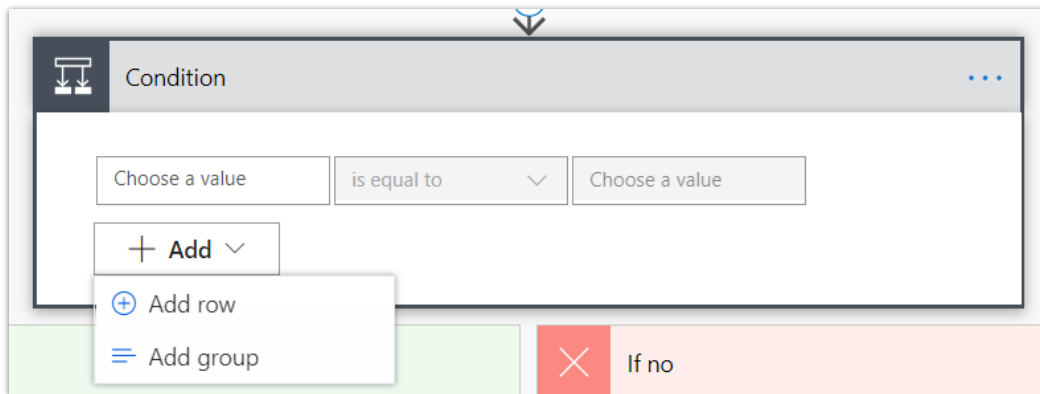


### *Failure notifications*

Many of you [have asked that](#) when you view a notification, the counter is reset, meaning that it will no longer appear with the red icon. Going forward, this will be the case, giving you an easy way to clear your notifications.

## Advanced condition builder

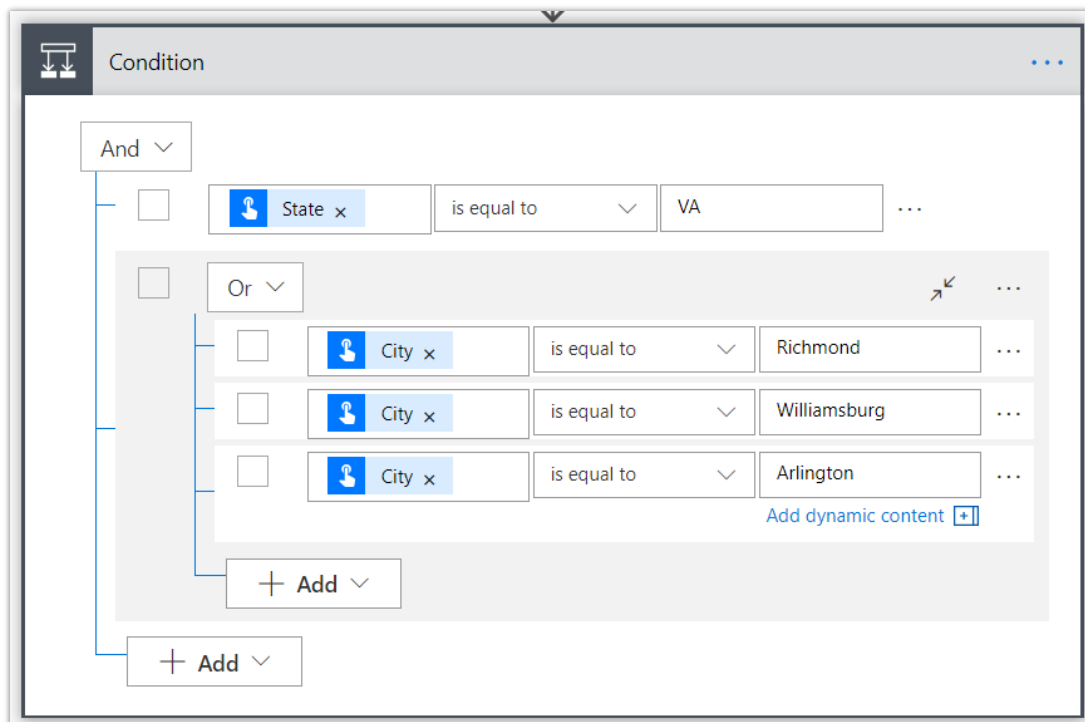
It's now easier than ever to write conditional logic in Microsoft Flow by using the new advanced condition builder. Previously, you could write complex conditions using expressions, but now it's possible to build conditions with the Microsoft Flow designer's simple point-and-click UI.



### *Add row*

You can add a condition to your flow by selecting **New step** and then the first action available to you: **Condition**. There is a new **Add** button that you can select that presents two options:

- **Add row:** Each individual condition you check for (such as the value is greater than 10, or the list does not contain `Test`) creates a new *row* in the condition builder.
- **Add group:** You can combine one or more rows together in a *group*—each group is combined by either an **And** or an **Or**. If you select **And**, then all the rows must be true. If you select **Or**, then only one of the rows needs to be true.

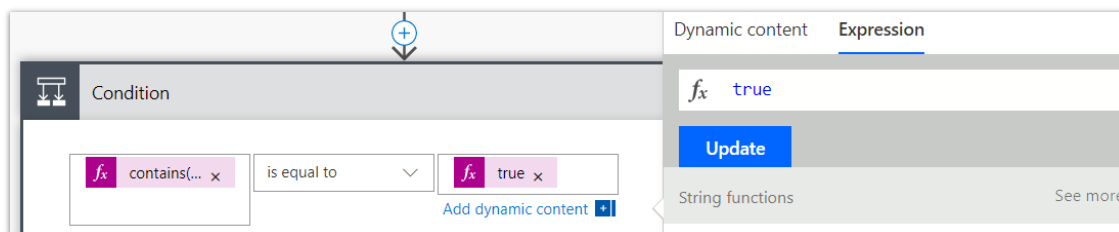


### *Advanced condition builder*

You can have however many rows or groups you need to build out your logic, and can continue adding rows (or groups) both at the top level of the condition, and inside groups using their **Add** buttons. If you want a simplified view of the condition, there is a button at the top-right of each group to *collapse* it.

Additionally, there is a ... menu at the right side of each row and group. This contains options for moving rows up or down (which can move them in and out of groups), and an option to **Delete** a row or group. Also, there are check boxes on the left side of each row or group. This allows you to select several different rows, and then select **Group** from the ... menu at the right to combine the rows into a single group.

Sometimes, there might be an expression that is more complex than what you want to model in even the advanced condition builder. Previously, you could select **Edit in advanced mode** and then enter the expressions in a text box. However, this old mode was difficult to work with because it did not give you access to IntelliSense for expressions or Dynamic content. There is no longer an **Edit in advanced mode**. Instead, if you want a very complex expression, you can use the regular Dynamic Content expression builder to enter your expression on the left side of the row. Then, select **Equals to** and enter `true` in the right side.

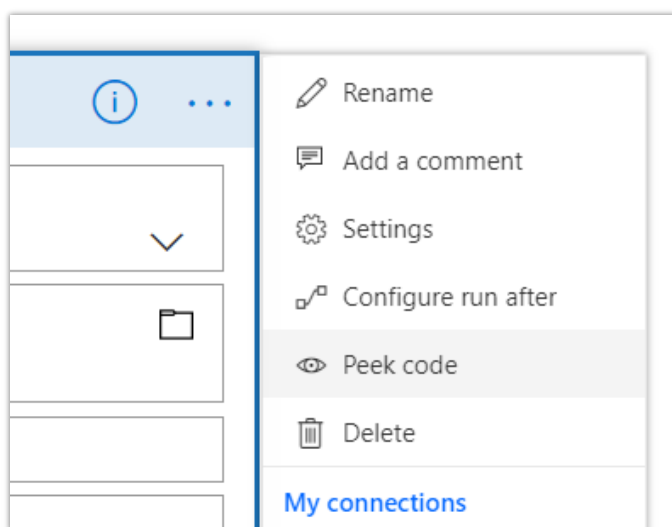


### Complex expressions

The advanced condition builder is available for all new conditions that you add to your flows. It's not enabled for existing conditions, so if you want to use it with existing flows, add a new step and then drag the actions from the old condition to the new condition.

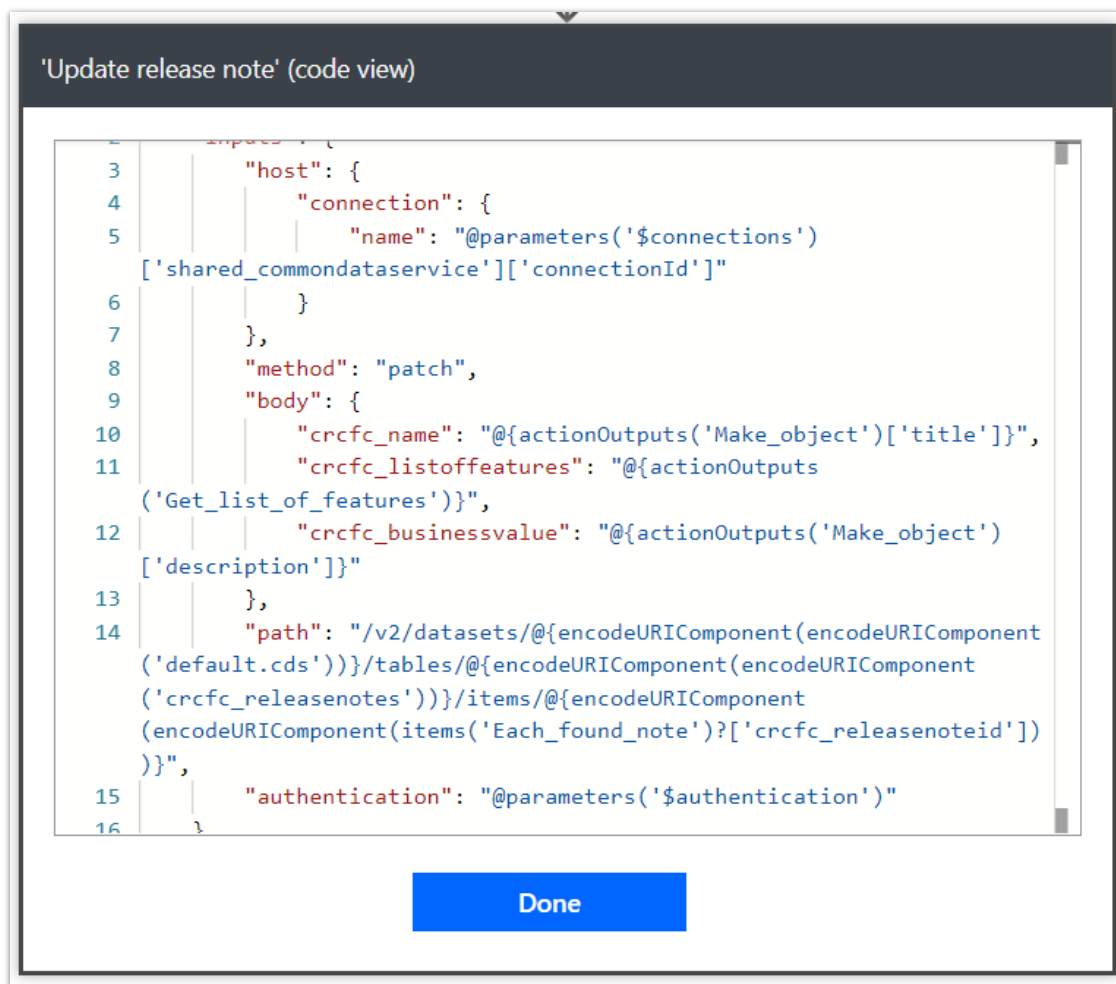
### Peek code in the Microsoft Flow designer

If you have a large action with many different inputs, sometimes it can be difficult to understand exactly what will be sent to the Connector from your flow. We have added a new **Peek code** option in the ... menu of all triggers and actions in the Flow designer.



*Peek code menu item*

When you select this option, you will see the full JSON representation of an action. This includes all of the inputs to the action, such as the text you entered directly, and expressions used. For example, you can select expressions here and paste them into the Dynamic Content expression editor. This can also give you a way to verify that exactly the data you expect is present in the flow.



```
'Update release note' (code view)
3 |         "host": {
4 |             "connection": {
5 |                 "name": "@parameters('$connections')
  | ['shared_commondataservice']['connectionId']"
6 |             }
7 |         },
8 |         "method": "patch",
9 |         "body": {
10 |             "crcfc_name": "@{actionOutputs('Make_object')['title']}",
11 |             "crcfc_listoffeatures": "@{actionOutputs
  | ('Get_list_of_features')}",
12 |             "crcfc_businessvalue": "@{actionOutputs('Make_object')
  | ['description']}"
13 |         },
14 |         "path": "/v2/datasets/@{encodeURIComponent(encodeURIComponent
  | ('default.cds'))}/tables/@{encodeURIComponent(encodeURIComponent
  | ('crcfc_releasenotes'))}/items/@{encodeURIComponent
  | (encodeURIComponent(items('Each_found_note')['crcfc_releasenoteid']
  | ))}",
15 |         "authentication": "@parameters('$authentication')"
16 |     }
```

Done

### Peek code view

Select **Done** at the bottom of the action to return to the normal action view.

## Custom response options in Approvals

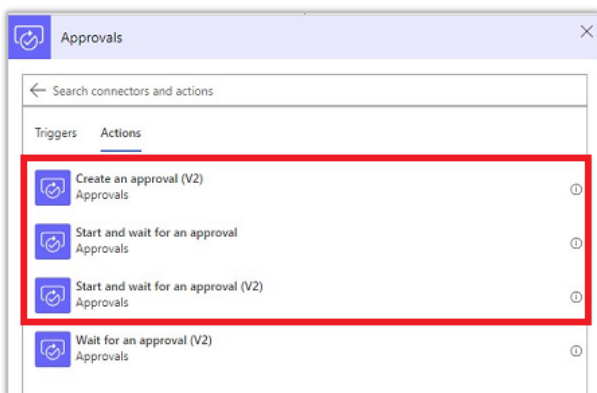
Use custom response options to create approval flows with responses that you tailor specifically for your organization's needs. For example, you can use custom responses to provide granular feedback like *approve*, *approve with edits*, or *reject* for content reviews, and more.

### Create an approval with custom responses

Let's say we want to send an approval request each time someone uploads a proposal to SharePoint and then allow the approver to respond with one of three options: *Accept*, *Accept with edits*, or *Reject*.

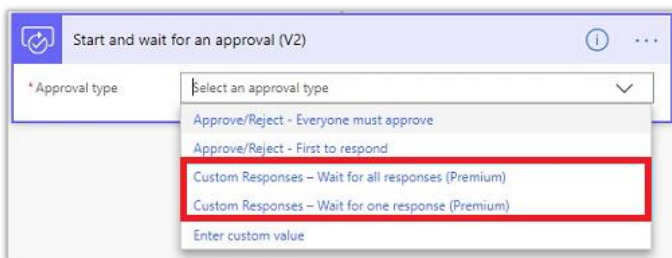
Follow these steps to get started:

1. Add an action that starts an approval.



#### List of approvals actions

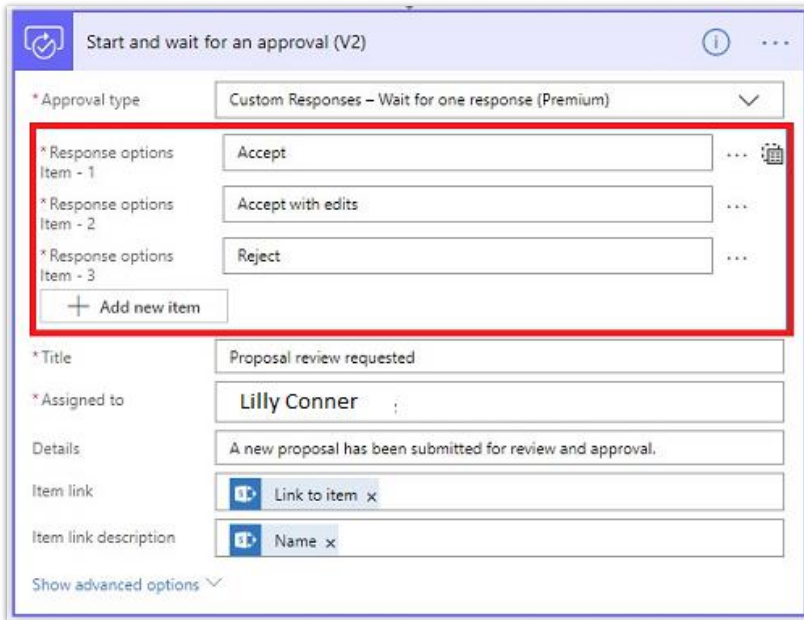
2. Select one of the two types from the **Approval type** list.



#### Approval types

3. Enter your custom responses into the **Response Options Item** fields.

**TIP** Select **Add new item** to add more custom responses.

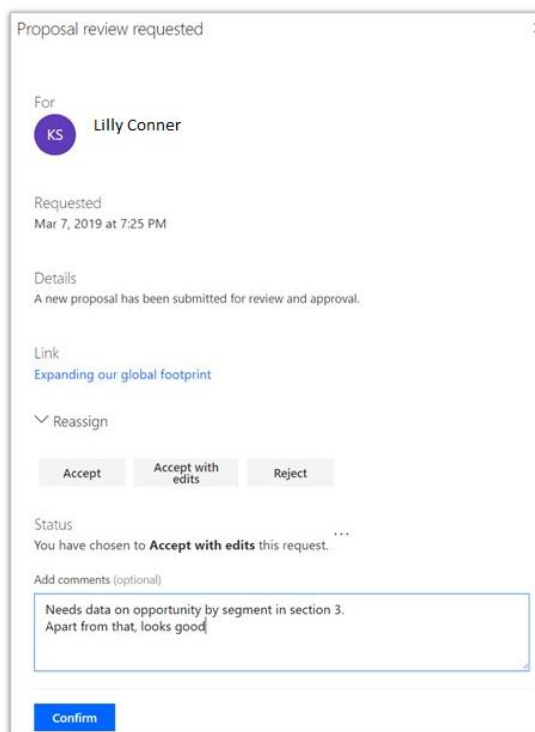


*Response options*

### Use approval responses

After an approver provides a decision on a request, you might want to do different things. For instance, if the response to the request is **Accept** or **Reject**, move the proposal to a SharePoint folder for accepted or rejected proposals. However, if the response is **Accept with edits**, send an email to the author to request changes to the proposal.

To do this, add a Condition or a Switch action to your flow, and then select the **Outcome** field of the approval request from the dynamic content picker. Be sure to confirm whether the value is **Accept**, **Accept with edits** or **Reject**.

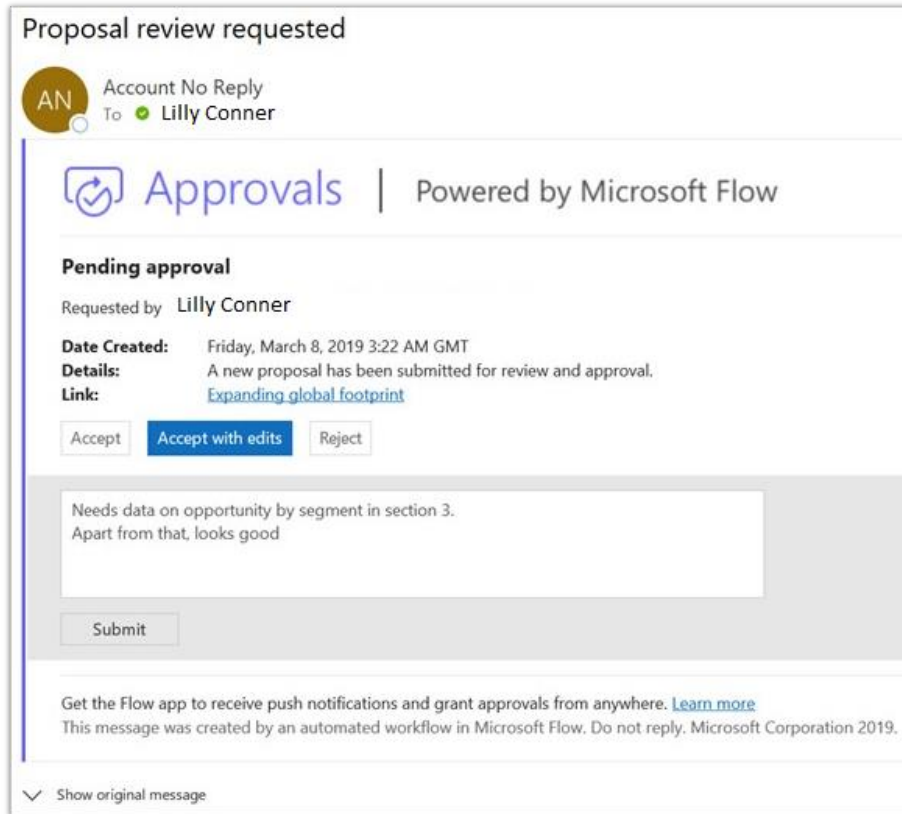


*Switch based on outcome*



## Respond to approval requests with a custom response

Go to the Approvals Center in Microsoft Flow, or to the actionable email, and then select your response.



### *Respond to requests*

## Change actions that have dependencies

One of the powerful aspects of automated flows is that any action can use data output by any trigger or action above it in the flow. However, this presents a challenge if you want to change a step at the top of the flow on which other actions depend. Previously, the flow designer would block you from making such a change because doing so would break other actions in the flow.

The new **Flow checker** highlights actions within a flow that need to be repaired. Now, you can delete or rename actions on which other steps depend. Use the **Flow checker** to fix the issues that arise.

## Diet designer for all templates

Introducing a new and improved experience for creating flows from templates. With this new update, you don't need to worry about the internal logic for enabling a business scenario or how to create a workflow for it. Just choose the template that fits your needs, provide configuration inputs and connections, and you will be automating business scenarios in a minute or less.

## Word document generation (Public Preview)

The new [Word Online \(Business\)](#) connector lets you work with Word files in document libraries supported by Microsoft Graph: OneDrive for Business, SharePoint Sites, and Office 365 Groups. Today there are two actions:

- **Convert Word Document to PDF:** Gets a PDF version of the selected file.
- **Populate a Microsoft Word template:** Reads a Microsoft Word template to then fill the template fields with selected dynamic values to generate a Word document.

You can build Word templates on either Windows or your Mac by [enabling the Developer tab](#). Once you have enabled that tab, under the **Controls** section you can add [any number of text content controls](#) into your document. Use the control **Properties** to give the control a friendly name that you will use in the flow. Once you are done creating your Word document, save it to one of the above document library locations.

Now, you can start building the flow. Add the **Populate a Microsoft Word template** action to your flow, and when you select that file you should see a list of all the controls that you added. Populate these fields with the values (probably from *Dynamic content*) you'll want to be in the new Word document. Finally, you can then use the outputs of the action and send an email, save the document to another location, or any number of other actions.

Note that at this time, repeating content controls such as those used in tables are not supported.

## Leverage device signals on mobile devices (Public Preview)

As covered by [this idea](#), customers can now use their location as a connector. The feature allows users to create a location range that will trigger a flow when a mobile device enters or leaves it. This enables certain flows to automatically occur, without needing activation from the user, further adding to the mobile applications efficiency.

# Business intelligence

## Overview of Business Intelligence October '18 release

With a focus on delivering immediate, out-of-the-box value to business users, Power BI has enabled users to address their own needs through a combination of prepackaged content and the ease of developing and sharing reports and dashboards. The resulting access to insights has proven a key enabler to organizations adopting a data-driven culture.

The October '18 release includes several innovations that further the democratization of business intelligence across the enterprise. (These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

### Power BI Desktop

Microsoft has rapidly delivered over 215 Power BI Desktop features in a series of monthly updates in response to passionate user feedback on proposed features. This October '18 release includes ways for report consumers to tweak visuals to answer a specific question about their data, even if they don't have edit access to the report, support for a pivot-table-like expand/collapse on the matrix visual, and continued improvements to Q&A usability.

For Power BI authors, the desktop adds composite models that allow data mashups across Direct Query and imported data sources, to augment data with additional insights. New navigation options, more flexible theming and branding, and expression-based formatting enable authors to create rich Power BI content with ease.

Power BI Desktop continues to use AI and natural language to make authors' lives easier. By leveraging new telemetry from Power BI, ISVs can learn how Q&A is being used in their apps and use this data to improve Q&A results. In addition, Quick Insights works over non-additive measures with complex business logic. These capabilities allow report authors to ensure users get the best results by leveraging both AI and the author's domain knowledge.

## Power BI Service

The October '18 release brings new capabilities in two primary areas, big data and enterprise BI.

### Working with big data

- **Starting with the Common Data Model** – Power BI supports a Common Data Model, published by Microsoft, that provides a standard yet extensible collection of data schemas (entities, attributes, and relationships) for business applications. Users can take advantage of a standard schema – or customize it based on their unique needs – to simplify how they enrich their data with other data sources, from Microsoft and third parties, to accelerate analysis.
- **Self-service data prep for big data** – We're expanding self-service data prep in Power BI with new capabilities to help business analysts extract insights from big data. Using the Power Query experience already familiar to millions of Power BI Desktop and Excel users, business analysts can ingest, transform, integrate, and enrich big data with Power BI – including data from a large and growing set of supported on-premises and cloud-based data sources, such as Dynamics 365, Salesforce, Azure SQL Data Warehouse, Excel, and SharePoint. Users can directly map data to known entities, modify and extend existing entities, or create custom entities all within Power BI.
- **Advanced analytics and AI with Azure** – We're fueling collaboration across roles by unifying access to data between Power BI and Azure Data Lake Storage. Business analysts can seamlessly operate on data stored in Azure Data Lake Storage with the self-service capabilities in Power BI, while data engineers, data scientists, and other users can extend access to insights with advanced analytics and AI from complementary Azure Data Services like Azure Data Factory, Azure Databricks, and Azure Machine Learning. For example, data engineers can add, enrich, and orchestrate data; data scientists can build machine learning models; and business analysts can benefit from the work of others and the data available in Azure Data Lake Storage while continuing to use the self-service tools in Power BI to build and share insights broadly.

### Enterprise BI

- **Enterprise reporting** – Popular and proven SQL Server Reporting Services technology is now part of Power BI, creating a unified, secure, enterprise-wide reporting platform accessible to any user across devices. Pixel-perfect paginated reports can now be included alongside Power BI's existing interactive reports.
- **Multiple geographies** – New flexibility to deploy Power BI in specific global regions enables organizations to keep data close to users for optimal performance and to meet data residency requirements.

- **Enterprise-scale BI models** – We're integrating the full power of SQL Server Analysis Services into Power BI, expanding the service with a highly scalable platform for semantic BI models. Organizations can provide users with reports that are fast, highly available, and easy to manage, while aligning with their unique compliance requirements. And with incremental refresh and aggregation capabilities, Power BI can query large amounts of data, while still enabling quick, interactive user experiences.

## Power BI Mobile

Power BI Mobile apps bring data and insights to any device. Business users can securely access and view Power BI dashboards and reports on any device, with mobile-optimized experiences for Windows, iOS, and Android. Key capabilities for the October '18 release include shared credentials with Office apps, collaboration capabilities on data, single sign-on for Windows, and advanced data exploration with drillthrough in mobile.

## Power BI Embedded

The October '18 release includes:

- A developer center with the resources developers need to develop their Power BI solutions.
- Automatic end-to-end deployment of Power BI Embedded solutions.
- Integration with Azure Diagnostics and Azure health.

## Power BI Report Server

With the Power BI Report Server, customers can meet their unique governance and deployment requirements while enjoying modern Power BI reports. In the January 2019 update to Power BI Report Server, customers will benefit from many of the features released in Power BI Desktop over the previous months, including drillthrough on measures and conditional formatting based on another column.

## Azure Analysis Services

Azure Analysis Services offers the proven analytics engine of SQL Server Analysis Services as a fully managed hosted service. All new in October '18 are:

- **Resource governance properties** – Ability to set maximum memory size per query and maximum number of rows for results to improve your control of resource use.
- **MDX column controls** – Turn off MDX usage of certain columns to dramatically reduce processing times and memory consumption.

## Summary of what's new in business intelligence

This topic lists the Power BI features planned for release between October 2018 and March 2019.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#)).

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

### Power BI Desktop

Feature	Release type	Date
<a href="#">Quick Insights for non-additive measures</a>	General Availability	October 15, 2018
<a href="#">Search in filter cards</a>	General Availability	October 15, 2018
<a href="#">Expand and collapse in matrix visual</a>	General Availability	November 12, 2018
<a href="#">Copy and paste across reports</a>	General Availability	November 12, 2018
<a href="#">Accessibility - Users can interact with Power BI Desktop via keyboard navigation and screen reader</a>	General Availability	December 11, 2018
<a href="#">Smart alignment guides</a>	General Availability	December 11, 2018
<a href="#">Per-report control of export</a>	General Availability	December 11, 2018

Feature	Release type	Date
<a href="#">New filtering experience</a>	Public Preview	November 13, 2018
<a href="#">Expression-based formatting</a>	Public Preview	April 2019

## Power BI Service

Feature	Release type	Date
<a href="#">Home</a>	Public Preview	October 2018
<b>Subscribe Others to Emails</b> - Subscribe other users or distribution lists to scheduled emails of reports and dashboards	General Availability	October 2018
<a href="#">Admin APIs</a>	General Availability	October 2018
<b>PowerApps Custom Visual</b> - BI creators are now able to consume PowerApps within their Power BI Reports in production solutions. Report creators can now refresh their Power BI reports from PowerApps unlocking many more ways to work transactionally with data warehouses within reports. BI creators also have simplified sharing options with their apps and reports.	General Availability	October 2018
<a href="#">Self-service data prep with dataflows</a>	Public Preview	November 7, 2018
<a href="#">Azure integration</a>	Public Preview	November 2018
<a href="#">Computed entities</a>	Public Preview	November 7, 2018





Feature	Release type	Date
<a href="#">Linked entities</a>	Public Preview	November 7, 2018
<a href="#">Dataflow refresh</a>	Public Preview	November 7, 2018
<a href="#">Dataflows on Premium capacity</a>	Public Preview	November 7, 2018
<a href="#">Workspaces with Azure AD groups</a>	Public Preview	October 2018
<a href="#">Multi-Geo for compliance (Power BI Premium)</a>	General Availability	March 2019
<a href="#">Query acceleration for large datasets (Power BI Premium)</a>	Public Preview	October 2018
<a href="#">Paginated reports (Power BI Premium)</a>	Public Preview	November 7, 2018
<a href="#">XMLA endpoint for third-party client connectivity and monitoring</a>	Public Preview	March 2019
<a href="#">Ask related questions using Q&amp;A</a>	General Availability	November 2018
<a href="#">Personal bookmarks</a>	General Availability	December 2018
<a href="#">Secure embed codes</a>	General Availability	January 2019
<a href="#">Customizable app navigation</a>	General Availability	February 2019



Feature	Release type	Date
<a href="#">Shared and certified datasets</a>	Public Preview	March 2019
<a href="#">Export enhancements</a>	General Availability	March 2019
<a href="#">Email subscription enhancements</a>	General Availability	March 2019

## Power BI Mobile

Feature	Release type	Date
<a href="#">Remote configuration for Report Server</a>	General Availability	October 2018
<a href="#">Drillthrough</a>	General Availability	October 2018
<a href="#">Dashboard-level commenting</a>	General Availability	October 2018
<a href="#">Consuming reports with shared filters (bookmarks)</a>	General Availability	October 2018
<a href="#">Single sign-on for Windows devices</a>	General Availability	October 2018
<a href="#">Mobile shared credentials</a>	General Availability	October 2018
<a href="#">Copy values</a>	General Availability	December 2018
<a href="#">Windows presentation mode for large screens</a>	General Availability	January 2019
<a href="#">Paginated Reports (RDL)</a>	Public Preview	October 2018



## Power BI Service Apps

Feature	Release type	Date
<a href="#">APIs to manage and embed Power BI Service Apps</a>	Public Preview	February 2019
<a href="#">Embedding Power BI content from Power BI Service Apps</a>	Public Preview	February 2019
<a href="#">Installing Power BI Service Apps</a>	Public Preview	February 2019
<a href="#">Personalization</a>	Public Preview	February 2019
<a href="#">Create a Power BI Service App package</a>	Public Preview	February 2019
<a href="#">Update an existing app</a>	Public Preview	February 2019

## Power BI Custom Visuals

Feature	Release type	Date
<a href="#">Accessibility support for custom visuals</a>	General Availability	October 2018
<a href="#">Certified custom visuals in the marketplace</a>	General Availability	October 31, 2018
<a href="#">Custom visual support for bookmarks</a>	General Availability	October 2018
<a href="#">Custom visual support for persistent filters</a>	General Availability	October 2018
<a href="#">Custom visual support for report tooltips</a>	General Availability	October 2018
<a href="#">Organization visuals</a>	General Availability	October 2018
<a href="#">Performance improvements</a>	General Availability	October 2018



## Power BI Embedded

Feature	Release type	Date
<a href="#">Enable developers to troubleshoot</a>	General Availability	October 2018
<a href="#">Integration with Azure Diagnostics</a>	General Availability	October 2018
<a href="#">Integration with Azure Service Health</a>	General Availability	October 2018
<a href="#">New developer portal</a>	General Availability	October 2018
<a href="#">New metrics for Azure load monitoring</a>	General Availability	October 2018
<a href="#">Visual configuration</a>	General Availability	October 2018
<a href="#">Workspace Collections deprecation</a>	General Availability	October 2018
<a href="#">Enable an app to programmatically use slicers</a>	General Availability	October 2018
<a href="#">Multi-region support</a>	Public Preview	October 2018
<a href="#">Supporting Azure Active Directory application authentication</a>	Public Preview	October 2018
<a href="#">Upgraded workspaces</a>	Public Preview	October 2018

## Power BI Report Server

Feature	Release type	Date
<a href="#">Support for new features of Power BI reports</a>	General Availability	January 2019
<a href="#">Row-level security (RLS)</a>	General Availability	January 2019



## Azure Analysis Services

Feature	Release type	Date
<a href="#">Resource governance</a>	General Availability	October 2018
<a href="#">MDX column controls</a>	General Availability	October 2018

## Power BI Desktop

Power BI Desktop continues to bring new capabilities to users. A strong focus on the fundamentals has unlocked new scenarios for large enterprises—including more accessible reporting and a continued investment in improving SAP connectivity.

New capabilities in Power BI Desktop include new ways for report consumers to tweak visuals to answer specific questions about their data, even if they don't have edit access to the report, support for a pivot table-like expand/collapse on the matrix visual, and continued improvements to Q&A usability in Power BI.

For authors of Power BI content, the desktop product has added broad capabilities to improve their experience and authoring power. Composite models allow mashups across DirectQuery and import data sources, allowing authors to augment data sources with additional insights. New navigation options, more flexible theming and branding, Microsoft Office-like features, and expression-based formatting give authors the tools they need to create rich Power BI content with ease.

A new Power BI dataflows connector in Power BI Desktop lets authors easily add entities from Power BI dataflows to their data models and use them to create advanced reports and visualizations leveraging the standard schema of the Common Data Model. Authors can even mash up dataflow data with data from other sources to build fully customized solutions.

Power BI Desktop continues to leverage AI and natural language to make authors' lives easier, bringing even more intelligence and insight into Power BI reports. By leveraging new telemetry from Power BI, partners can learn how Q&A is being used in their Power BI apps and use this data to improve their Q&A results. In addition, they will now get Quick Insights on more metrics, including non-additive measures. These new capabilities allow the report author to ensure their users get the best results when working with Q&A and Quick Insights, by leveraging both AI and the specific domain knowledge only the author can bring.

## New updates to make Power BI more accessible

Report authors are empowered to make data accessible to a diverse group of users by making it more keyboard navigable, compliant with high-contrast modes, and compliant with screen reader technology. Accessibility features not only help users who use assistive technology, but are also a good practice of universal design.

Many of the new features fill accessibility gaps between Power BI Desktop and the Power BI service:

- Slicers are keyboard accessible.
- Switching between report, data, and relationship views into the actual report or data or relationship view and to the top right user settings control.
- Report authors can set a custom tab order for their report.

Other new accessibility features include screen reader, keyboard navigation, and high contrast for:

- Field wells
- Filters in filter pane
- Selection pane
- Quick Measures dialog
- Q&A
- Row-level security
- Text boxes
- Selection pane
- Desktop dialogs
- Selecting, multi-selecting, right-clicking, and cross-highlighting visuals
- Field list
- Grouping dialog
- Conditional formatting and data bars dialog
- Start dialog

- File Restore dialog
- Warning bar
- User menu
- Sign In dialog
- Publish to Power BI
- Frowns dialog
- What if dialog
- Relationship dialog

### Resources

[Accessibility in Power BI Desktop reports](#)

### Copy and paste across reports

As a business analyst-focused tool, Power BI Desktop needs to provide commonly expected features that you find in other Microsoft products. Users can now copy visuals from one PBIX file and paste them into another. The pasted visual assumes the same data structure is available in the report, and the formatting is retained between reports where specific properties have been set. Otherwise, the second report's theme is used.

### Expand and collapse in matrix visual (Public Preview)

End users who are familiar with the PivotTable experience in Excel need a similar one in the Power BI matrix visual. Users can expand items in the matrix to see details while still showing higher-level information.

You can create a multilevel hierarchy on matrix visuals by adding multiple fields to the 'Rows' area of the field well. You can then expand and collapse items in the matrix hierarchy by clicking the plus/minus buttons to show details at a lower level.

### Resources

[Expand and collapse matrix visual](#)

## Expression-based formatting

Report authors need flexibility over how their visuals are formatted. As well as defining formatting through the formatting pane, a [DAX](#) expression can be used to set the formatting, giving full control over the business logic used to format the visual.

Authors can create rules that set the color of a KPI based on the progress towards a goal, set the style of a line on a chart based on which category is performing best, or any combination of these. Authors can even dynamically update the title of a visual based on selections made elsewhere in the report.

## New filtering experience (Preview)

We are revamping the filtering experience. Authors will have the ability to apply report themes and format the filter pane. The goal is for end users to know which filters are applied to the report. The filter pane will provide report authors the flexibility to design the filter pane the way they want so it looks like part of the report. Some functionality will include:

- Authors can decide the default state of the filter pane (expanded/collapsed).
- Users will be able to search for a filter value.
- Authors can format the filter pane and/or apply a report theme to the pane.
- Authors can hide a filter card from end users even though it is applied to the report.
- Authors can apply a filter and lock it so end users will not be able to modify the filter but will see it for their information.

In addition to the changes to the filter pane, we are also giving authors the flexibility to show filters (including slicers) that are affecting a visual. Authors can enable a filter icon as a visual header and all the filters affecting that visual will show up when the end user hovers or clicks on that filter icon. This will help end users understand which filters are impacting the visual and better interpret the insights.

## Resources

[New filtering experience](#)

## Quick Insights for non-additive measures

Quick Insights provides automated explanations for trends, changes, and distributions in users' data. Support for non-additive measures means these insights can be provided over metrics that use complex business logic such as inventory and user analytics.



**Explain the increase** and other Quick Insights features will work with model measures. Power BI analyzes the DAX structure of the measure to understand the dependent fields, and generates insights based on variations in those values.

**Resources**

[Quick Insights features](#)

**Search in filter cards**

You can already use Power BI slicers to search and limit the items shown to users. This ability is now available in filter cards in the filter pane as well.

**Smart alignment guides**

Report authors can now easily adjust the alignment of visuals on a page with the support of smart alignment guides. When dragging objects on the canvas, dashed red lines, similar to those in PowerPoint, will appear to indicate when edges are aligned, or the object is centered on the page.

Example of right- and bottom-edge alignment of visuals:



*Smart alignment guides in a Power BI report*

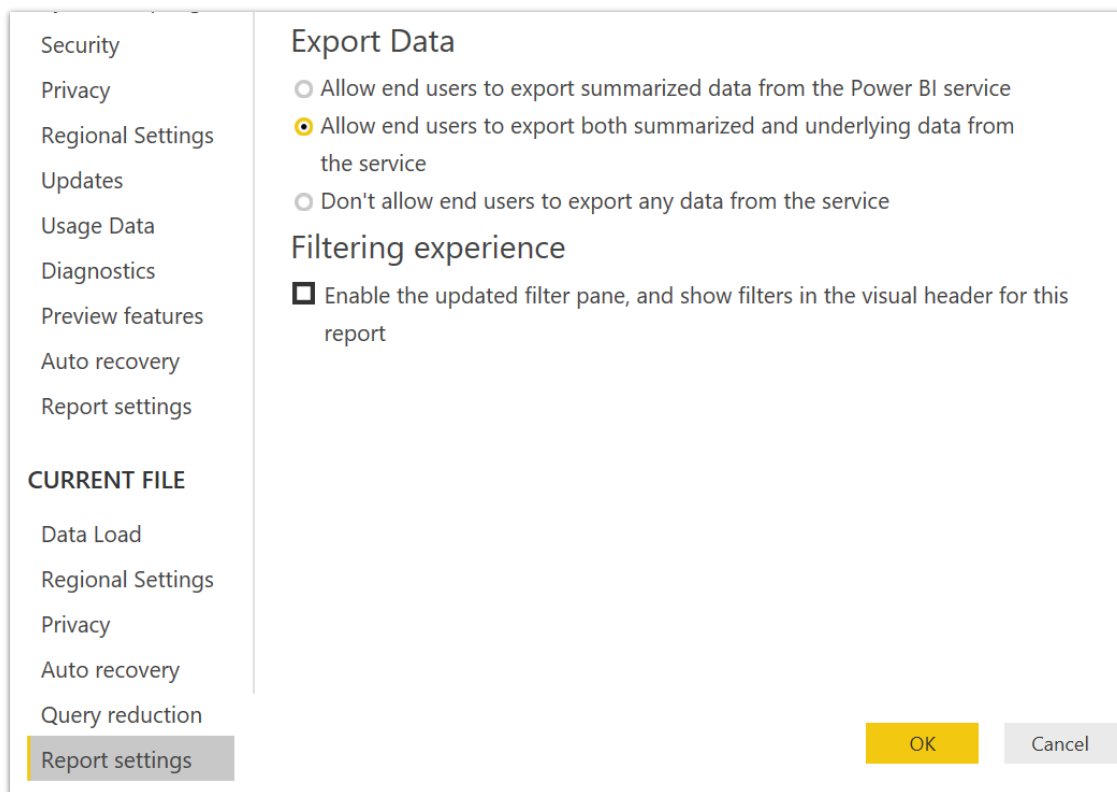
## Per-report control of data export

Report authors now have the flexibility to control the data export options available to consumers when the report is published to the Power BI service. The author can choose to:

- Allow end users to export summarized data from the Power BI service.
- Allow end users to export both summarized and underlying data.
- Block end users from exporting any data from the service.

The default for new reports will be to only allow the export of summarized data. Users can update this setting in the Power BI Desktop through the options dialog under Report Settings.

The export data settings for existing reports will be unchanged. If authors would like to only allow the export of summarized data, they must go to the report options and change those settings for existing reports.



*Report settings for exporting data in Power BI Desktop*

Users can also update this setting in the Power BI service through the report settings pane.

Settings for 2018SU04 Blog De...

Report name

2018SU04 Blog Demo

**Persistent filters**

Don't allow end user to save filters on this report.

**Visual options**

Hide the visual header in reading view.

Use the modern visual header with updated styling options.

**Export data**

Choose the type of data you allow your end users to export.

Summarized data and underlying data

*Report settings for exporting data in Power BI service*

#### Resources

[Export the data used to create the visualization](#)

## Power BI service

The October '18 release brings new capabilities in two primary areas: Working with big data and enterprise BI.

### Working with big data

- **Starting with the Common Data Model** – Power BI supports the Common Data Model, published by Microsoft, that provides a standard yet extensible collection of data schemas (entities, attributes and relationships) for business applications. Users can take advantage of a standard schema – or customize it based on their unique needs – to simplify how they enrich their data with other data sources, from Microsoft and third parties, to accelerate analysis.
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- **Advanced analytics and AI with Azure** – We're fueling collaboration across roles by unifying access to data between Power BI and Azure Data Lake Storage. Business analysts can seamlessly operate on data stored in Azure Data Lake Storage with the self-service capabilities in Power BI, while data engineers, data scientists, and other users can extend access to insights with advanced analytics and AI from complementary Azure data services like Azure Data Factory, Azure Databricks, and Azure Machine Learning. For example, data engineers can add, enrich, and orchestrate data; data scientists can build machine learning models; and business analysts can benefit from the work of others and the data available in Azure Data Lake Storage while continuing to use the self-service tools in Power BI to build and share insights broadly.

### Enterprise BI

- **Enterprise reporting** – Popular and proven SQL Server Reporting Services technology is now part of Power BI, creating a unified, secure, enterprisewide reporting platform accessible to any user across devices. Pixel-perfect paginated reports can now be included alongside Power BI's existing interactive reports.
- **Multiple geographies** – New flexibility to deploy Power BI in specific global regions enables organizations to keep data close to users for optimal performance and to meet data residency requirements.

- **Enterprise-scale BI models** – We're integrating the full power of SQL Server Analysis Services into Power BI, expanding the service with a highly scalable platform for semantic BI models. Organizations can provide users with reports that are fast, highly available, and easy to manage, while aligning with their unique compliance requirements. And with incremental refresh and aggregation capabilities, Power BI can query large amounts of data, while still enabling quick, interactive user experiences.
- **Application lifecycle management (ALM)** – New capabilities for enterprise-grade lifecycle management, as well as full API support for datasets through the XMLA protocol to help customers connect a variety of third-party BI tools to Power BI to create a unified enterprise semantic model repository.

### Admin APIs and admin portal

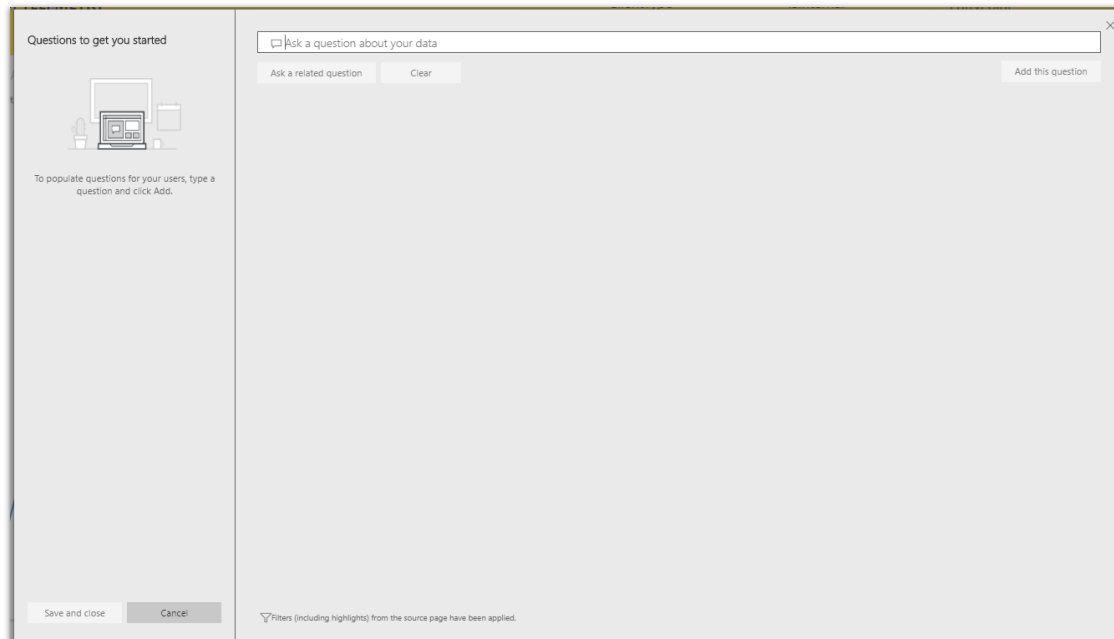
With the Power BI admin APIs, along with a .NET SDK and PowerShell modules, administrators can discover artifacts in their Power BI tenant, as well as take administrative actions. These new capabilities will unlock new possibilities for administrators that go beyond what's currently available in the Power BI admin portal. In addition, extended PowerShell Cmdlets for On-Premises Data Gateways enable administrators to enumerate the data gateways deployed in their Power BI tenant.

We are also incorporating some of these capabilities into the Power BI admin portal, to enable common scenarios without having to use PowerShell. Among other things, this includes a new page for workspace management as well as improvements to existing pages, such as to manage embed codes more efficiently. The new UI supports sorting, filtering, and bulk operations.

## Ask related questions using Q&A

Q&A now supports the ability to ask follow-up or related questions. This new feature allows business users and analysts to drill into specific questions and ask follow-up or related queries using natural language.

We support a range of different ways you can use a follow-up question. You can modify the original question, ask a related question, augment the original question, and keep going until you get the answer you want.



### *Ask related questions*

## Customizable app navigation

In large-scale deployments, Power BI apps enable distribution to large audiences. These apps often include multiple reports and dashboards. With customizable app navigation, we are giving reporting teams the power to customize in-app navigation so end users can find content quickly and with minimal training.

## Email subscription enhancements

We are updating email subscriptions so that you can choose specific times for when your emails will be sent (independent of dataset refresh). We also will enable you to set up email subscriptions using specific slicer/filter state on your reports. Additionally, we will introduce more report subscription formats that can be delivered as email attachments.

## Export enhancements

We will make some enhancements to export functionality, including:

- Export to PDF for reports, which will generate a multi-page PDF with all pages. We will also update the print capability in the Power BI service to use Export to PDF, which will ensure a higher fidelity and more consistent print experience for users.
- Setting filters or parameters for exports to PDF and PowerPoint so they can be customized for a specific audience or need.

## Premium Multi-Geo for compliance

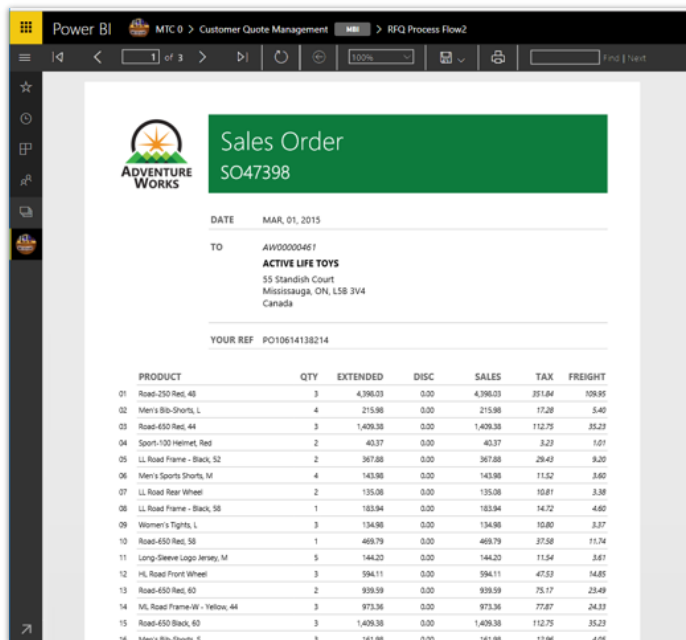
In July, we released a [preview of premium Multi-Geo](#), a new feature that helps multinational organizations address data residency requirements. We will make Multi-Geo generally available with the existing feature set available in the public preview.

This feature requires Power BI Premium.

## Paginated reports in Power BI (Public Preview)

Publish SQL Server Reporting Services (SSRS) reports (\*.rdl format) to a Power BI Premium workspace and view reports within the Power BI web app.

A report will render inside the Power BI web or mobile experience as shown below.

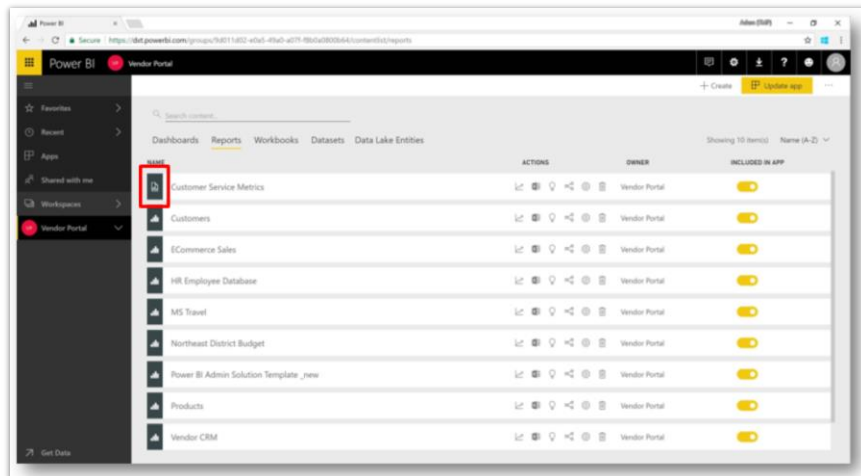


PRODUCT	QTY	EXTENDED	DISC	SALES	TAX	FREIGHT
01 Road-250 Rec, 48	3	4,396.03	0.00	4,396.03	351.84	109.85
02 Men's Bib-Shorts, L	4	215.98	0.00	215.98	17.28	5.40
03 Road-450 Rec, 44	3	1,409.38	0.00	1,409.38	112.75	35.23
04 Sport-100 Helmet, Red	2	40.37	0.00	40.37	3.23	1.01
05 LL Road Frame - Black, 52	2	367.88	0.00	367.88	29.49	9.20
06 Men's Sports Shorts, M	4	143.98	0.00	143.98	11.52	3.60
07 LL Road Rear Wheel	2	135.08	0.00	135.08	10.81	3.38
08 LL Road Frame - Black, 58	1	183.94	0.00	183.94	14.72	4.60
09 Women's Tights, L	3	134.98	0.00	134.98	10.80	3.37
10 Road-450 Rec, 58	1	469.79	0.00	469.79	37.58	11.74
11 Long-Sleeve Logo Jersey, M	5	144.20	0.00	144.20	11.54	3.61
12 HL Road Front Wheel	3	594.11	0.00	594.11	47.53	14.85
13 Road-450 Rec, 60	2	939.59	0.00	939.59	75.17	23.49
14 ML Road Frame-W - Yellow, 44	3	973.36	0.00	973.36	77.87	24.33
15 Road-450 Rec, 60	3	1,409.38	0.00	1,409.38	112.75	35.23
16 Men's Bib-Shorts, S	3	161.98	0.00	161.98	12.96	4.05

*Report in Power BI web*



Paginated reports are managed in Power BI workspaces alongside existing Power BI reports.



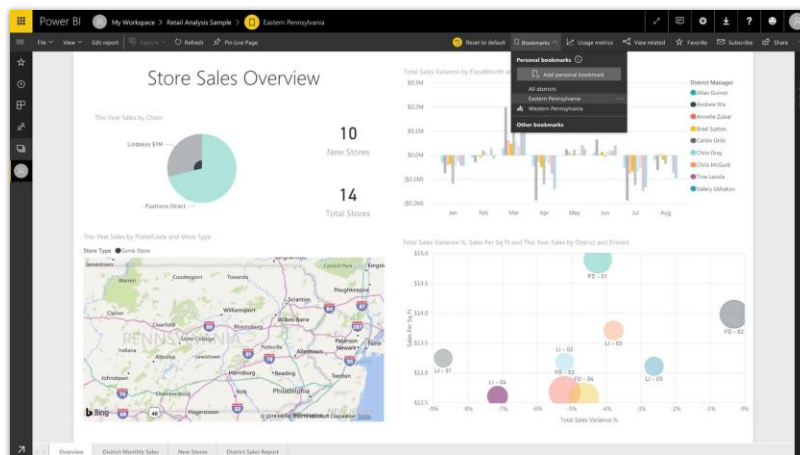
### Manage reports in Power BI workspaces

### Resources

[Paginated reports in Power BI](#)

### Personal bookmarks

Personal bookmarks enable end users to capture a view of the report, including filters and the state of visuals, and give it a friendly name for quick access. Users can create a collection of bookmarks and mark any one of them as default, so the saved bookmark gets applied each time they return to the report.



### Personal bookmarks

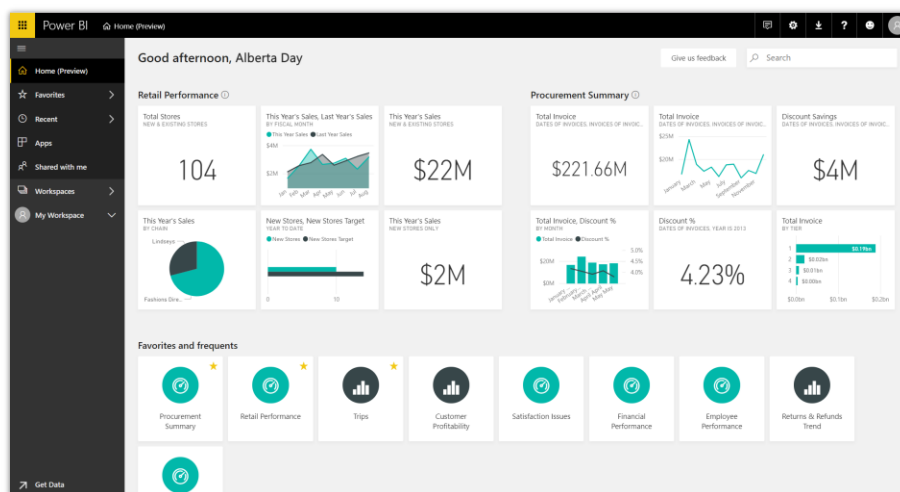




## Power BI Home

Power BI Home provides an at-a-glance view of a user's most important metrics and a launching point to navigate to content. The top section contains tiles and visuals from a user's most important dashboards and reports. Below that, the quick access section provides easy access to favorites curated by the user as well as the most frequently used content from the user's prior Power BI usage. A new global search experience allows users to quickly find content across all of Power BI. For users new to Power BI, Home will contain additional sections with tips on getting started.

Home will be available as an opt-in preview first, but will later become the default landing experience for all users.



### Power BI Home

## Query acceleration for large datasets (Public Preview)

Users can create [DirectQuery](#) models over any size data in sources, such as Spark and Azure SQL Data Warehouse, and then accelerate common queries by building in-memory aggregations over some of the data. Common queries use the aggregated cache to return results in a fraction of a second instead of directly querying the source. Users can create datasets of massive size and still provide interactive querying.

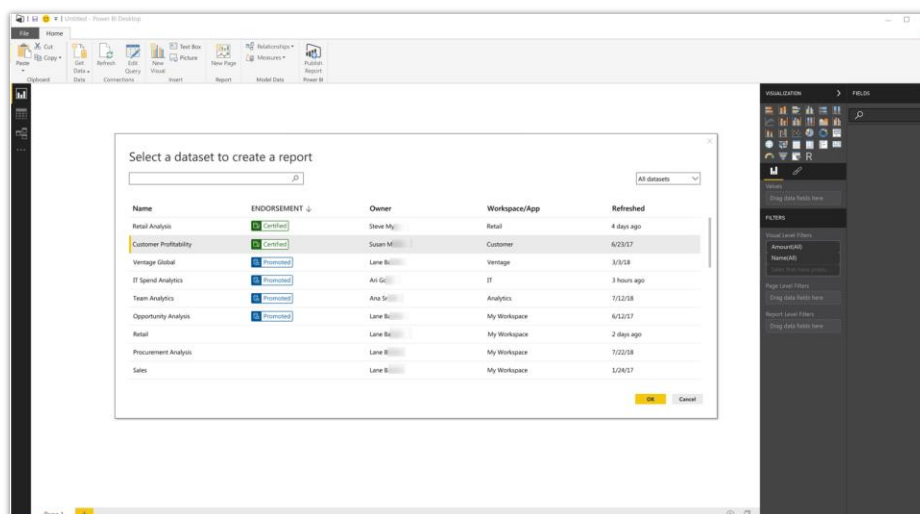
## Shared and certified datasets

Organizations embracing a data culture will have many individuals authoring reports, often using the same source data. This agility helps ensure the use of data is pervasive, but it also introduces governance challenges. With many users referencing the same source data, it creates duplicate work to keep all instances of the source data up to date within Power BI and it can be hard to maintain a single source of truth for data and important business metrics to be used consistently.

The data model behind a Power BI report or an Analysis Services model is excellent tools to build enterprise-wide semantic models that capture these important metrics, fostering reuse and maintaining the single source of truth. Now, with shared and certified datasets in Power BI, allowing users to discover those authoritative models is much easier.

*Shared datasets* can be used across workspaces—that is, a report in workspace A can refer to a dataset in workspace B. This way, an organization can set up a number of trusted and reliable datasets in a specific workspace and can enable analysts across the org to work with this data in their own workspaces to create new reports and dashboards. A new permission model ensures that only the right users get access to those datasets; a new dataset discovery experience (shown below) provides users with a single pane of glass to easily find all datasets they have access to. This discovery experience will be consistent in both the service and the desktop.

*Certified datasets* make it easier for organizations to steer users toward trusted and authoritative datasets. This "stamp of approval" for a dataset can only be applied by a specific group of Power BI users as defined in a new tenant setting. Once a dataset is certified, it shows up prominently in the new dataset discovery experience, making sure report authors can effortlessly find and leverage these high-quality sources of data.



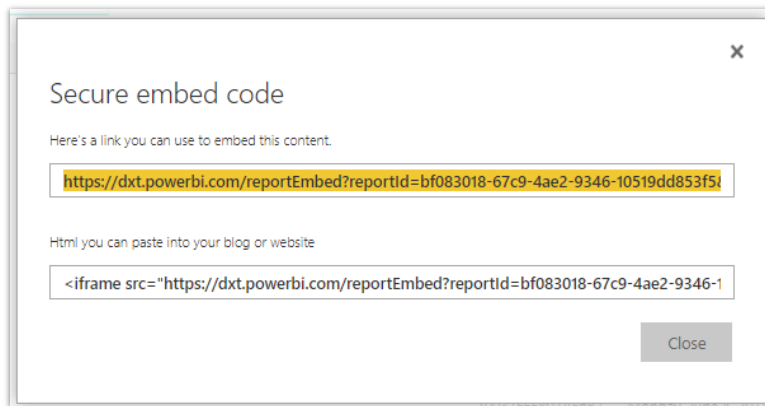
*Commenting example*



## Secure embed codes

We will release a new Embed option available on the File menu for reports in the Power BI service, enabling users to easily and securely embed reports in internal web portals, whether cloud-based or hosted on-premises, such as SharePoint 2019. Reports embedded in this way respect all item permissions and data security through row-level security (RLS). The feature is designed to allow no-code embedding into any portal that accepts a URL or IFrame as a means of embedding.

To view a report using the new Embed option, the user consuming the report must have a Pro license or the report must be in a workspace that is in a Premium capacity, such as EM or P.



### *Secure embed example*

## Self-service data prep for big data

- **Self-service data prep for big data** – We're expanding self-service data prep in Power BI with new capabilities to help business analysts extract insights from big data. Using the Power Query experience already familiar to millions of Power BI Desktop and Excel users, business analysts can ingest, transform, integrate, and enrich big data with Power BI – including data from a large and growing set of supported on-premises and cloud-based data sources, such as Dynamics 365, Salesforce, Azure SQL Data Warehouse, Excel, and SharePoint. Users can directly map data to known entities, modify and extend existing entities, or create custom entities all within Power BI.
- **Common Data Model support** – We've expanded the familiar Power BI workspace experience to include new tools to easily map your business data to the Common Data Model (Microsoft's standardized schema), enrich it with Microsoft and third-party data, and gain simplified access to machine learning. These new capabilities can be leveraged to provide intelligent and actionable insights into your business data.

- **Advanced analytics and AI with Azure** – We're fueling collaboration across roles by unifying access to data between Power BI and Azure Data Lake Storage Gen2. Business analysts can seamlessly operate on data stored in Azure Data Lake Storage with the self-service capabilities in Power BI, while data engineers, data scientists, and other users can extend access to insights with advanced analytics and AI from complementary Azure Data Services like Azure Data Factory, Azure Databricks, and Azure Machine Learning. For example, data engineers can add, enrich, and orchestrate data; data scientists can build machine learning models; and business analysts can benefit from the work of others and the data available in Azure Data Lake Storage while continuing to use the self-service tools in Power BI to build and share insights broadly.

### [Computed entities \(Public Preview\)](#)

Dataflow entities are stored in Common Data Model-compliant folders (CDM folders) in Azure Data Lake Storage Gen2. After your entities have been loaded to CDM folders, you can generate new insights by transforming, modifying, and enriching entities, and aggregating large-scale data. These newly created entities are also stored in CDM folders. Static analysis of Power Query M expressions makes it possible to identify dependencies between entities automatically, so they'll always be updated in the optimal order, with no need for manual orchestration.

Support for computed entities allows third parties to build Power BI apps leveraging dataflows with richer insights and AI capabilities. For example, you could enrich a customer account entity from Dynamics 365 for Sales with information from open service tickets in Dynamics 365 for Service, and relevant customer meeting information from Office 365. Refreshing computed entities requires Power BI Premium.

### [Resources](#)

[Using computed entities on Power BI Premium](#)

### [Linked entities \(Public Preview\)](#)

Power BI makes it possible to link entities from one dataflow to another without duplicating them. Linked entities can be used in the transformation, enrichment, or calculation of new entities. Avoiding duplication with linked entities makes it possible to maintain a single source of truth across your organization. Refreshing linked entities requires Power BI Premium.

### [Resources](#)

[Link entities between dataflows in Power BI \(Preview\)](#)

### [Dataflow refresh \(Public Preview\)](#)

Power BI will support advanced dataflow refresh features, including incremental dataflow refresh, to streamline and speed the dataflow refresh process and to support the ingestion of larger data sets. Requires Power BI Premium.

#### Resources

[Using incremental refresh with Power BI dataflows \(Preview\)](#)

### [Azure integration \(Public Preview\)](#)

Power BI can be configured to store data in Common Data Model-compliant folders in your organization's Azure Data Lake Storage Gen2 account where data developers and data scientists can access that data via Azure services. Over time, more and more Azure services (such as Azure Machine Learning, Azure Databricks, and Azure Data Factory) will introduce built-in support to read and write Common Data Model-compliant folders.

Power BI can also connect to Common Data Model-compliant folders created by Azure services in your organization's Azure Data Lake Storage account, enabling analysts to work seamlessly with this data in Power BI.

### [Dataflows on Premium capacity \(Public Preview\)](#)

Power BI administrators can easily assign workspaces with dataflows to Premium capacity and manage usage as part of a Power BI Premium subscription. Once capacity is allocated, dataflows will have access to the Power BI Premium storage (100 TB per P1 node), and dedicated capacity. Administrators can track capacity usage, resolve bottlenecks, and scale up capacity as needed.

Dataflows hosted on Premium capacity will support advanced features, such as calculated entities, linked entities, incremental refresh, and more.

#### Resources

[Self-service data prep in Power BI](#)

### [Self-service data prep with dataflows \(Public Preview\)](#)

Power BI introduces dataflows to help organizations unify data from disparate sources and prepare it for modeling. Analysts can easily create dataflows, using familiar, self-service tools. Dataflows are used to ingest, transform, integrate, and enrich big data by defining data source connections, ETL logic, refresh schedules, and more. Data is stored as entities in Common Data Model-compliant folders in Azure Data Lake Storage Gen2. Dataflows are created and managed in app workspaces by using the Power BI service.

You can use dataflows to ingest data from a large and growing set of supported on-premises and cloud- based data sources including Dynamics 365, Salesforce, Azure SQL Database, Excel, SharePoint, and more.

You can then map data to known Common Data Model entities, modify and extend existing entities, and create custom entities. Advanced users can create fully customized dataflows, using a self-service, low-code/no-code, built-in Power Query authoring experience, similar to the Power Query experience that millions of Power BI Desktop and Excel users already know.

Once you've created a dataflow, you can use Power BI Desktop and the Power BI service to create datasets, reports, dashboards, and apps that leverage the power of the Common Data Model to drive deep insights into your business activities.

Dataflow refresh scheduling is managed directly from the workspace in which your dataflow was created, just like your datasets.

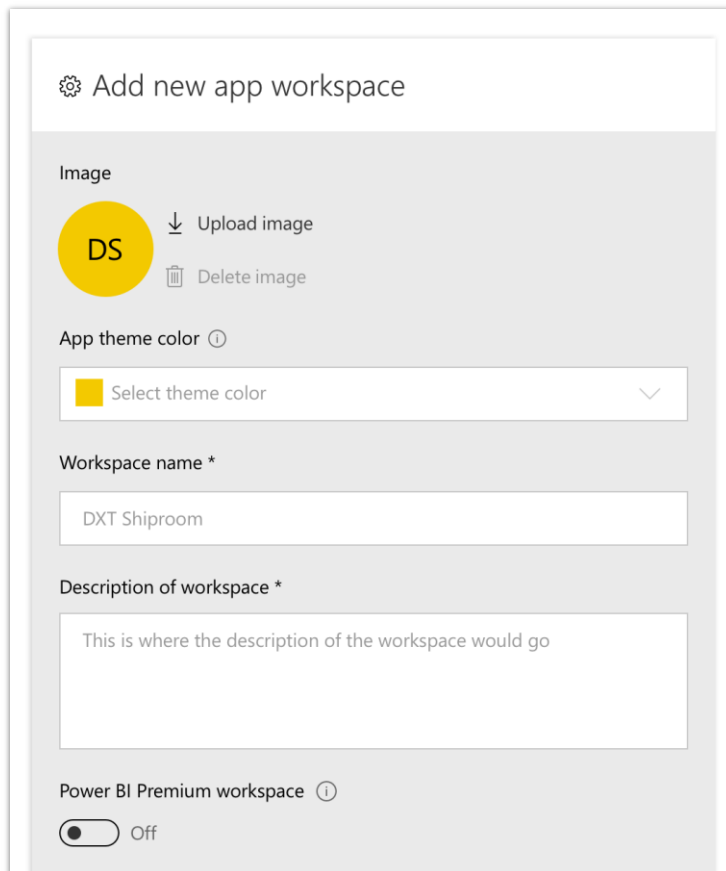
The preview includes more than 20 connectors to common data sources such as Excel, SQL Server, Oracle, Azure SQL Data Warehouse, Dynamics 365, and Salesforce.

## Resources

[Power BI data prep with dataflows](#)

## Workspaces with Azure AD groups (Public Preview)

Power BI workspaces have their own roles and permissions that are separate from Office 365 groups, and which enable control over management of workspaces. Capabilities include assigning workspace roles to individual users, Azure Active Directory (Azure AD) security groups, and Office 365 modern groups. Additionally, governance of Power BI workspaces is separated from governance of Office 365 modern groups.



The screenshot shows a mobile interface for adding a new app workspace. At the top, there is a gear icon and the text "Add new app workspace". Below this, there is a section for "Image" with a yellow circular icon containing the letters "DS". To the right of the icon are two options: "Upload image" with a downward arrow icon and "Delete image" with a trash can icon. Below the image section is a section for "App theme color" with a small information icon. It features a color selection dropdown menu with a yellow square and the text "Select theme color". Below that is a text input field for "Workspace name \*" containing the text "DXT Shiproom". Underneath is a text area for "Description of workspace \*" with the placeholder text "This is where the description of the workspace would go". At the bottom, there is a section for "Power BI Premium workspace" with a small information icon and a toggle switch currently set to "Off".

*A screenshot of how to add a Power BI workspace on mobile*

## XMLA endpoint for third-party client connectivity and monitoring (Public Preview)

With the support of the XMLA protocol for datasets in the Power BI service, customers will have more flexibility in how they deliver and manage their BI deployments. Since XMLA is the same protocol used for managing SQL Server Analysis Services and Azure Analysis Services models, a variety of Microsoft and third-party tools will be enabled.

The XMLA endpoint will allow read-only connectivity to Power BI datasets from third-party applications for analysis, debugging, and monitoring.

A future release will allow write access, enabling programmability to manage and update datasets from scripts or applications. This will enable scenarios for modeling, lifecycle management, and operations for Power BI datasets. Analysis Services tabular modeling features will be supported.

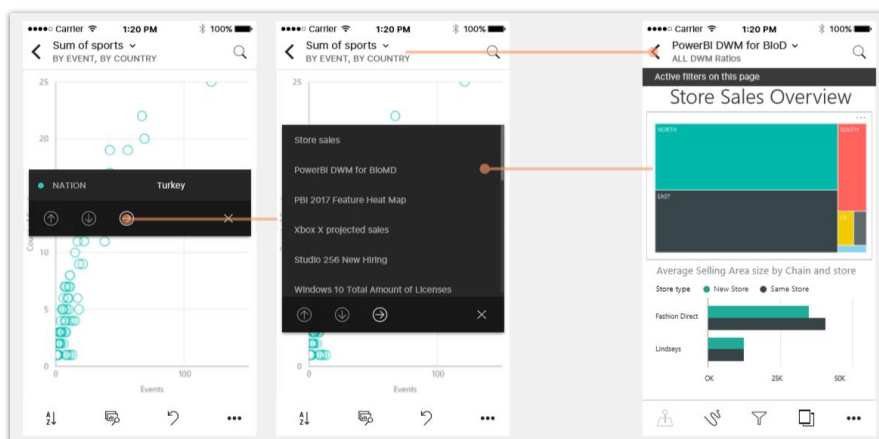
### Power BI Mobile

Power BI Mobile apps bring data and insights to any device (Windows, iOS, and Android) to enable business users to securely access and view live Power BI dashboards and reports.

### Drillthrough

This feature will allow business users to drill through to a different report page with matching filter context for additional detailed information.

Drillthrough is activated from the visual tooltip. When the user selects a data point and drills through, the data presented is filtered by that value.



*Drillthrough*



### Single sign-on for Windows devices

Power BI can be configured to take the user credentials from the Windows operating system and use them to sign in to Power BI to provide a seamless experience for business users.

This capability is also useful for large screen devices located in conference rooms and collaboration areas, and will not require users of the device to sign in again.

### Remote configuration for Power BI Report Server

Manually defining Power BI Report Server connection details is not trivial for most business users. With this feature, IT administrators who manage mobile devices in the organization, or Power BI administrators who manage Power BI apps, will be able to define Power BI Report Server configurations in their Enterprise Mobility Management (EMM) organizational tool.

This configuration includes Report Server's server name, URL, and username. These details will be pushed to the mobile device to set the Report Server configuration automatically. The mobile user will only be prompted to provide a password.

### Dashboard-level commenting

Allows business users to start and participate in conversations about their data directly from their mobile app. Conversation can be attached to a dashboard or a tile, and all users that have access to it can contribute to the conversation. Users also can receive mobile push notifications when someone mentions them in a conversation, so they can quickly be updated and reply back to the conversation from their mobile phone.

### Mobile shared credentials (iOS)

With shared credentials, Power BI Mobile users (iOS only) can sign in seamlessly by sharing the same credentials with Office apps that were already authenticated.

### Consuming reports with shared filters (bookmarks)

Sharing insights sometimes requires users to view and share report data filtered in a given way that reveals insights. Today, users can only share reports with a default state as defined by the report's author. With bookmarks, users can share a filtered (and/or sliced) report in a different state, which enables better collaboration on data that needs the user's attention.

When receiving a report shared with a filter (bookmark), the app will load the report with the relevant filtered state and will present the user with an indication that the report is filtered.

## Copy values

To improve Power BI Mobile users' productivity, the app will allow the user to select and copy visual's values to other applications. The copy action is enabled assuming that there is no "app protection policy" configured to block copy-paste from the Power BI Mobile app and other apps. Users will be able to copy values (or an entire table) from a visual data grid view with native copy experience.

## Presentation mode for Windows large-screen devices

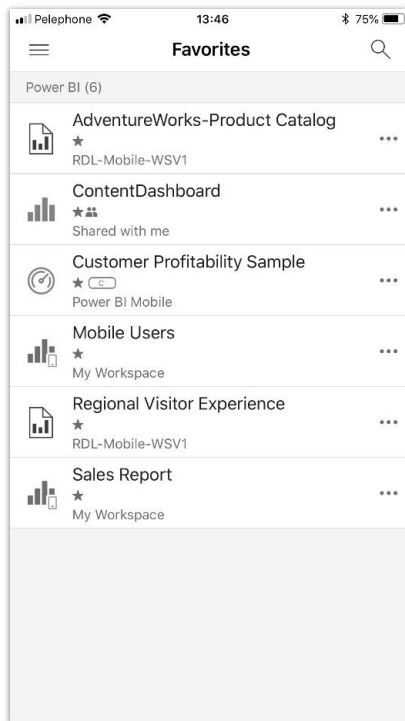
Our large-screen effort will introduce enhanced presentation mode to the Windows mobile app, targeted for Surface Hub devices.

Presentation mode is an app chromeless view that focuses on the data and visuals. This view will help make meetings more productive by putting the data in the center of the presentation and will bring tools (such as inking and sharing) to collaborate with other meeting participants.



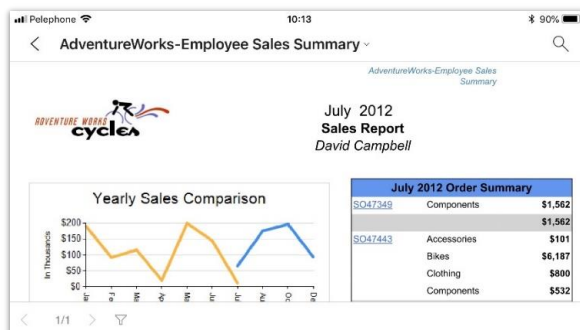
## Power BI paginated reports

Paginated reports will be fully supported by the Power BI service and Mobile apps. As in any other type of report, Power BI Mobile users will be able to access paginated reports from their mobile application. Users will be able to see paginated reports in the reports list section in workspaces, favorites, and recent. Paginated reports have a different icon to help distinguish between PBIX and RDL reports.



### *Paginated reports in Power BI Mobile app catalog*

Users can view their reports in landscape or portrait, paginate between report pages, and filter the report based on its parameters.



### *Landscape view of paginated report in the Mobile app*



## Power BI apps

Power BI apps will enable no-code/low-code experiences for Power BI partners to build Power BI apps and publish them in AppSource for all Power BI customers. The platform will help our partners build, market, sell, and grow their businesses faster.

### APIs to manage Power BI Apps

We will be expanding the ability to enumerate Power BI apps and their content through APIs.

### Embedding Power BI content from Power BI Service Apps

We are adding the ability to embed reports and visuals from Power BI Service Apps in other services and applications such as SharePoint Online, Microsoft Teams, and Dynamics 365.

### Installing Power BI Service Apps for dataflows (Public Preview)

Power BI users can jumpstart their solutions by installing out-of-the-box Power BI applications provided by Microsoft and partners. Power BI apps are developed using various Power BI artifacts from the data connectors used to populate a dataflow to the reports that visualize data for the users.

Before using an app, a user needs to run an installer that installs the app into the user's Power BI tenant and configures the various artifacts in the app deployment package, including defining relevant data source connection credentials and configuration.

### Resources

[Connect to data created by Power BI dataflows in Power BI Desktop](#)

### Licensing enforcement for Power BI Service Apps

The ability to monetize Power BI apps is one of the main incentives to develop and offer these applications to the market. The licensing, set by the application's developers, must be enforced by the platform to avoid abuse and revenue loss. Licensing enforcement is based on users registered and managed in Azure Active Directory as the application's users.

### Personalization

After installing a Power BI Service App, users will have the ability to personalize it to suit their needs. For example, a user focusing on sales in Europe can personalize the application to process and visualize data for Europe, while another user focusing on North America can personalize it to this specific region.

## Create a Power BI Service App package

As a Power BI Pro user, you can:

- Select a workspace and mark it as the source for an AppSource App.
- Create a package based on workspace content and workspace settings.
- Deploy a package to AppSource as a Power BI AppSource app that can be installed and configured in any other Power BI tenant.

## Update an existing Power BI app in AppSource

The application lifecycle management (ALM) story includes the following capabilities:

- An app is based on a Power BI workspace with additional settings (parameters).
- There are three release levels for an app: workspace (WIP) > package (release candidate) > published app (content that is publicly available to install through AppSource).
- On each release level we keep a single version: one workspace in WIP, one package, one published app. To make an update to a published app, you deploy a package. Deploying a package will overwrite the published app in AppSource.
- Building the app can continue at all times on the WIP workspace.
- Whenever you are ready to create a release candidate, save the package.

## Power BI custom visuals

Power BI visuals enable development of unique visuals that can be used like any other native Power BI visual.

With the October '18 release, Power BI visuals:

- Continue to support new Power BI features, ensuring custom visuals are on par with core visuals with regard to quality, performance, discoverability, and globalization.
- Enable organizations to safely and easily deploy, manage, discover, and use custom visuals internally.

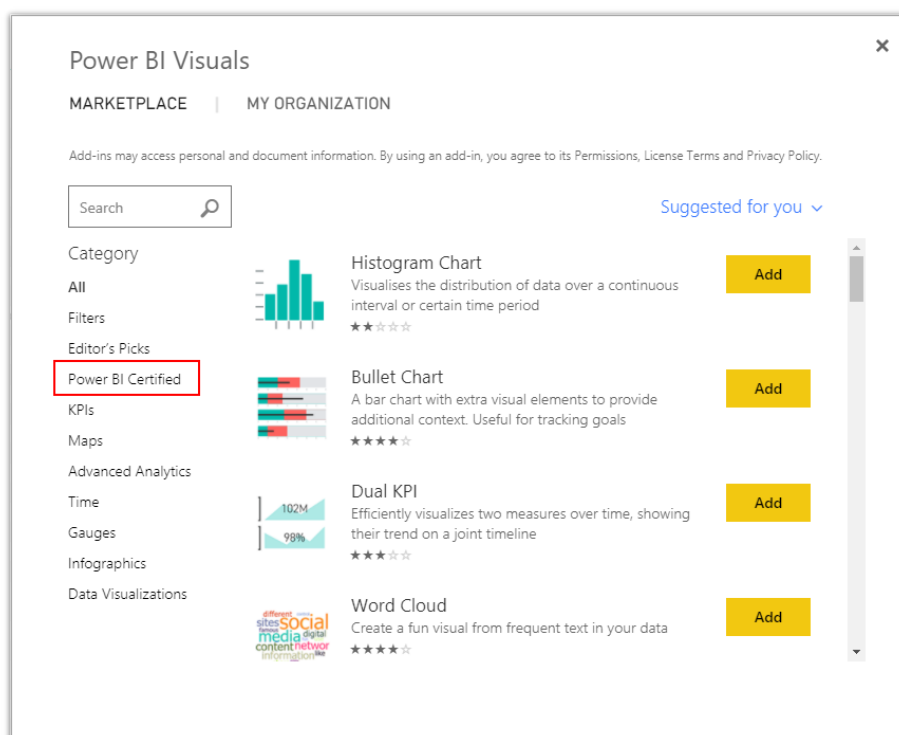
## Accessibility support for custom visuals

Custom visuals support high-contrast mode and keyboard navigation for accessibility by adding custom visual support for [color themes](#).

## Certified custom visuals in the marketplace

Developers of custom visuals in the marketplace can choose to go through an additional certification process for enhanced security and quality to get a certification from the Power BI team, which will enable the visual to be supported in export to PowerPoint and email subscriptions. In addition, the certification provides reassurance to users that the visuals are safe to use with their data.

Certified custom visuals will be clearly discoverable in the marketplace by filtering with the “Power BI Certified” category, and with a visual mark on the marketplace listing, both in AppSource and in the integrated UI.



*Certified custom visuals.*

## Custom visual support for bookmarks

Custom visuals will support the [bookmark](#) feature of Power BI. Developers can add code in the custom visuals to handle the creation and retrieval of bookmarks.

## Custom visual support for persistent filters

Custom visuals will be supported when users use [persistent filters](#) in the Power BI service.

## Custom visual support for report tooltips

Custom visuals will support [report tooltips](#) in the Power BI Desktop and service.

## Organization visuals

[Organization visuals](#) are the way in which Power BI administrators can deploy and manage custom visuals in their organization with support for [Publish to web](#), external sharing, the ability to disable visuals, and edit or update listings.

## Performance improvements

We will be bringing custom visual load times for single visuals and multi-visuals to be in the same order of magnitude as core visuals.

## Power BI Embedded

Power BI Embedded enables software as a service (SaaS) application developers to seamlessly add Power BI analytics within the applications they develop.

With the October '18 release, Power BI Embedded is:

- Making embedded analytics part of the main flow of an application through a set of APIs that enhance the application user's interaction with analytical objects.
- Integrating with Azure capacity management to enable developers to easily manage and control their Power BI objects or resources in Azure.
- Adding automation for application lifecycle management (ALM).
- Adding a faster, easier onboarding experience for new developers to start using Power BI Embedded.

## Error event logging

In the October '18 release, we are giving Power BI Embedded developers a way to troubleshoot by logging detailed error events to the console on demand, or to their telemetry. The improved experience includes better error messages, indicating root cause, and better documentation explaining the error codes and when there is a need to issue a support ticket.

## Power BI Embedded integration with Azure Diagnostics

We are integrating Power BI Embedded with Azure Diagnostics to enable diagnostics of Power BI Embedded along with other Azure resources used by the application. Azure Diagnostics is the capability within Azure that enables the collection of diagnostic data on a deployed application.



The Azure Diagnostics extension can transfer this data to an Azure storage account or send it to services like Application Insights. The data can be used for debugging and troubleshooting, measuring performance, monitoring resource usage, traffic analysis and capacity planning, and auditing.

### **Power BI Embedded integration with Azure Service Health**

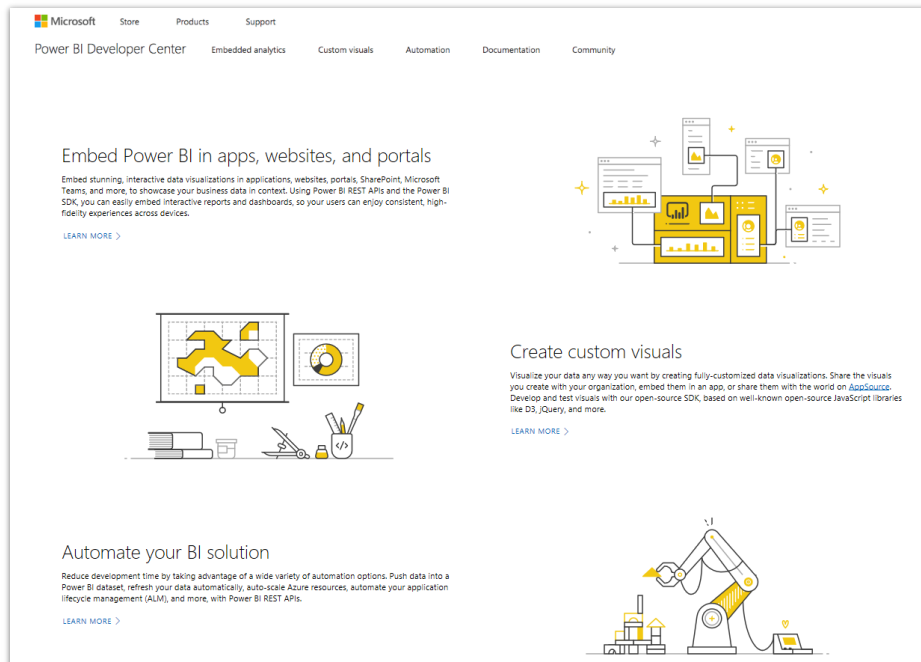
We are adding the ability to use Azure Service Health to track the availability of Power BI Embedded resources. When issues in Azure services affect your business-critical resources, Azure Service Health notifies you and your teams. It helps you understand the impact of the issue, and keeps you updated as the issue is resolved. It also helps you prepare for planned maintenance and changes that could affect the availability of your resources.

### **Multi-region support for Power BI Embedded (Public Preview)**

Power BI Embedded customers can purchase capacity in multiple regions, including regions other than the region where their Power BI home tenant resides. This capability gives customers control of where data resides, since they can assign workspaces and all the data in the workspace to be in a specific region, ensuring the data remains inside the region.

## New developer portal

A new developer portal for Power BI developers contains all the resources that developers need to work with Power BI Embedded, automate processes for their Power BI solutions, and build custom visuals. The portal includes links to relevant documentation.



### *New developer portal for Power BI*

## New metrics for Azure workload monitoring

As new workloads now available in Power BI- Paginated reports and Data flows, three new metrics will be added to monitor Power BI Embedded resource and workload consumption and trigger actions when configurable thresholds are exceeded. The new metrics will reflect each of the workloads in the resource. The new metrics are:

- CPU Consumption
- Memory Consumption
- Memory Commit Consumption (Incl. memory paging)

Developers can use Azure to define thresholds to trigger specific actions using alerts, such as automatic scale-up of the resource whenever a specific monitor crosses a defined threshold.

## Azure Active Directory application authentication (Public Preview)

We are adding application authentication to Power BI Embedded. This will enhance the deployment, security, and application lifecycle management Power BI Embedded applications. Currently, building a Power BI Embedded application requires the creation of a master user account, storing the credentials for that account, and then using them in the application code for performing non-interactive sign-in to Power BI. Azure Active Directory has special support for applications authenticating using their own identity without a user context. This support, designed for app-only authentication, allows higher control and security, has fewer limitations, and is the recommended approach.

## Visual configuration for Power BI Embedded

The visual is an integrated part of the application. As such, we are enabling the application to control which visual functionality and experiences the end user will be exposed to. The default behavior is to expose all the Power BI capabilities:

- Show in Focus mode
- Export data
- Show data
- Spotlight

The application will have the control to enable all or some of the capabilities, as well as decide whether to show the upper bar on the visual. We also allow these settings to be configured for each visual separately.

## Workspace Collections deprecation

The Power BI Workspace Collections service is being retired. You can now embed more Power BI features in your apps using Power BI Embedded. As of June 30, 2018, visuals embedded using Power BI Workspace Collections are no longer viewable within your apps. Application data will be available within the Power BI Workspace Collections service for six months. By transitioning to Power BI Embedded, your app users will still be able to view embedded visuals, and you'll have continued access to your data. Any Power BI Workspace Collections customers with an EA signed prior to June 30, 2017, will retire on the date their EA expires.

## Upgraded workspaces (Public Preview)

Remove workspace limitations by detaching from Office 365 Groups and sharing via security groups. We will add support for all existing APIs to work with workspaces as well as groups for backward compatibility. This work will make the transition smooth and transparent to developers.

## Enable an application to programmatically use slicers

The slicers API will give the application control, throughout the session, of the slicers the user interacts with. The API will be like the filters API so that it will be easy and intuitive for the developer. The supported capabilities are:

- Get slicers value
- Set slicers value on load
- Set slicers value during the session
- Get the value of the user's applied slicer

## Power BI Report Server

With the Power BI Report Server, customers can meet their unique governance and deployment requirements while enjoying modern Power BI reports. In the January 2019 update to Power BI Report Server, customers will benefit from many of the features released in Power BI Desktop over the previous months, including drillthrough on measures, and conditional formatting based on another column.

In addition, the Power BI Report Server will support other capabilities to address common enterprise reporting scenarios such as:

- **Support for new features of Power BI reports.** Many of the features added to Power BI Desktop for report creation may be available for reports published to the Power BI Report Server.
- **Row-level security (RLS).** Support for user-based security with RLS for reports published to the Power BI Report Server to restrict the data seen by each user, and compartmentalize sensitive information within the organization.

## Azure Analysis Services

Azure Analysis Services offers the proven analytics engine of SQL Server Analysis Services as a fully managed hosted service.

New features in the October '18 release include:

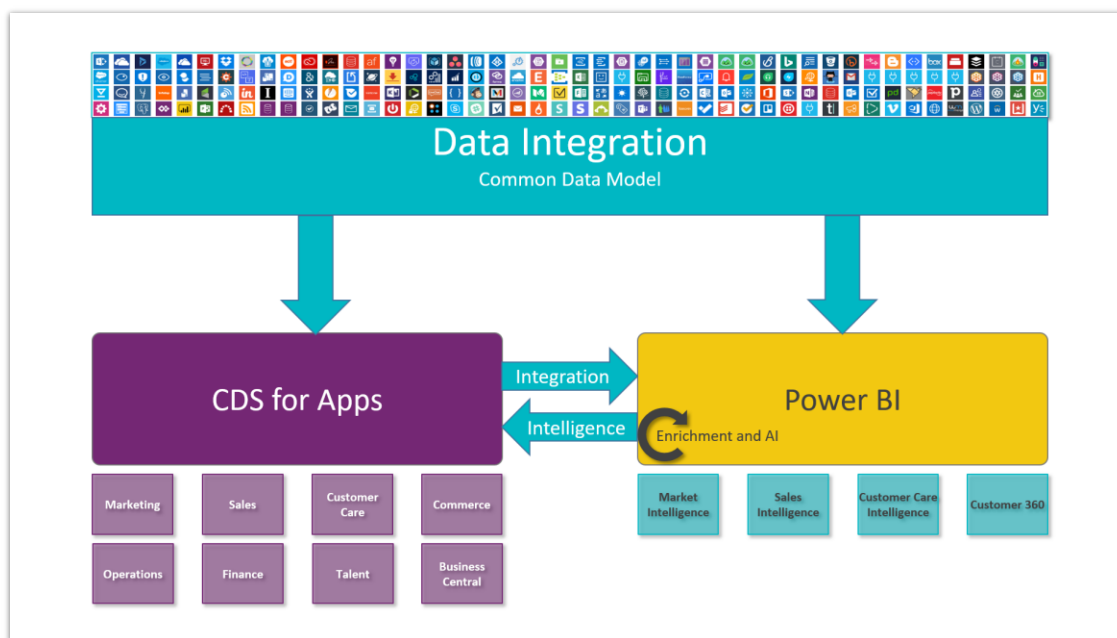
- **Resource governance.** The ability to set maximum memory size per query and maximum number of rows for results to improve your ability to control resource utilization.
- **MDX column controls.** Turn off MDX usage of certain columns to dramatically reduce processing times and memory consumption.

# Data integration

## Overview of Data Integration Platform October '18 release

(These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

Data Integration provides the connectors and gateways that make it possible to bring any external data into the Common Data Service (CDS) and store the data in Common Data Model (CDM) form. These connectors and gateways make it easier for organizations to integrate their data in a single place for business applications and analytics. Data Integration is based on Microsoft Power Query, the same technology that millions of people use daily in Power BI and Excel.



### *Data Integration Platform overview*

Data Integration provides direct connectivity to hundreds of business-critical data sources, including:

- Hybrid connectivity via the on-premises data gateway.
- Integration into Power BI, PowerApps, Logic Apps, Microsoft Flow, Azure Analysis Services, and Office 365 (Power Query in Excel).

Improvements to this platform functionality enable richer connectivity to Microsoft and third-party applications and services. The release delivers key innovations in the following areas:

- [Simpler, smarter transformation and integration of enterprise data with Power Query and Data Integration Platform](#)
- [Easier sharing, unification, and enrichment of data with Common Data Model entities](#)
- [Richer and more unified connector and developer ecosystem](#)
- [Enhanced administrator capabilities for Data Integration](#)
- [Enterprise-grade hybrid connectivity using the on-premises data gateway](#)

(These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

## Summary of what's new in data integration

Improvements to this platform functionality enable richer connectivity to Microsoft and third-party applications and services.

These release notes describe functionality that may not have been released yet. Delivery timelines and projected functionality may change or may not ship (see [Microsoft policy](#).)

When a month is used in the **Date** column, the feature will be delivered sometime within that month. The delivery date can be any day within that month, not just on the first day of the month.

For a list of the regions where Dynamics 365 business applications are available, see the [International availability guide](#).

### Power BI

Features	Release type	Date
<a href="#">New and Improved Connectors</a>	General Availability	October 31, 2018
<a href="#">Support for certified custom connectors in Get Data experience</a>	General Availability	October 2018
Improved Custom Connector development documentation including content for ODBC developers	General Availability	October 2018

Features	Release type	Date
<a href="#">New PDF Connector</a>	Public Preview	September 11, 2018
<a href="#">"Fuzzy Merge" Transformation</a>	Public Preview	October 15, 2018
AtScale connector	Public Preview	December 2018
Essbase connector	Public Preview	December 2018

### On-premises Data Gateway

Features	Release type	Date
<a href="#">Support for custom connectors in the personal and enterprise gateway</a>	General Availability	August 24, 2018
<a href="#">Guarantee high availability of gateways via clustering</a>	General Availability	May 30, 2018
<a href="#">Improved Kerberos single sign-on support</a>	General Availability	July 26, 2018
<a href="#">Improved data sources settings experience</a>	General Availability	October 8, 2018
<a href="#">Ability to manage all the tenant's gateways in the D365 admin portal</a>	Public Preview	December 2018
<a href="#">Traffic load balancing in the on-premises data gateway</a>	Public Preview	July 26, 2018



## CDS for Apps and Power BI dataflows

Features	Release type	Date
Scheduled Refresh support for Data Integration projects in PowerApps Maker Portal	General Availability	August 31, 2018
GDPR (Ability to export user data, ability to audit all CRUD operations by a user, DPIA document)	General Availability	October 31, 2018
Improvements for Data Integrator Admins - improved review of historical records (pagination in execution history)	General Availability	November 2018
Support for File Upload (Blank Table) as part of File Connector experiences	Public Preview	October 15, 2018
Ability to browse OneDrive Business files	Public Preview	October 22, 2018
Support for top enterprise relational connectors (including Oracle database, IBM DB2 database and PostgreSQL)	Public Preview	August 31, 2018
Support for in-lake Data Transformations	Public Preview	November 2018
Centralized setup experience for DI (prevent switch between maker/admin portals)	Public Preview	November 2018
Performance improvements including data and batch parallelism	Public Preview	November 2018
Ability to cancel running execution	Public Preview	October 1, 2018
Improved documentation including troubleshooting guidelines	Public Preview	November 2018



Features	Release type	Date
Ability to share projects within tenant	Public Preview	November 6, 2018
Richer dashboard with meaningful insights from integration data and additional integration related stats	Public Preview	March 2019
Automatic relationship creation between entities through Data Integration when the source entities are related	Public Preview	August 31, 2018

## Microsoft Flow and PowerApps

Features	Release type	Date
Use sample data in triggers for top connectors	General Availability	October 31, 2018
Improved connectors: Oracle Database and MQ	General Availability	October 31, 2018
Support for built-in keys for Microsoft Translator, Bing Search and Bing Maps	General Availability	October 31, 2018
Support for new regions: Brazil	General Availability	October 31, 2018
Support for new regions: US Government (GCC)	Public Preview	January 2019
Support for policy templates in custom connectors	Public Preview	January 2019
<a href="#">Power Query support for reshaping data in Microsoft Flow (with the SQL Server connector)</a>	Public Preview	September 24, 2018



Features	Release type	Date
Azure Data Factory Connector	Public Preview	April 30, 2018
New connectors: Dynamic Signal, Marketo, ElasticOCR, MailParser	Public Preview	May 31, 2018
New connectors PoliteMail and Cloud Connect Studio	Public Preview	June 30, 2018
New connectors ProjectWise Design Integration, LMS365, Azure IoT Central, and Survey123	Public Preview	July 31, 2018
New connectors Power platform for Admins, PowerApps for App Makers, PowerApps for Admins, Microsoft Flow for Admins, Project Roadmap, NetDocuments, and Microsoft School Data Sync	Public Preview	August 31, 2018
New connectors: TeleSign SMS, AppsForOps, and K2 Workflow	Public Preview	September 30, 2018

## Power Query

Features	Release type	Date
<a href="#">Community Website Launch</a>	General Availability	February 2019
<a href="#">Data profiling capabilities to easily identify errors and outliers as part of the Data Preparation workload</a>	Public Preview	October 15, 2018
<a href="#">Intellisense Support for M language</a>	Public Preview	September 11, 2018



## Connector Platform Extensibility

Features	Release type	Date
<a href="#">Consolidated connector certification program for partners to certify and release connectors for all products in the platform (Power BI, Microsoft Flow, PowerApps and CDS)</a>	General Availability	October 30, 2018
<a href="#">Support for custom connectors using the Power Query SDK</a>	General Availability	October 30, 2018
<a href="#">Improved development and validation tooling for M, OpenAPI and OData based connectors</a>	Public Preview	October 30, 2018

## Common Data Model

Features	Release type	Date
<a href="#">CDM GitHub repository where entity definitions open-sourced with additional documentation and tooling</a>	General Availability	October 31, 2018
<a href="#">Improved CDM documentation explaining the value proposition and providing prescriptive guidance for building extensions</a>	General Availability	October 31, 2018
<a href="#">Interactive, graphical Common Data Model entity explorer, with CDM GitHub enhancements</a>	General Availability	October 31, 2018
<a href="#">Initial CDM entity packs for industry solutions such as healthcare, financial services, and retail</a>	Public Preview	October 31, 2018
<a href="#">Additional CDM entity definitions covering key scenarios from popular Dynamics offerings including Finance, Operations, and Marketing</a>	Public Preview	October 31, 2018

## Simpler, smarter transformation and integration of enterprise data with Power Query and Data Integration Platform

We have simplified common data integration problems in enterprises by innovating in:

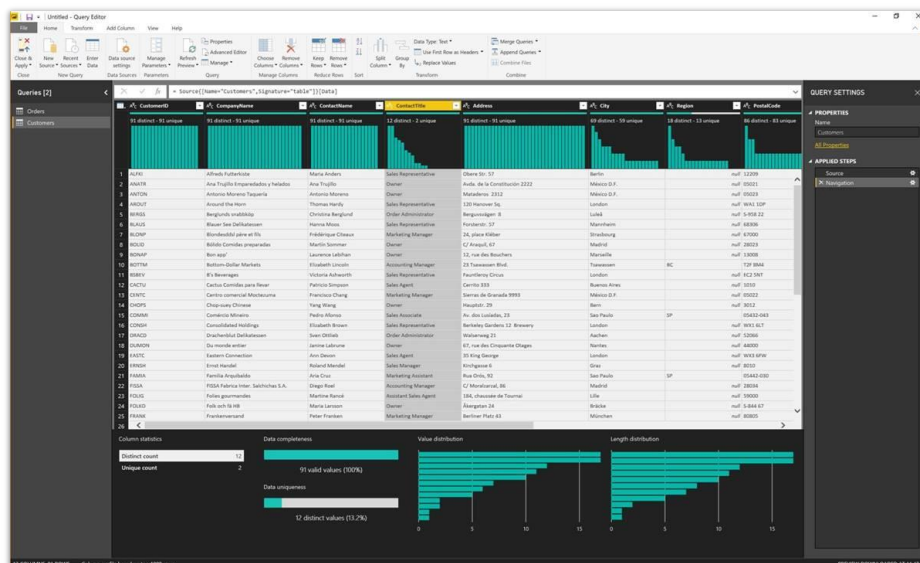
- New Power Query data preparation capabilities.
- Enterprise-grade connectors.
- Improvements for Common Data Service data integration.

### New Power Query data preparation capabilities

Power Query is being dramatically enhanced with market-leading *Smart Data Preparation* experiences, including:

- Data extraction from semi-structured sources like PDF files.
- HTML pages.
- Fuzzy-matching algorithms to rationalize and normalize data based on similarity patterns.
- Data profiling capabilities.

These abilities help to easily identify errors and outliers as part of the data preparation workload in the Power Query Editor.



*Power Query becomes smarter and more powerful*



Microsoft is leveraging its leadership in the artificial intelligence field based on years of investment in several projects within Microsoft Research, and surfacing these Smart Data Preparation capabilities in Power Query, making them easily accessible to millions of business users across different Microsoft products and services (Excel, Power BI, Common Data Service for Apps, and Microsoft Flow).

### **Intelligent transforms and AI support in Power Query**

Business analysts can easily incorporate AI-driven insights with a single-click access to AI-based transforms. Initial capabilities in this area will include sentiment analysis and keyword extraction from natural language text. Additional capabilities such as OCR and image analysis could be added over time.

Analysts and BI Pros will gain access to new out-of-the-box functions and APIs for AI transformations. This facilitates column transformations for sentiment analysis and keyword extraction with a click of a button, or with a single line of script, such as `"ApplySentimentIndex([textResponse])"`.

The Power Query APIs will also be supported for use during installation and configuration of Power BI applications making use of dataflows. In this instance, batch-processing of the transforms for the column will be directed seamlessly to a Cognitive Services container running as part of a customer's Power BI Premium capacity.

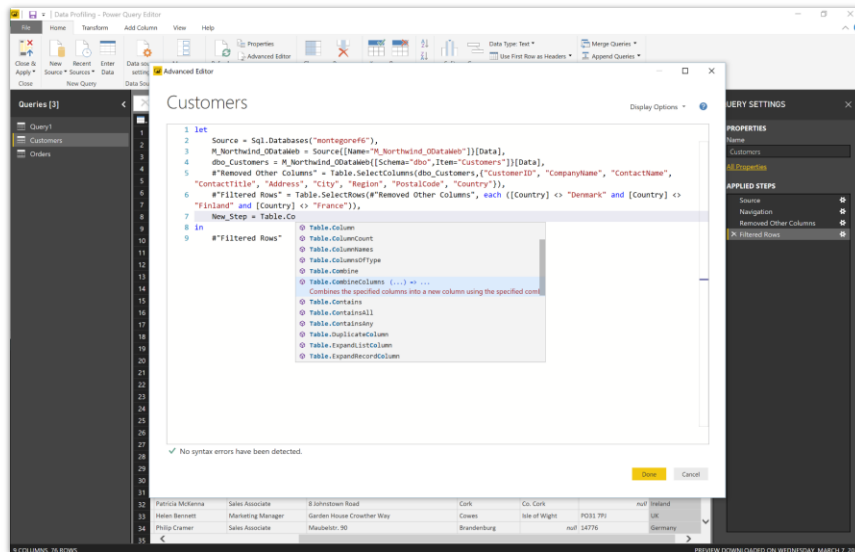
### **Analytic and ML extensibility with scripting**

We currently support the use of R scripts for custom modeling and visualization in Power BI. These R scripts can also be executed as part of data refresh in the Power BI Service leveraging the on-premises Data Gateway (personal mode) with the option to plug in custom R libraries.

Python has gained widespread adoption among developers and data scientists. It is the de-facto standard for data analysis and AI-related work due to its large support for useful libraries. As the next step, Power BI Desktop is adding support for Python scripting.

## Intellisense support for the M formula language

Intellisense support for the M language editing experiences (Advanced Query Editor, Add Custom Column, and Formula Bar) is being added to the Power Query Editor, making users more successful in editing their M code directly, being able to easily find errors, discover M library functions, and understand what parameters are needed. M Intellisense support is among the most requested features from intermediate-to-advanced Power Query users in the last couple of years and remains at the top of the feature asks for Power Query in the Power BI and Excel feature suggestions forums.



### *Intellisense support for the M language editing experiences*

In addition to new core capabilities within Power Query, Microsoft is also extending the range of products and services that leverage Power Query. Over the past six months, Power Query Online has been integrated with Microsoft Flow.

## Flow support for data filtering and mashup

Microsoft Flow now integrates with Power Query Online, allowing users to “Get Rows using Power Query,” which enables data filtering and mashup as part of the “Get Rows” action on specific connectors, such as SQL Server.

## Power Query documentation

Microsoft Docs has added a section for Power Query. These docs include samples, tutorials, how-to guides, and a developer reference for building custom connectors for Power Query. Any developer or end user interested in working in M, the language used in Power Query, will be able to answer many of their questions here.

## Power Query community website

A new Power Query community website has been launched. It includes Power Query technology overview and deep dive articles, as well as forums, UserVoice, and community-driven content (blog posts, webinars). This new community focuses on the core Power Query technology capabilities that enable partners to build new connectors and data transformations on top of the platform, and complements existing product-based resources (Excel, Power BI, PowerApps, and more), which cover specific Power Query integrations for end users.

## Enterprise-grade connectors

The Data Integration team continues to contribute to enterprise-grade connectors across Power BI, Common Data Service for Apps, PowerApps, Microsoft Flow, and Logic Apps.

For Power BI, Microsoft is releasing significant enhancements to their SAP Business Warehouse connectors (Application Server and Message Server), which put Microsoft Power BI at parity or, in some cases, ahead of any other third-party BI vendors in terms of connectivity to SAP Business Warehouse (BW).

SAP has **certified Microsoft's connectors for SAP HANA and SAP BW**. In addition, the SAP HANA connector has been improved to enable large enterprise capabilities, such as Security Assertion Markup Language (SAML) based single sign-on and SSL certificate validation. The SAP BW connector is being significantly enhanced with a new implementation that provides orders of magnitude better performance as well as additional capabilities.

Other connector improvements will include single sign-on support via Kerberos for Spark on-premises and releasing existing connectors as generally available, including **HDInsight Spark, Google BigQuery, Spark (non-HDInsight)**, and more.

There have also been improvements to the connectors within PowerApps, Microsoft Flow, and Logic Apps such as releasing write capabilities for Azure SQL Data Warehouse, numerous Visual Studio Team Services updates including better triggers and support for custom fields, and additional capabilities in the Oracle connector and many more.

The platform continues to evolve and has added new connectors that work consistently across Common Data Service for Apps, Power BI, PowerApps, Microsoft Flow, and Logic Apps, part of an effort to better align customer experiences across the full suite of products.

## Improved connectors and import experiences for CDS data integration

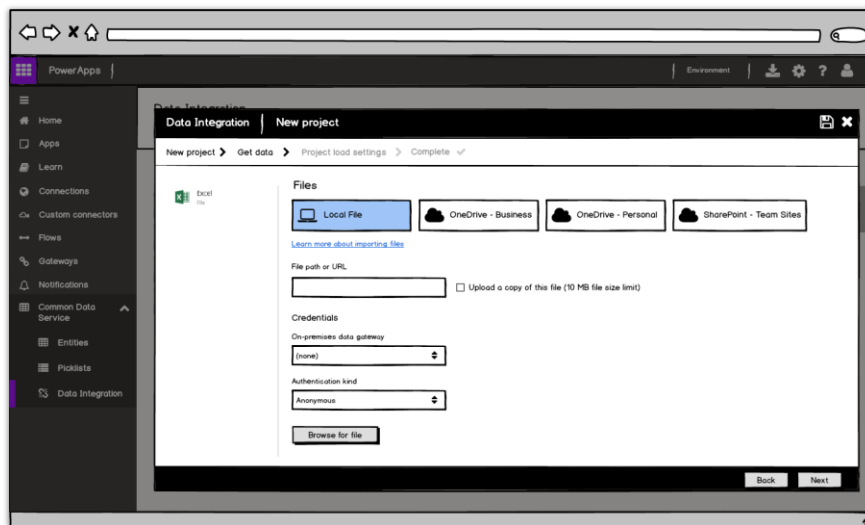
In April 2018, Microsoft unveiled a public preview of Common Data Service for Apps. As part of this preview, there were built-in capabilities for business users to import data from a wide range of data sources from Microsoft and third parties in the cloud and on-premises, leveraging a web-based, no-code/low-code Power Query experience that users are already familiar with from Excel and Power BI Desktop.



In the next six months, Microsoft will continue expanding support for data connectors and data transformations in this web-based Power Query experience, including support for business-critical data sources (on-premises and cloud), such as Oracle, Amazon Redshift, Google BigQuery, Impala, and others.

Microsoft is also adding support for custom connectors (based on the Data Connector SDK) in Power Query Online, so existing custom connectors built by partners can also be leveraged for data integration with Common Data Services for Apps and Power BI dataflows.

The user experience for importing data from files in Power Query Online is also being improved by allowing users to upload local files, which is a common request.



### *User experience for importing data from files*

Likewise, Microsoft will enable browsing in Power Query for files in popular cloud-based file storage services, such as OneDrive Business/Personal and SharePoint Team Sites.

## **Certified custom connectors in Power BI Desktop**

In April 2018, Microsoft released the first custom connectors in Power BI, leveraging the powerful capabilities of the M language to allow partners to write their own connectors and distribute them to every Power BI user. Now any user can easily access connectors from all their data sources, and vendors can easily write new connectors as their own customers demand, improving Power BI's role as the best BI platform for both vendors and end users.

In May 2018, this capability was brought in line with the existing Get Data experience, making the experience seamless with existing, out-of-the-box connectors, and enabling the number of connectors available with a single click to increase dramatically.

In October 2018, this capability becomes generally available, and Power BI will regularly deliver new, certified custom connectors to end users. If you want to know more about the connector certification program, check out the Power Query documentation [here](#).

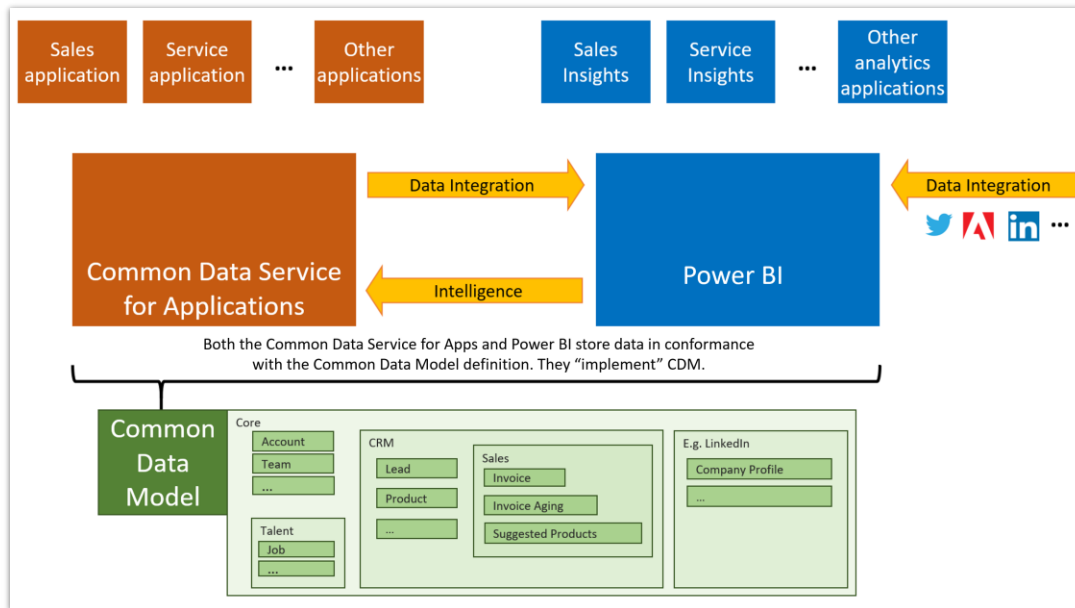
## Easier sharing, unification, and enrichment of data with Common Data Model entities

The open-source **Common Data Model** definition of standard entities has been enhanced for the **integration of business processes, applications, and profile enrichment** across sales, services, marketing, operations, finance, talent, and commerce business functions, as well as core entity profiles for customers to support observational data enrichment and analysis.

The Common Data Model (CDM) enables unification of data in a well-known form with structural and semantic consistency across applications and deployments. There is a **large and growing collection of solutions that work together efficiently** when data is stored in the Common Data Model form. This sharing of data and insights means you can quickly implement new business processes, analytical solutions, and gain a true 360-degree view into your business operations without complexity.

Since the initial release in March 2018, the public Common Data Model [GitHub repository](#) has [grown substantially](#) to several hundred well-defined, modular, and extensible business entities, including major extensions to support additional vertical industries in close collaboration with strategic partners. Improved [documentation and presentation content](#) allows customers and partners to better understand and use the Common Data Model. The no-code/low-code data integration, transformation, and enrichment experiences with Power Query continue to [support and implement](#) the CDM.

## A more expressive, richer Common Data Model



### Overview of the platform and CDM

Microsoft has been **collaborating with an ecosystem of ISVs** who help organizations digitally transform their business processes by creating industry extensions to increase reach and flexibility of the Common Data Model. These extensions represent a portion of the industry based on the expertise of the ecosystem and are expected to grow over time.

The following are some examples.

### Industry extensions for strategic verticals

In collaboration with partners specializing in certain verticals, the Common Data Model is being extended with industry entity packs for areas such as Healthcare, Retail, Financial Analytics, Education, and others. These entity packs are being released as part of a larger industry solution offering spanning the Business Application platform.

One such partner is **CUNA Mutual Group**, whose AdvantEdge Analytics solution helps credit unions better serve their members. Their extensions for the Common Data Model and standard data connectors help integrate data from line of business apps used by credit unions.

### Key scenarios from popular Dynamics offerings

Additional CDM entity definitions covering key scenarios from popular Dynamics offerings are being added, including scenarios from Finance, Operations, Marketing, and more. Along with updated Dynamics applications, customers will be able to leverage these standard entities in their own scenarios.

## Common Data Model community content

A Common Data Model and Data Integration content complements the CDM GitHub repository to provide guidance, deep-dive articles, and best practices.

## Common Data Model entity explorer

This interactive and graphical entity explorer allows customers and partners to better understand and leverage existing Common Data Model entities for business applications and analytical solution development. Detailed entity and attribute metadata descriptions provide insight into the rich semantics of the model.

## Improved documentation and presentation content

Improved documentation and presentation content for customers and partners to better understanding what's included in the Common Data Model, how best to use it within the platform, and how to customize it in a way that follows the CDM best practices.

Discussion forums are also being set up to support a community for application, data model, and data integration template developers.

In addition, partners will be able to find clear guidance on **how to become a strategic partner** for potential CDM [enhancements for industry verticals](#), to bring more applications to the CDS platforms and further enhance the ecosystem of ISVs and app developers.

- Descriptions of how these solutions and specific use cases enable joint customers and partners to be more successful in using and building solutions (on top of CDM and CDS platforms) much more easily, and how this creates a thriving ecosystem of additional apps and integrations.
- How to learn more about packaged turn-key solutions in AppSource that leverage these CDM enhancements, and how to acquire them.
- Joint announcements of these strategic partners, and testimonials of our joint customers.

Consultants interested in **building data integration templates and solutions** to connect systems of record and SaaS services to CDS are supported with standard connectors, the Data Connector SDK, and guidance and best practices on how to transform data to Common Data Model entities.

## Built-in automatic support for the Common Data Model

Power Query data integration experiences, data integration templates, CDS for Apps, and Power BI dataflows implement the Common Data Model. A critical part of the Common Data Model and the suite of products and experiences it supports is its extensibility.

**Data Integration Templates** accelerate integrating data into well-known Common Data Model entity shapes from common line-of-business applications and SaaS services. For example, the Salesforce template helps customers integrate their data into CDS and Power BI dataflows and thereby gain insights into their opportunities and sales pipeline. [Additional features](#) for templates will expand this capability to end customers as well.

## Richer and more unified connector and developer ecosystem

A critical part of Data Integration and the suite of products it supports is connectivity to external data sources. While we continue to invest in a set of enterprise grade data sources, there are a growing number of databases and services many users come to depend on outside of that set. To ensure our users can connect to the data they need, we continue to invest in our extensibility points throughout the platform.

### Improved development for connectors across the platform

Developers and ISVs looking to build connectors for our platform can choose to build connectors with actions and triggers for PowerApps, Microsoft Flow, and Logic Apps, or build rich data connectors for Power BI.

This release includes a number of improvements for ISVs and developers to build, test, and release their connectors across our entire platform. With the general availability of the Power Query SDK, developers now have access to a mature platform for building rich connectors for Power BI. Access the [Power Query SDK here](#).

### Improved consumption for connectors

With this release, we now provide an integrated experience to offer improved consumption experiences for connectors in Power BI Desktop and via the On-premises Data Gateway. Certified connectors built by partners and ISVs can now be easily discovered and used in Power BI Desktop. This integration will add connectors to the large number of integrations and improve experiences for our developers and consumers in the ecosystem. Both the personal and enterprise versions of the On-premises Data Gateway now support discovery and data refreshes for certified and custom connectors.

- [Support for certified connectors in Power BI Desktop](#)
- [Support for custom connectors in the personal and enterprise gateway](#)

### Unified connector certification program

Developers and ISVs building connectors may submit their connectors for certification to Microsoft. Certified connectors are released publicly and provide an integrated experience for end users. It increases the reach, discoverability, and usage of the service.

The connector certification program is open to submissions for any partner-built connectors that meet the basic requirements:

- The submitter is affiliated with the service the connector is built against.
- The connector supports business user scenarios for the targeted platform.

Read more about the [connector certification program](#).

## Enhanced administrator capabilities for Data Integration

Top asks from our customers in the October '18 release.

### General Data Protection Regulation (GDPR) and Accessibility General

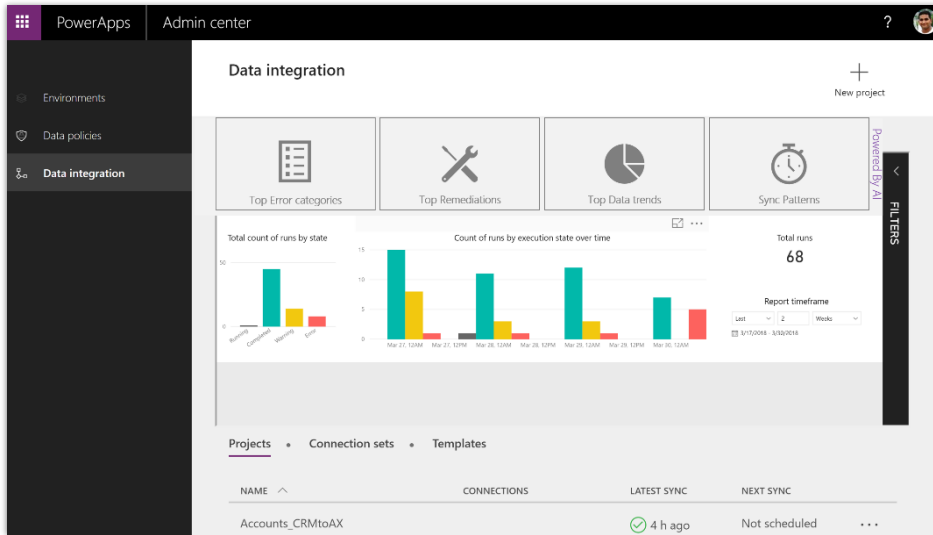
GDPR requirements are among the top company priorities this season. The data integrator for admins meets GDPR requirements that enable access and delete and other GDPR-granted data subject rights. Additionally, the data integrator for admins is also compliant with Grade-C accessibility requirements.

### Improving ability to customize and version templates

We understand every business is different. Since the release of the data integrator for admins, the majority of our customers have leveraged the ability to customize templates for process-based integration, making it a highly used feature. In the past, customers had to always start from an existing template and tweak it to create a new template. We have further enhanced this experience by providing a way to create new templates from scratch and provide an ability to version templates and validate source and destination solutions.

## A richer data integrator admin dashboard powered by AI

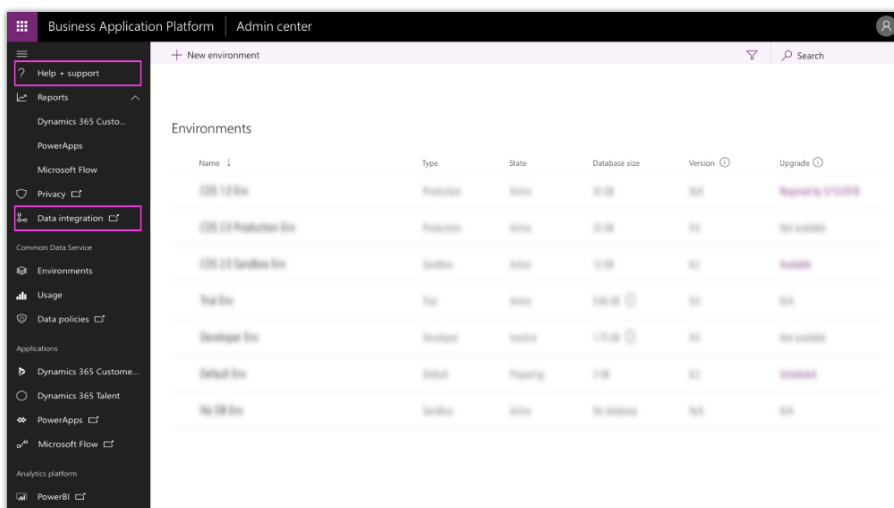
Earlier this year, Microsoft released an admin dashboard that provides a one-stop, real-time view of all project executions and their status with a drill-down to view details of executions. The enhanced dashboard now provides richer statistics, such as categorization of errors, remediation for frequent errors, intelligently suggesting data refresh intervals, data trend analysis and sync patterns. All this out of the box, without writing code.



*The data integration dashboard*

## Improved data integration setup and administration experience with performance improvements

By centralizing all experiences in the new Business Platform Admin Center, the data integrator for admins provides an improved setup experience wherein customers no longer need to switch between multiple portals. This includes a new ability to create data integration support tickets, in-place from the same portal. The project execution history will provide the full history over past executions. The data import performance will be improved with new automatic mechanisms for batching and data parallelism underneath.

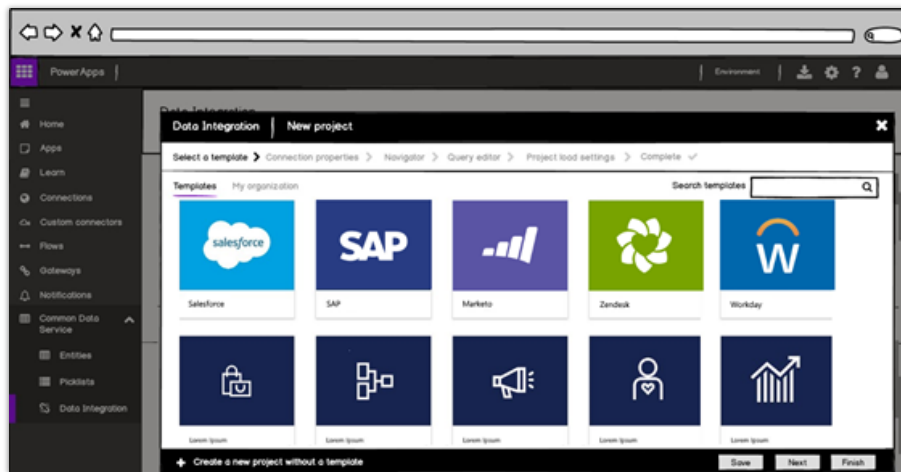


*Finding help and support for data integration*



## Ability to share data integration templates within and across tenants

Data Integration Templates accelerate getting data to the Common Data Service from common third-party systems of records and SaaS services. For example, the **Salesforce template** helps customers integrate their Salesforce data into CDS and gain insights into their opportunities and sales pipeline easily. In addition to Microsoft providing additional data integration templates out of the box, customers and ISVs can leverage the underlying platform to simply build their own new templates and share them across CDS instances, as well as customize existing templates to adapt them to their needs and repackage them as new templates for reuse.

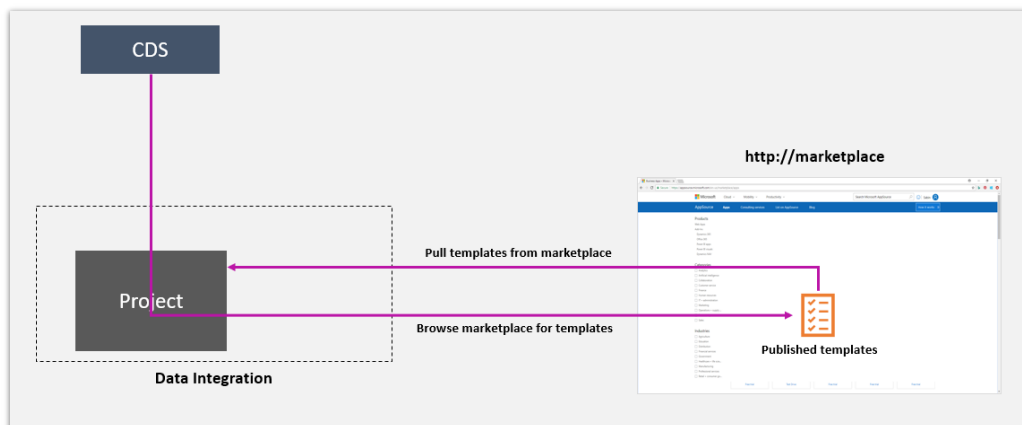


### *Templates to choose from*

Consultants can customize templates, as well as repackage and reuse them across CDS instances without having to repeat the process. Collaboration and distribution in larger enterprise organizations are supported through sharing templates with specific set users or groups.

With the help of Common Data Service for Apps role-based access, business users and admins will be able to assign fine-grained permissions that allow users within their organization to either read, contribute to, or own templates. This capability is also extended to data integration projects, as large enterprise organizations often need to structure who can contribute to projects and who can read/use. Multiple users can share projects and templates with permissions defined for their role.

Templates will also become easily discoverable in a central marketplace. Customers will be able to create a data integration project by easily browsing the marketplace and obtain the latest templates. Additionally, customers and partners will be able to create custom templates and publish them to the marketplace. Templates could also be shared across tenants with the ability to control viewership.



*Browsing and pulling templates from the marketplace*

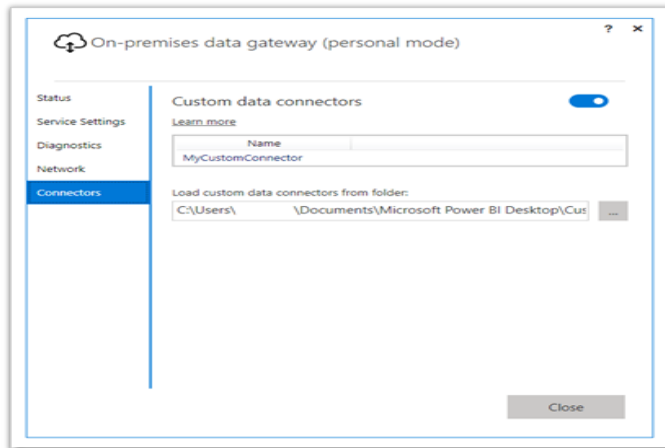
## Enterprise-grade hybrid connectivity using the on-premises data gateway

This release includes multiple updates around improving the on-premises data gateway.

### On-premises data gateway supports custom connectors

Earlier this year, we announced support for custom connectors in Power BI Desktop, leveraging the powerful capabilities of the M language allowing partners to write their own connectors and distribute them to every Power BI user.

Custom connectors support in the gateway allows users to have their reports that they built with custom connectors stay up to date on the Power BI service by refreshing the data through the on-premises data gateway.



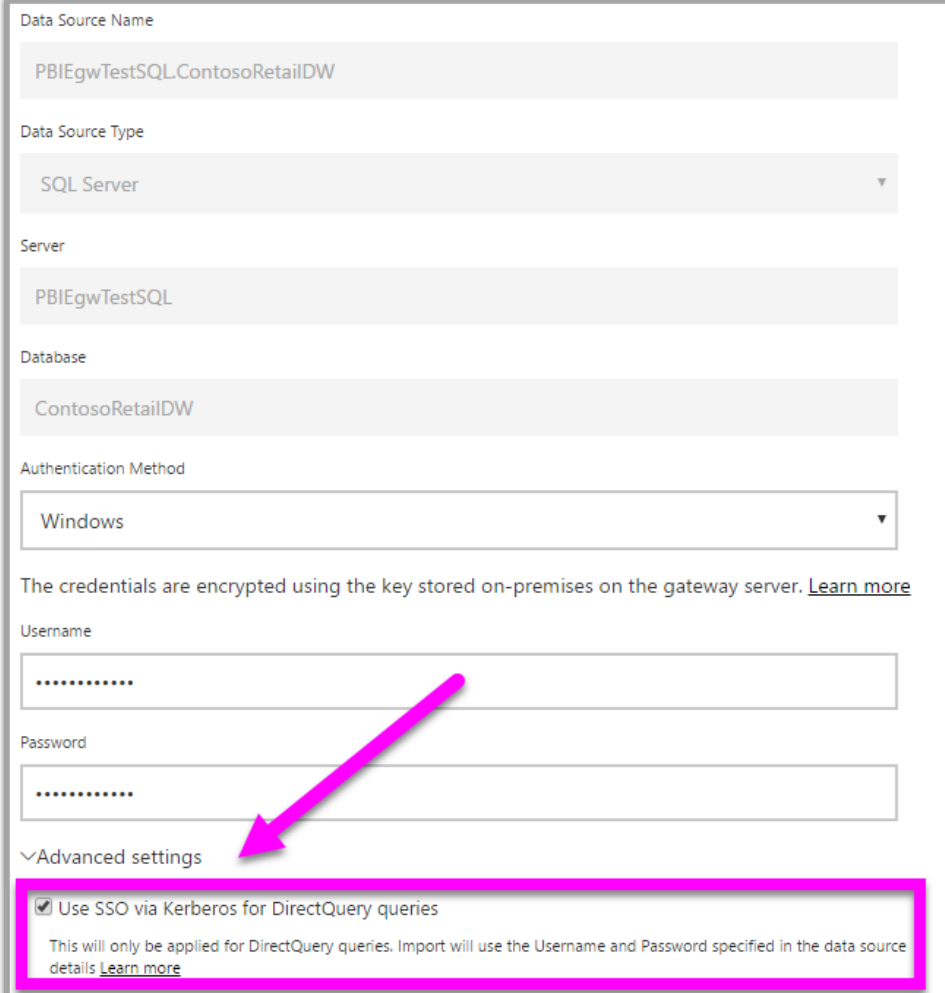
*Custom connectors support in the on-premises data gateway*

## **Guarantee high availability of gateways via clustering**

The high availability capabilities in the on-premises data gateway that we released in November 2017 are transitioning from public preview to general availability. Part of this effort includes multiple experience improvements, especially around better error reporting.

## Improved Kerberos single sign-on support

We will support multiple domains in our SSO implementation.



The screenshot shows a configuration form for a data source. The fields are as follows:

- Data Source Name: PBIEgwTestSQL.ContosoRetailDW
- Data Source Type: SQL Server
- Server: PBIEgwTestSQL
- Database: ContosoRetailDW
- Authentication Method: Windows

Below these fields, there is a note: "The credentials are encrypted using the key stored on-premises on the gateway server. [Learn more](#)".

There are two input fields for "Username" and "Password", both containing masked characters (dots).

Under "Advanced settings", there is a checkbox labeled "Use SSO via Kerberos for DirectQuery queries" which is checked. Below this checkbox is a note: "This will only be applied for DirectQuery queries. Import will use the Username and Password specified in the data source details [Learn more](#)". A pink arrow points to this checkbox, and the entire "Advanced settings" section is highlighted with a pink border.

### *Improved Kerberos single sign-on support*

## SAML-based single sign-on for supported data sources

Last year we added Kerberos single sign-on support to the gateway for multiple sources, including SQL Server, SAP HANA, and Teradata.

This period we plan to continue investments in single sign-on support by adding support to SAML-based single sign-on scenarios for supported data sources.

### **Improved data source settings experience**

We plan to improve the data sources creation experience on the "Manage Gateways" page in the Power BI service by adding some of the highly requested capabilities, such as the ability to rename data sources. Additional features can be requested and voted on at <https://ideas.powerbi.com>.

### **Tenant level administration of on-premises data gateway**

We intend to add the ability for tenant administrators to manage all the on-premises data gateways in their tenant through both an API and the user interface.

### **Basic traffic load balancing in the on-premises data gateway**

We plan to introduce the ability to split the requests traffic for a given gateway cluster across all gateways in that cluster. The gateway administrator will be able to turn this capability on and off according to their organization's needs.

Got feedback?

Share your feedback on a community forum for [Dynamics 365](#) or users of the "[Power](#)" suite of products (Power BI, PowerApps, Flow, and Stream). We'll use your feedback to make improvements.

To find out about updates to these release notes, follow us on Twitter [@MSFTDynamics365](#).

