Microsoft

Windows Server 2012 R2

The Essentials Experience

Contents

Meeting business needs

Small business owners today face daily challenges in running their businesses. One of the more difficult challenges involves managing an information technology (IT) infrastructure. But because the primary focus for most business owners is their core business and not their operating technology, their IT infrastructure needs often end up overlooked or ignored.

The small business challenge

Investments in technology directly impact a business' bottom line. As a result, there's a constant need to achieve real business benefits and mitigate costs against a backdrop of time pressures and limited technical skills. In addition, many small businesses are investigating cloud services and their capabilities, adding even more apprehension in adopting new technology.

Windows Server 2012 R2 Essentials helps small businesses operate at the same technology level as much larger organizations, without the added costs and complexities of managing a complicated IT infrastructure. Offering a high degree of flexibility and choice, Windows Server 2012 R2 Essentials enables small businesses to take advantage of a combination of cloud-based and traditional on-premises applications and services.

Windows Server 2012 R2 Essentials offers three primary capabilities to address many of the most pressing needs of small businesses:

- Data protection

- Secure remote access

- Integrated cloud services

In addition, Windows Server 2012 R2 Essentials provides two key new deployment options. The first is the ability to function as a Hyper-V host to run Windows Server 2012 R2 Essentials as a virtual machine (previously, Hyper-V had to be obtained separately). The second is the implementation of the Essentials feature set as a role in Windows Server, including the Standard and Datacenter editions. We'll take a closer look at these new capabilities in the sections below.

Windows Server 2012 R2 Essentials

Windows Server 2012 R2 Essentials is the latest version of Windows Server. Designed for small and medium businesses, Windows Server 2012 R2 Essentials enables cross-premise functionality, delivering on-premises file and print, security, backup, remote access, and identity management services along with optional cloud services.

A cloud-enabled server solution for small business

Windows Server 2012 R2 Essentials incorporates best-of-breed capabilities to deliver a server environment well-suited for the vast majority of small businesses. These capabilities include the following:

- **Data protection:** Windows Server 2012 R2 Essentials utilizes several new Windows Server 2012 R2 features that provide greatly improved data protection capabilities. With the new Storage Spaces, you can aggregate the physical storage capacity of disparate hard drives, dynamically add hard drives, and create data volumes with specified levels of resilience. Windows Server 2012 R2 Essentials can also perform complete system backups and bare-metal restores of your server as well as the client computers connected to the network with support for volumes larger than 2 terabytes. Another new feature in Windows Server 2012 R2 is the Microsoft Online Backup Service. With Online Backup Service, you can protect files and folders in a cloud-based storage service managed by Microsoft. In addition, Windows Server 2012 R2 Essentials centrally manages and configures the File History feature of Windows 8.x clients, helping users recover from accidently deleted or overwritten files without requiring administrator assistance.

- **Secure remote access:** Remote Web Access provides a stream-lined, touch-friendly browser experience for accessing applications and data from virtually anywhere you have an Internet connection and on almost any device. Windows Server 2012 R2 Essentials also provides an updated Windows Phone app and a new modern app for Windows 8.x clients, enabling users to intuitively connect to, search across, and access files and folders on the server. Additionally, Windows Server 2012 R2 Essentials automatically caches files for offline access and synchronizes them when a connection to the server becomes available. Updates to virtual private networking (VPN) have transformed the process into a few wizard-driven clicks. Windows Server 2012 R2 Essentials simplifies the management of

VPN access for users as well. Client computers can use a VPN connection to remotely join the Windows Server 2012 R2 Essentials environment and directly connect to servers and computers on the network without the need to come into the office.

- **Integrated cloud services:** Windows Server 2012 R2 Essentials gives customers the flexibility to choose which applications and services run on-premises and which ones run in the cloud. In previous versions, Windows Small Business Server (SBS) Standard included Exchange Server as a component product, which added expense and complexity for customers wishing to take advantage of cloud-based messaging and collaboration services. With Windows Server 2012 R2 Essentials, customers can utilize the same integrated management experience whether they choose to run an on-premises copy of Exchange Server, subscribe to a hosted Exchange service, or subscribe to Office 365.

- **Health monitoring and reporting:** Windows Server 2012 R2 Essentials monitors its own health status as well as that of client computers running Windows 7, Windows 8.x, and Mac OS X version 10.5 and above. Health status notifies you of issues or problems related to computer backups, server storage, low disk space, and more. You can set up Windows Server 2012 R2 Essentials to automatically generate health reports on a scheduled basis and email them directly to local administrators or external partners.

- **Extensibility:** Windows Server 2012 R2 Essentials builds on the extensibility model of Windows SBS 2011 Essentials, which enables other software vendors to add capabilities and features to the core product and a new set of Web Services application programming interfaces APIs. In addition, Windows Server 2012 R2 Essentials also maintains compatibility with the existing software development kit (SDK) and Add-Ins created for Windows SBS 2011 Essentials.

Figure 1: Simplified health alerts and reports helps ensure a safe and productive environment.

Protect your data

Windows Server 2012 R2 Essentials automatically backs up your client computers to the server and helps you easily restore your entire computer or individual files and folders from a backup. An innovative method backs up only the data that has not been backed up previously. Even if you have several copies of the same data on different computers, Windows Server 2012 R2 Essentials backs up the data only once on your server. Your server tracks what data gets stored on each computer every day. Backups complete quickly and efficiently, using less space on your server.

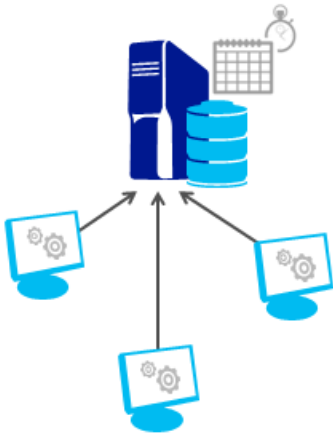Backup and recovery features include the following:

Figure 2: Automatic back up of client computers on a nightly basis protects applications and user work environments.

Automated daily backup and File History support: Windows Server 2012 R2 Essentials automatically configures computer backups when you install the Windows Server 2012 R2 Essentials Connector software on your client computers. These backups occur on a daily basis for every configured computer. You can customize the schedule for when backups occur as well as the retention policy for backup data. Windows Server 2012 R2 Essentials also centrally manages and configures the File History feature of Windows 8.x clients, helping users recover from accidently deleted or overwritten files without requiring administrator assistance. File History integration now works on a per-user basis as opposed to a per-PC basis. Windows Server 2012 R2 Essentials also can automatically restore files from the server to the client computer. This feature can prove especially helpful when users upgrade to a new tablet, laptop, or desktop computer.

Entire computer restoration: With Windows Server 2012 R2 Essentials, restoring a computer from a backup is easy. If you want to restore your computer to a previous point in time, you boot the computer from the Computer Restore CD. The computer connects to your server, which provides a simple wizard for restoring a single hard drive or multiple hard drives from a backup of that computer stored on your server.

Individual files and folders restoration: Windows Server 2012 R2 Essentials can help you restore individual files or folders by selecting a computer and a specific backup of that computer from the Dashboard. The Restore Wizard initiates and displays the files and folders backed up for that computer on that particular day. You can easily select individual files or entire folders from this Restore Window and then restore them to any location on your computer.

Server backup and restore and online backup: Windows Server 2012 R2 Essentials simplifies backing up your data. Instead of server storage, you can add a hard disk drive to the server, either internally or externally, and designate it as a backup destination.

Windows Server 2012 R2 Essentials will then use this drive to back up all your data stored on the server, including the operating system files and your business data. Using multiple external drives provides for improved business continuity, simplifying the rotation of your backup data offsite to maximize data availability for server restoration in the unfortunate occurrence of theft, fire, flood, or other disasters. Windows Azure Backup can optionally be used to protect files and folders within a cloud-based storage service managed by Microsoft.

Storage Spaces: Using Storage Spaces, you can create flexible, low-cost, resilient, and dynamically expandable data volumes. Storage Spaces includes the following features:

- Storage pools provide the fundamental building blocks for Storage Spaces. You can flexibly create storage pools based on the needs of your deployment. For example, given a set of physical disks, you can create one pool (by using all the available physical disks) or multiple pools (by dividing physical disks as desired). Furthermore, to maximize the value of your storage hardware, you can map a storage pool to combinations of hard disks as well as solid-state drives (SSDs). Pools can be expanded dynamically by simply adding additional drives, seamlessly scaling to cope with data growth.

- Resilient storage in Storage Spaces supports two optional resiliency modes: mirroring and parity. Per-pool support for disks reserved for replacing failed disks (hot spares), background scrubbing, and intelligent error correction enable continuous service availability despite storage component failures.

- Thin Provisioning enables you to create virtual disks, which are larger than the underlying storage pool's physical capacity. As the data stored on the virtual disk reaches the size of the physical capacity, additional drives can be dynamically added to the storage pool without impacting the virtual disk or any data volumes active on it.

Computer backup archiving: If you are replacing an old computer with a new one and want to keep the old computer's backups, Windows Server 2012 R2 Essentials provides an archiving feature to help you. When removing the Windows SBS Connector software from the old PC, you can opt to keep the backups for that computer on the server. Archived computers are not part of the 50-device limit.

Provide secure remote access

Remote Web Access[1] offers a dynamically updated website that uses encrypted connections that provide a single, simple, secure, and consolidated entry point into a small business network. With Remote Web Access, you can take advantage of a stream-lined, touch-friendly browser experience for accessing applications and data from virtually anywhere you have an Internet connection and on almost any device. Authorized users can connect to Remote Web Access using any Internet-connected computer or mobile device with a supported browser. Compared to the remote access feature in older versions of Windows SBS, Remote Web Access delivers a higher degree of extensibility in the SDK, enabling more customization, gadgets, add-in extensions, mobile rendering, and an improved shared folder experience.

Remote Web Access features include the following:

Remote Access to Shared Folders: Users can download files and folders and upload one or more files to the shared folders on their server while away from the network. Users can also search through the Shared Folders to locate a specific file or files. Providing easy remote access to files encourages users to keep data stored on the server where only authorized users have access and the data is protected.

Remote Access to Computers:[2] With Remote Web Access, you can connect remotely to the computers in your network and run applications as if you were sitting in front of your computer. To connect to one of your computers, click the **Computers** tab, then click the **Connect** button next to the computer. You can only connect to a computer that is available for connection (that is, is turned on and present on your local network) and runs one of the following operating systems:

- Windows 8.x Pro, Windows 8.x Enterprise

- Windows 7 Ultimate, Windows 7 Enterprise, Windows 7 Professional

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[1] Use of the Remote Web Access feature may require additional services from your broadband provider, such as access to certain "ports" that some providers may block for customers on some service plans. Contact your broadband provider if you have questions about their services or service terms.

[2] See the section later in the document for important information about using these features with the Windows Server Essentials Experience role on the Standard and Datacenter editions of Windows Server 2012 R2.

Remote Connections to the Windows Server 2012 R2 Essentials Dashboard: While working remotely, you can access the Windows Server 2012 R2 Essentials Dashboard to add new users, add new shared folders, check the health of your network, or perform other administrative tasks.

Expanded device support: Windows Server 2012 R2 Essentials provides an updated My Server app for Windows and Windows Phone devices, enabling users to intuitively connect to, search across, and access files and folders on the server. Windows Server 2012 R2 Essentials automatically caches files for offline access and synchronizes them when a connection to the server becomes available.

Remote domain join: Windows Server 2012 R2 Essentials simplifies setting up VPN by offering a simple wizard-driven process that requires just a few clicks. In addition, Windows Server 2012 R2 Essentials simplifies the management of VPN access for users. Client computers can use a VPN connection to remotely join the Windows Server 2012 R2 Essentials environment and connect directly to servers and computers on the network without the need to come into the office.

Integrate cloud services

Windows Server 2012 R2 Essentials gives customers the flexibility to choose which applications and services run on-premises and which ones run in the cloud. In previous versions, Windows SBS Standard included Exchange Server as a component product, which added expense and complexity for customers who wished to use cloud-based messaging and collaboration services. With Windows Server 2012 R2 Essentials, customers can take advantage of the same type of integrated management experience whether they choose to run an on-premises copy of Exchange Server, subscribe to a hosted Exchange service, or subscribe to Office 365.

Integrated cloud services features include the following:

Messaging and collaboration with Office 365: Office 365 is an online subscription service that provides email, shared calendars, the ability to create and edit documents online, instant messaging, web conferencing, a public website for your business, and internal team sites. As an online service, Office 365 is accessible from virtually anywhere on nearly any device. Windows Server 2012 R2 Essentials includes an integration module that you can use to easily manage your user accounts across both the local Windows Server 2012 R2 Essentials and online Office 365 environments from within the Dashboard. In addition, customers with Office 2010 or Office 2013 installed on their client computers can quickly configure their computers to work with Office 365. Users can then easily retrieve, edit, and save Office docs in the Office 365 cloud, co-author
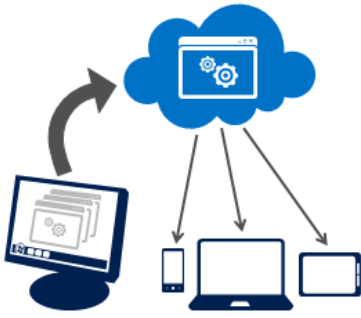
docs in real-time with others, and quickly initiate PC-to-PC calls, instant messages, and web conferences with others.

Hosted Exchange: Many small businesses have taken advantage of cloud-based messaging services hosted by Exchange offerings. Windows Server 2012 R2 Essentials provides a framework that service providers can use to easily build a custom add-in that interfaces with their specific hosted Exchange environment. This enables you to manage your user accounts across both the local Windows Server 2012 R2 Essentials and hosted Exchange environments from within the Dashboard.

On-premises Exchange Server: Microsoft Exchange Server offers a flexible and reliable messaging platform that millions of users rely on every day to stay connected and be productive. While no longer a core product component in Windows Server 2012 R2 Essentials, Exchange Server, running on a separate server, remains a fully-supported choice for providing your small business with email services. As with Office 365, you can take advantage of an integrated module to easily manage your user accounts across both the Windows Server 2012 R2 Essentials and Exchange Server from within the Dashboard.

Other cloud-based applications and services: When small businesses first turn to the cloud, they tend to choose messaging and collaboration as their first cloud-based services. A variety of other applications and services are available as well. Windows Server 2012 R2 Essentials offers a rich extensibility model that enables you to cloud-enable your IT system and take advantage of a growing number of online offerings from Microsoft and other third parties to boost your productivity. Microsoft Dynamics CRM Online, Windows Azure Platform, and Windows Intune serve as a few examples.

Figure 3: Integration with cloud-based applications and services helps users be productive across a range of devices.

The Dashboard and Launchpad

The Dashboard is the command and control center for Windows Server 2012 R2 Essentials. The Launchpad is a quick jumping-off point that runs on client computers. Redesigned with a streamlined look and feel and enhanced with improved functionality, the Dashboard can perform all the management and maintenance tasks you need to control how your server behaves on your network, including who can access it, what information can be stored and retrieved, and how the information is organized, protected, and made available remotely. The Dashboard itself can be accessed remotely by users who have appropriate permissions.

Windows Server 2012 R2 Essentials organizes the Dashboard around tasks, with different activities presented on different tabs. Each tab in the Dashboard contains specific action items, giving you more control and making changes easy to understand and perform.

Dashboard features include the following:

Figure 4: Use the Dashboard to manage all aspects of your IT environment.

- **The Home tab**: Windows Server 2012 R2 Essentials enhances the **Home** tab to quickly and easy expose a broader set of administrative actions. The **Home** tab provides shortcuts for setting up and managing the server environment, connecting to various services (either cloud-based or on-premises), installing Add-ins that extend the functionality of your server, getting a quick snapshot of the server's status, and locating and accessing help and support resources. There are also new sub-tabs that display active health alerts and historical health reports.

- **The Users tab**: With the **Users** tab, you can add and manage user accounts, enabling you to provide and control access to resources in your environment. You can also perform several actions on individual user accounts, such as changing the shared folders end users have access to and defining what level of remote access they have. New with Windows Server 2012 R2 Essentials is the ability to create security groups, which you can take advantage of to easily control access to resources in the environment for multiple users, and distribution groups, which you can use to quickly send email to multiple users. Other tasks enable you to manage all user accounts, such as defining a password policy.

- **The Devices tab**: Windows Server 2012 R2 Essentials offers a **Device** tab that enables you to view the health and backup status of computers on the network as well as configure backups for the server and client computers. You can also apply group policies to Windows 7 and Windows 8.x client computers to help make them more secure. Windows Server 2012 R2 Essentials introduces the new ability to view and manage mobile devices with Exchange Active Sync when you have integrated with either on-premises or cloud-based Exchange Server messaging.

- **The Storage tab**: The **Storage** tab enables you to manage the server's shared folders and physical hard drives. The **Server Folders** sub-tab helps you create, modify, remove, and relocate shared folders. The new **SharePoint Libraries** sub-tab, which is available with Office 365 integration, enables you to manage cloud-based storage in much the same way that you manage local storage. The **Hard Drives** sub-tab is for viewing, adding, and removing hard drives as well as managing Storage Spaces that enable you to aggregate the physical storage capacity of disparate hard drives, dynamically add hard drives, and create data volumes with specified levels of resilience.

- **The Applications tab**: The **Applications** tab enables you to discover and manage Add-ins, which you can use to extend the function of

Windows Server 2012 R2 Essentials. The **Add-ins** sub-tab is for viewing, managing, and removing software components developed by Microsoft and other third parties. The **Microsoft Pinpoint** sub-tab dynamically queries the Microsoft Pinpoint website to display a list of highly-rated applications and other solutions that help solve specific business needs.

The Dashboard also provides links to the following:

Alerts: opens the Alert Center to show any active error, warning, or informational messages.

Settings: helps you configure the server's date and time, the Windows Update properties, the optional media streaming properties (available as a separate download), BranchCache settings, and Anywhere Access settings, including the configuration of Remote Web Access properties.

Help: displays product information.

Windows Server Essentials also offers easy client setup for launch options. For each computer you want to fully participate in a Windows Server Essentials network, install the Connector software by opening a web browser and entering http://<*servername*>/connect, where <*servername*> is the name you gave your server. In addition to automatically configuring the computer for use with the Essentials server, the Connector installs the Launchpad, which runs on each client PC in your network. The Launchpad provides a simple way to access Shared Folders, initiate a backup, connect to your Remote Web Access page, open the Dashboard, and interact with any installed Add-ins which provide client-side extensions.

You can also set up client computers remotely by opening a web browser and entering http://remote.<*your domain name*>/connect, where <*your domain name*> is the Internet domain name you gave your server when configuring Anywhere Access.

New deployment options

In addition to the feature improvements which are available with Windows Server 2012 R2 Essentials, there are two new deployment options that can greatly expand the ways in which you use Windows Server 2012 R2 Essentials. They are as follows:

The Windows Server Essentials Experience role: These value-added features, previously only found in the Essentials edition of Windows Server, have been encapsulated into a new server role, the Windows Server Essentials Experience. This role is now available across the family of Windows Server 2012 R2 editions, including the Standard and Datacenter editions. This greatly increases the deployment scenarios that can now take advantage of these features, including in larger organizations and those with branch locations.

When deploying the role on Standard or Datacenter editions of Windows Server 2012 R2, the server is able to join a pre-existing Active Directory environment for more scalable management. The server does not have to be a domain controller. Also, because Windows Server 2012 R2 Standard and Datacenter use the Windows Server Client Access License (CAL) model, you can have more than 25 users with access to the Essentials feature set (the maximum supported limit for these features being 100 users and 200 devices). For businesses beyond this size, Microsoft recommends that you use the native Windows Server management consoles.

From a licensing perspective, there are two important points to keep in mind:

- When you purchase the Standard or Datacenter editions of Windows Server 2012 R2 and use them to run the Essentials Experience role, you need Windows Server CALs for each end user. You also need Remote Desktop Service CALs (RDS CALs) for each end user that uses the Remote Access to Computers or Remote Dashboard capabilities of the Remote Web Access feature.

- The Standard or Datacenter editions of Windows Server 2012 R2 enable downgrade rights to the Essentials edition. However, the licensing terms of the edition you purchase are the ones that apply, regardless of whether or not you choose to exercise downgrade rights.
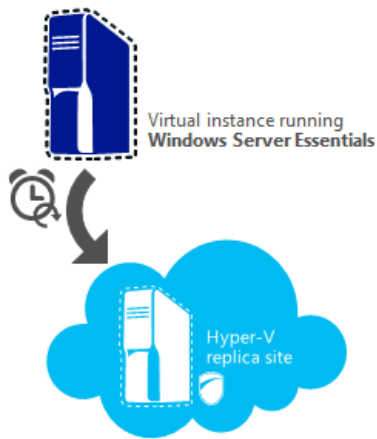
Figure 5: Provide for business continuity by replicating your virtual machine to a replica site.

Windows Server 2012 R2 Essentials as its own Hyper-V host: With previous versions of the Windows Server Essentials edition, the Hyper-V role was not included. As a result you had to obtain a hypervisor separately in order to run it as a virtual machine. Options for the hypervisor included the free Microsoft Hyper-V Server or Windows Server Standard edition.

With Windows Server 2012 R2 Essentials, the product licensing terms have been expanded, making the Hyper-V role available as part of Windows Server 2012 R2 Essentials. You can still choose to install Windows Server 2012 R2 Essentials directly onto a physical server. But now you can also choose to run one operating system instance on the physical server in order to run Hyper-V, plus a second instance on that same server in order to run Windows Server 2012 R2 Essentials as a virtual machine. Installation wizards are provided to simplify deployment as a virtual machine by automating the steps necessary to set up and configure the parent partition. This capability helps you take advantage of Hyper-V and its features, such as Live Migration and Hyper-V Replica.

Extensibility and add-ins

Based on Windows Server 2012 R2, Windows Server 2012 R2 Essentials is designed to be a platform for developing and running other solutions. The Windows Server 2012 R2 SDK provides a rich environment for creating Add-ins, which can be used to extend the core functionality of the server. A new set of Web Service APIs also have been added to provide even more extensibility options. Some of the SDK capabilities include:

- Dashboard Extensibility
    - o Add Dashboard Tab; high level tabs can optionally contain Sub-tabs.
    - o Create List View controls and custom Tabs/Sub-tabs.
    - o Default Tabs are extensible with Sub-tabs, tasks, columns, and details.
    - o Extensible Home page enables adding common tasks and community links.
- Launchpad Extensibility
    - o Add categories and tasks to the Launchpad.
- Remote Web Access site Extensibility
    - o Add your own online services link and create new items in the menu bar.
- Cloud Service Interoperability
    - o The SDK includes samples, guidance, and tools to build cloud service interoperability.

- The new Provider Framework offers an architectural layer that performs all business data processing and holds state for each feature.
- An expanded collection of Web Service APIs enable communication and interaction between remote devices and PCs and the server over an authenticated, encrypted Internet connection.
- Out-of-the-box samples and templates help add-in developers
- A helpful How-to section provides walkthroughs of several common extensibility scenarios

Microsoft has a large ecosystem of software and hardware partners throughout the world that have built and are continuing to build new software and hardware solutions that work with Microsoft Windows software. As these partners become more and more familiar with Windows Server 2012 R2 Essentials, expect to see new solutions that enhance the core features and functionality of your server.

The Windows Server solution for SMB

Technology holds the promise of helping solve business problems. Windows Server 2012 R2 Essentials and the Windows Server Essentials Experience role deliver on that promise by simplifying business technology, providing easier setup, installation, and migration experiences, a simplified management experience, and better network-wide security features for the small business customer. Windows Server 2012 R2 Essentials incorporates the latest Microsoft technologies for management, networking, data storage and backup, security, and document- and printer-sharing. Integration capabilities for cloud-based applications and services also provide small business customers with the flexibility to choose the best environment for their line-of-business and collaboration solutions.

Windows Server 2012 R2 Essentials enables small businesses to retain core infrastructure and security features on their local networks and integrate their infrastructure with cloud-based services. This functionality gives end users a familiar experience, while helping small businesses more easily take advantage of the growing set of offerings available in the cloud through platforms such as Office 365 and Windows Azure.

Working with Microsoft Partners also offers a great solution for reducing business complexities. Windows Server 2012 R2 Essentials helps in that process by making it easier for partners to deliver value to customers through simplified installation, administration, and mitigated costs.

Are you ready to discover how Windows Server 2012 R2 Essentials can help you? Please visit http://www.microsoft.com/en-us/server-cloud/products/windows-server-2012-r2-essentials