

Microsoft Dynamics AX 2012 Security Roles & Licensing

Whitepaper

September 1, 2011

Contents

Using This Guide	3
Overview.....	3
Using Security Roles to Determine User License Requirements.....	3
Security Roles by User CAL Type	5
Self Serve User CAL	9
External Users Security Roles (referred as third party users).....	9
Licensing Devices for Specific Scenarios	10
Device CAL.....	10
Limited Device CAL.....	10
Examples of Security Roles and CAL Requirements by Industries	10
Manufacturing.....	10
Distribution.....	11
Retail.....	11
Services Industries: Professional Services	11
Services Industries: Engineering/Construction/Real Estate.....	11
Additional Resources.....	12

Using This Guide

The purpose of this guide is to help you understand how to license Microsoft Dynamics AX 2012. It is not intended as a guide for choosing Microsoft Dynamics products and services. The examples presented in this guide are illustrative. Microsoft Corporation reserves the right to review and/or update the existing version without previous notice.

THIS GUIDE DOES NOT APPLY TO MICROSOFT VOLUME LICENSING PROGRAMS.

For help determining the right technology solution for any given organization, including the license requirements for a specific product or scenario, customers are advised to consult with a Microsoft Dynamics Certified Partner or the Microsoft account team.

This guide does not supersede or replace any of the legal documentation covering use rights for Microsoft products. Specific product license terms are detailed in the Software License Terms document, which is available at <http://www.microsoft.com/en-us/dynamics/erp-buy-ax-software.aspx>.

Overview

This whitepaper shows the Microsoft Dynamics AX 2012 Security Roles out-of-the-box, classified by Client Access Licenses (CALs). It is strongly recommended that you read the [Microsoft Dynamics AX 2012 Licensing Guide](#), the [Software License Terms](#) and the [role-based security in Microsoft Dynamics AX 2012](#) before reading this whitepaper in order to understand the Microsoft Dynamics AX 2012 Security Roles defined in the solution.

Access to the Microsoft Dynamics AX 2012 solution by individuals is licensed through User CALs. There are four User CAL types in Microsoft Dynamics AX 2012: Enterprise User, Functional User, Task User, and Self Serve User. Which capabilities a user is entitled to access depends upon which User CAL type they are licensed with. For instance, in order to grant a user with the access rights to a menu item defined as an Enterprise level menu item, that user must be licensed by the Enterprise User CAL. (Please refer to the Microsoft Dynamics AX 2012 Licensing Guide to understand more about menu items)

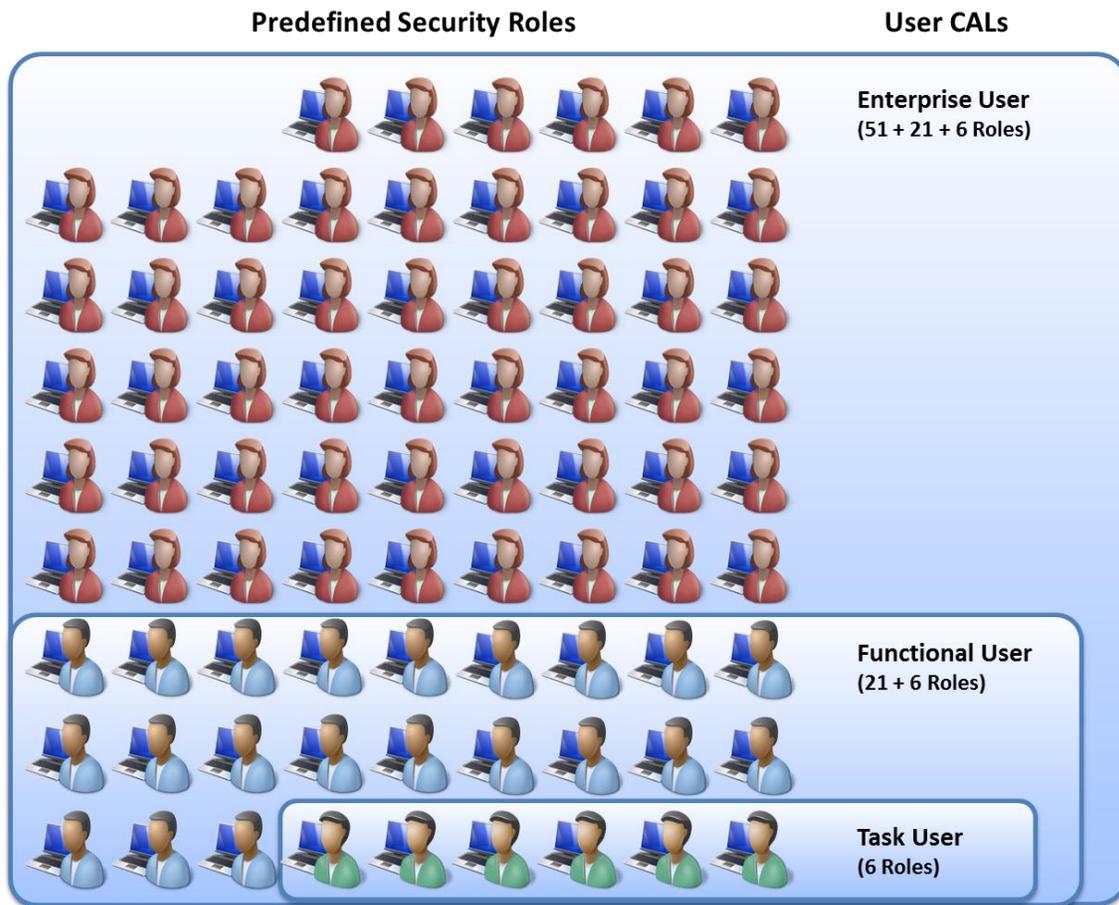
In its out-of-the-box security structure, Microsoft Dynamics AX 2012 groups menu items to predefined Security Roles. The Microsoft Dynamics AX 2012 Menu Item Mapping Document lists the menu items classified by CAL.

The Security Roles grants access to the solution when assigned to a certain user. The access rights identified at the menu items level defines the required CAL. This makes it easier to determine a customer's license needs, as in most cases you can determine which User CAL is required based on the list of Security Roles. For example, since Accountant is a Security Role mapped to the Enterprise User CAL, the customer needs one Enterprise User CAL for each of the users who get assigned to access the solution with this role (e.g. accountants).

Using Security Roles to Determine User License Requirements

There are 78 pre-defined Security Roles in Microsoft Dynamics AX 2012, of which 51 require the Enterprise User CAL, 21 require the Functional User CAL (or higher), and 6 require the Task User CAL (or higher) as shown in Figure 1. (No security roles are pre-mapped to the Self Serve User CAL, as that CAL is for users who only need to access the system to manage their own data).

Figure 1: User CALs and Security Role mapping



Security Roles support the scoping of the licensing requirement as they help explaining why a specific license would be required. Microsoft Dynamics AX 2012 Security Roles combine meaningful bundles of solution functionality and access rights required to perform a distinct role. However, this role does not necessarily represent the exact roles or role titles in a specific customer organization or solution scenario. Microsoft Dynamics AX 2012 provides the ability to modify or create Security Roles and allows assigning multiple Security Roles to a named user. For example, a Developer user may be assigned the Security Administrator (SysSecSecurityAdministrator) and IT Manager (SysServerITManager) Security Roles to grant him or her all the access rights required to perform his or her job.

Note: Creating and assigning roles to a user requires having them licensed with a named user CAL.

If an Enterprise User CAL was acquired to license the access of any user of the organization, any Security Role of the solution can be assigned to that user. If a Functional User CAL is chosen, any Security Role—except the ones requiring the Enterprise User CAL—can be assigned to that user. Higher level CALs provide more flexibility to access the solution with a broader set of roles and access rights to the solution.

Note: User CALs include the rights granted to lower level User CALs. Therefore, once a user has been assigned with an Enterprise User CAL (the highest level of User CAL), that user has full access to the Microsoft Dynamics AX 2012 solution. They do not require any additional Microsoft Dynamics AX 2012 User CAL or Device CAL to access the solution.

Security Roles by User CAL Type

The list of security roles out of the box can be modified granting different access rights to allow user access what they need to perform their activities. Those changes may impact the required CALs. If multiple roles are going to be assigned to a user then the higher level CAL required must be acquired to properly license the user.

#	Role Label (Object name)	Required CAL
1	Accountant (LedgerAccountant) Documents accounting events and responds to accounting inquiries	Enterprise
2	Accounting manager (LedgerAccountingManager) Reviews accounting, customer invoice, vendor invoice, and payment process performance and enables those processes	Enterprise
3	Accounting supervisor (LedgerAccountingSupervisor) Reviews accounting process performance and enables the accounting process	Enterprise
4	Accounts payable centralized payments clerk (PaymAccountsPayableCentralPaymClerk) Documents accounts payable centralized payment events and responds to centralized payment inquiries	Enterprise
5	Accounts payable clerk (VendInvoiceAccountsPayableClerk) Documents vendor invoice events and responds to vendor inquiries	Enterprise
6	Accounts payable manager (VendInvoiceAccountsPayableManager) Reviews vendor invoice process performance and enables the vendor invoice process	Enterprise
7	Accounts payable payments clerk (PaymAccountsPayablePaymentsClerk) Documents accounts payable payment events and responds to payment inquiries	Enterprise
8	Accounts receivable centralized payments clerk (PaymAccountsReceivableCentralPaymClerk) Documents accounts receivable centralized payment events and responds to centralized payment inquiries	Enterprise
9	Accounts receivable clerk (CustInvoiceAccountsReceivableClerk) Documents customer invoice events and responds to customer inquiries	Enterprise
10	Accounts receivable manager (CustInvoiceAccountsReceivableManager) Reviews customer invoice process performance and enables the customer invoice process	Enterprise
11	Accounts receivable payments clerk (PaymAccountsReceivablePaymentsClerk) Documents accounts receivable payment events and responds to payment inquiries	Enterprise
12	Budget clerk (BudgetBudgetClerk) Documents budget events and responds to budget inquiries	Enterprise
13	Budget manager (BudgetBudgetManager) Reviews budget process performance and enables the budget process	Enterprise
14	Chief executive officer (CompanyChiefExecutiveOfficer) Reviews the financial and operational performance	Enterprise
15	Chief financial officer (CompanyChiefFinancialOfficer) Reviews the financial performance	Enterprise
16	Collections agent (CollectionLetterCollectionsAgent)	Enterprise

	Documents collections events and responds to collections inquiries	
17	Collections manager (CollectionLetterCollectionsManager) Reviews collections process performance and enables the collections process	Enterprise
18	Compensation and benefits manager (HcmCompensationAndBenefitsManager) Documents compensation and benefit events, responds to compensation and benefit inquiries and records the financial consequences of compensation and benefit events	Enterprise
19	Compliance manager (ComplianceMgmtComplianceManager) Reviews compliance process performance and enables the compliance process	Enterprise
20	Cost accountant (InventCostAccountant) Documents and responds to costs, inventory valuations, and cost accounting events and inquiries	Enterprise
21	Cost clerk (InventCostCostClerk) Authorizes and maintains costs, inventory valuations, and cost accounting calculations; responds to costs, inventory valuations, and cost accounting inquiries	Enterprise
22	Customer (external) (TradeCustomer) Buys products from legal entities	Enterprise
23	Customer self-service administrator (external) (TradeCustomerAdmin) External user in customer relation role with legal entities maintaining external party access and information	Enterprise
24	Environmental manager (EMSEnvironmentalManager) Enables and reviews the environmental process	Enterprise
25	Financial controller (LedgerFinancialController) Reviews all accounting process performance and enables those processes	Enterprise
26	Human resource manager (HcmHumanResourceManager) Periodically reviews human resource process performance and enables the human resource process	Enterprise
27	Information technology manager (SysServerITManager) Maintains servers and software for Microsoft Dynamics AX. Maintains and configures settings for batch servers, load balancing, databases, Enterprise Portal, Services, and Workflow	Enterprise
28	Manager (HcmManager) Supervisor in reporting relationship with subordinates	Enterprise
29	Marketing manager (CRMMarketingManager) Manages product marketing	Enterprise
30	Materials manager (InventMaterialsManager) Enables and reviews processes, maintains master data, and responds to inquiries within logistics and material management	Enterprise
31	Payroll administrator (HcmPayrollAdministrator) Documents payroll events, responds to payroll inquiries and records the financial consequences of payroll events	Enterprise
32	Payroll manager (HcmPayrollManager) Authorizes activity in the payroll process	Enterprise
33	Process engineer (RouteProcessEngineer) Defines processes to make new products	Enterprise
34	Process engineering manager (RouteProcessEngineeringManager) Reviews new products, materials, and processes	Enterprise

35	Product design manager (BOMProductDesignManager) Reviews the product BOM structures	Enterprise
36	Product designer (BOMProductDesigner) Designs new and modifies existing BOM structures	Enterprise
37	Production manager (ProdProductionManager) Reviews the production plan and ensures the proper resources are available	Enterprise
38	Production planner (ReqProductionPlanner) Schedules and plans productions	Enterprise
39	Production supervisor (ProdProductionSupervisor) Enables the production process	Enterprise
40	Project accountant (ProjProjectAccountant) Maintains project accounting policies	Enterprise
41	Project supervisor (ProjProjectSupervisor) Enables and reviews the project accounting process	Enterprise
42	Purchasing manager (TradePurchasingManager) Reviews purchasing process performance and enables the purchasing process	Enterprise
43	Quality control manager (InventQualityControlManager) Enables and reviews processes, maintains master data, and responds to inquiries within quality control	Enterprise
44	Sales manager (TradeSalesManager) Reviews sales process performance and enables the sales process	Enterprise
45	Security administrator (SysSecSecurityAdministrator) Maintains user and security setup in Microsoft Dynamics AX, grants the ability to create and maintain security roles, duties, and privileges and the ability to assign users to roles, define role assignment rules, and maintain data security policies	Enterprise
46	Service delivery manager (SMAServiceDeliveryManager) Reviews and enables the service order process	Enterprise
47	Treasurer (PaymTreasurer) Documents treasury events and responds to treasury inquiries	Enterprise
48	Vendor (external) (VendVendor) External user in vendor relation role with legal entities	Enterprise
49	Vendor account manager (VendVendorAccountManager) Documents vendor events and responds to vendor inquiries	Enterprise
50	Vendor portal administrator (external) (VendVendorPortalAdministrator) External user in vendor relation role with legal entities maintaining external party access and information	Enterprise
51	Warehouse manager (WMSWarehouseManager) Enables and reviews processes, authorizes recordings, maintains master data, and responds to inquiries within warehouse management	Enterprise
1	Buying agent (TradeBuyingAgent)	Functional

	Documents purchase events and responds to purchase inquiries	
2	Customer service manager (TradeCustomerServiceManager) Reviews customer service process performance and enables the customer service process	Functional
3	Customer service representative (TradeCustomerServiceRepresentative) Documents customer service events and responds to customer service inquiries	Functional
4	Dispatcher (SMADispatcher) Organizes the service technicians and prioritizes service orders	Functional
5	Environmental clerk (EMSEnvironmentalClerk) Documents environmental sustainability events	Functional
6	Human resource assistant (HcmHumanResourceAssistant) Documents human resource events and responds to human resource inquiries	Functional
7	Machine operator (JmgMachineOperator) Works on production orders and makes registrations in Manufacturing execution	Functional
8	Marketing coordinator (CRMMarketingCoordinator) Produces and distributes marketing materials	Functional
9	Project assistant (ProjProjectClerk) Documents project accounting process events and responds to project accounting process inquiries	Functional
10	Project manager (ProjProjectManager) Documents the project forecast	Functional
11	Purchasing agent (VendPurchasingAgent) Documents purchasing events and responds to purchasing inquiries	Functional
12	Quality control clerk (InventQualityControlClerk) Documents quality control events and responds to quality control inquiries	Functional
13	Receiving clerk (InventReceivingClerk) Documents receiving operation events and responds to warehouse receiving operation inquiries	Functional
14	Recruiter (HcmRecruiter) Documents recruiting events, responds to recruiting inquiries and records the financial consequences of recruiting events	Functional
15	Sales clerk (TradeSalesClerk) Documents sales events and responds to sales inquiries	Functional
16	Sales representative (TradeSalesRepresentative) Documents sales events and responds to sales inquiries	Functional
17	Shipping clerk (InventShippingClerk) Documents shipping operation events and responds to warehouse shipping operation inquiries	Functional
18	Shop supervisor (JmgShopSupervisor) Ensures the day-to-day execution of orders	Functional

19	Training manager (HcmTrainingManager) Documents training events, responds to training inquiries and records the financial consequences of training events	Functional
20	Vendor prospect (external) (VendVendorProspect) External user in process of obtaining vendor relation role with legal entities	Functional
21	Warehouse worker (WMSWarehouseWorker) Documents warehouse operation events and responds to warehouse operation inquiries	Functional
1	Contractor (HcmContractor) Worker in contractor relationship with legal entities	Task
2	Employee (HCMEmployee) Worker in employment relationship with legal entities	Task
3	Field service technician (SMAFieldServiceTechnician) Visits customers in the field to perform service orders	Task
4	Project timesheet user (ProjTimesheetUser) Enables creation and approval of project timesheets	Task
5	Time registration worker (JmgAdvTimeWorker) Worker enabled to use advanced features for time registration	Task
6	Waterspider (LeanWaterspider) Responds to inventory needs on the production line	Task

SELF SERVE USER CAL

There is no security roles defined out of the box requiring a Self Serve User CAL. As an example of the flexibility of Microsoft Dynamics AX 2012 you may create a new role as copy of the Employee role out of the box, and with just eliminating the duties/privileges requiring a Task User CAL this new role can perform as an Employee requiring only a Self Serve User CAL due to the new access rights granted when the security role is assigned to a user.

EXTERNAL USERS SECURITY ROLES (REFERRED AS THIRD PARTY USERS)

There are four security roles out of the box that grants access to menu items that are not triggering any license requirement, since they are developed to be assigned to external users (third party users). In the case that you assign the security roles to an internal user (please refer to the Microsoft Dynamics AX 2012 Licensing Guide to understand the definition of external vs internal users) then you must license the users with a CAL according to the Software License Terms.

1. Customer anonymous (external) (AnonymousCustomer) Browse products published in sales catalogue on customer portal	No CAL required
2. Vendor anonymous (external) (VendVendorAnonymous) External user access to unsolicited vendor master self service.	No CAL required
3. Guest (Guest)	No CAL required
4. Applicant anonymous (external) (VendVendorAnonymous) External user application for employment.	No CAL required

Licensing Devices for Specific Scenarios

For certain limited scenarios, you may license access to the Microsoft Dynamics AX solution on a per device basis (instead of per user) by purchasing the Device CAL or Limited Device CAL.

Device CALs are available only for qualifying devices, and the access rights are limited by the license terms. See below for a summary of qualifying devices and applicable use rights.

DEVICE CAL

Qualifying Devices: Only devices listed below

Qualifying Devices (not examples)	Non-Qualifying Devices (examples)
Call Center Desktop/Laptop	Shop Floor Control Terminal
Centralized Warehouse Desktop/Laptop	Manufacturing Terminal
	Mobile Phone

Use rights for qualifying devices are limited to:

- These rights are a subset of the Functional User rights to perform the activities within the Call Center and Warehouse scenarios.

LIMITED DEVICE CAL

Qualifying Devices: Single purpose devices only (devices built for a specific purpose) accessing indirectly the ERP solution.

Qualifying Devices (examples)	Non-Qualifying Devices (examples)
RFID Reader	Mobile Phone
Handheld Scanner	Laptop/Desktop
Card Reader	Multi-purpose Device
3 rd Party POS Device	

Use rights for qualifying devices are limited to:

- Data integration for non-authenticated users (not using Microsoft Dynamics AX 2012 rich client)
- Asynchronous connection utilizing a staging data repository

Examples of Security Roles and CAL Requirements by Industries

MANUFACTURING

Microsoft Dynamics AX 2012 caters for most of the manufacturing scenarios: process, discrete, mix mode, and lean. For a manufacturing organization, potential CAL requirements include:

- **Enterprise User CAL:** All the users within the Finance/Procurement/HR/Payroll/IT departments, the Production Managers, Material Managers, BOM, or Formula Managers; Accounts payable/receivable.
- **Functional User CAL:** If they operate within a production plant: Shop Floor and Quality Managers,

Warehouse Clerks, Material Receivers, Installation Managers or Supervisors, Service Managers, Sales Representatives, Research Managers/Supervisors.

- **Task Users:** If the customer will be implementing Shop Floor and Quality Management: the workers in the shop floor or docks and researchers (in R&D orgs).
- **Self Serve Users:** The workers are only doing Clock-in/Clock-out using the Dynamics AX authentication for HR/payroll purposes.
- **Device CAL:** If they have a call center qualifying device or they use a centralized terminal for warehouse management such as pick/pack/ship; receiving of goods, shipping of goods, labeling goods, etc.
- **Limited Devices:** Per integration point such as Clock-in/Clock-out device, RFID scanners, Label Printers, etc.

DISTRIBUTION

For a distribution organization, potential CAL requirements include:

- **Enterprise User CAL:** All the users within the Finance/Procurement/HR/Payroll/IT departments
- **Functional User CAL:** Receiving and Shipping Clerks, Warehouse Supervisors, Quality Control Supervisors
- **Task Users:** Labors within the quality management cycle (if the company will implement quality checks)
- **Self Serve User CAL:** All the users requiring the Dynamics AX authentication for HR/payroll purposes.
- **Device CAL:** Centralized Warehouse Devices that may include: pick/pack/ship, waive picking/shipping, inventory management and transfers.

RETAIL

Customers looking for a retail solution using a third-party POS system or retail capabilities, potential CAL requirements include:

- **Enterprise User CAL:** All the users within the Finance/Procurement/HR/Payroll/IT departments/Retail HQ users
- **Functional User CAL:** Retail Store users (e.g. Retail Manager, Cashier)
- **Self Serve User CAL:** All the users requiring the Dynamics AX authentication for HR/payroll purposes.
- **Limited Device CAL:** Third-party POS systems. Cashiers will be licensed when accessing through this POS licensed device.

Note: Additional Retail scenarios and the user mix will be communicated when we release our retail capabilities on top of Dynamics AX 2012. Please refer to the Microsoft Dynamics AX 2012 Statement of Direction document to understand more about future releases.

SERVICES INDUSTRIES: PROFESSIONAL SERVICES

For a Professional Services organization (Legal Firms, Management Consultancy, IT services, etc.), potential CAL requirements include:

- **Enterprise User CAL:** All the users within the Finance/Payroll/IT departments, Practice Directors or Managers
- **Functional User CAL:** Project Managers, Engagement Managers, Service Managers, Sales Associates
- **Task User CAL:** Consultants, Attorneys and Associates, Network Engineers and Software Developers
- **Self Serve User CAL:** All the users requiring the Dynamics AX authentication for HR/payroll purposes.
- **Device CAL:** Call Center desktop for services agents and after sales support

SERVICES INDUSTRIES: ENGINEERING/CONSTRUCTION/REAL ESTATE

Similar to the professional services, potential CAL requirements include:

- **Enterprise User CAL:** All the users within the Finance/Payroll/IT departments, Practice Directors or Managers
- **Functional User CAL:** Project Managers, Site Superintendents, Facilities Managers, Site Engineers
- **Task User:** Contractors or site workers to input hours of data related with specific projects
- **Self Serve User CAL:** All the users that require Microsoft Dynamics AX authentication for HR/payroll

- purposes
- **Limited Device CAL:** All the qualifying devices for doing Clock-in/Clock-out without Microsoft Dynamics AX authentication requirement.

Additional Resources

Microsoft Dynamics Website

Learn about what Microsoft Dynamics solutions can do for your organization and how to get started.

<http://www.microsoft.com/dynamics>

Microsoft Dynamics AX 2012 Licensing

Learn about how to buy and the information about licensing

<http://www.microsoft.com/en-us/dynamics/erp-buy-ax-software.aspx>

Microsoft Dynamics AX 2012 role-based security

This section provides an overview of the elements of role-based security in Microsoft Dynamics AX 2012

<http://technet.microsoft.com/en-us/library/gg731787.aspx>

Customer Information

Microsoft Dynamics CustomerSource is a password-protected site for customers who use Microsoft Dynamics products. Included as a benefit of your service plan, CustomerSource allows you to search a powerful Knowledge Base for Microsoft Dynamics, view online training for Microsoft Dynamics, download updates, and find other timely information and resources virtually 24 hours a day. (Sign-in required.)

<https://mbs.microsoft.com/customersource>

Product Availability

For Microsoft Dynamics AX country-specific functionality and languages for currently supported versions, go to <http://www.microsoft.com/en-us/dynamics/erp-buy-ax-software.aspx>

Statement of Direction for Microsoft Dynamics AX

For information on our vision, product strategy and roadmap, go to (Sign-in required.)

<https://mbs.microsoft.com/customersource/documentation/whitepapers/statementofdirection.htm>

This Document is for informational purposes only. MICROSOFT MAKES NO WARRANTIES, EXPRESS, IMPLIED, OR STATUTORY, AS TO THE INFORMATION IN THIS DOCUMENT.

© 2011 Microsoft Corporation. All rights reserved.

Microsoft, The Microsoft Dynamics Logo, Excel, InfoPath, SharePoint, SQL Server, and Windows are either registered trademarks or trademarks of Microsoft Corporation or Microsoft Business Solutions in the United States and/or other countries. Microsoft Business Solutions is a subsidiary of Microsoft Corporation.

Complying with all applicable copyright laws is the responsibility of the user. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without the express written permission of Microsoft Corporation.

Microsoft may have patents, patent applications, trademarks, copyrights, or other intellectual property rights covering subject matter in this document. Except as expressly provided in any written license agreement from Microsoft, the furnishing of this document does not give you any license to these patents, trademarks, copyrights, or other intellectual property.