TOP REASONS TO MOVE TO MICROSOFT EXCHANGE 2010

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What's new in Exchange Server 2010?

Exchange Server 2010 contains a host of improvements and a lot of new features, as well as minor changes and improvements. Over the coming sections, I'll provide an overview of the most significant updates and additions.

1. Outlook Web App

The most visible improvement for end-users is Outlook Web App (previously known as Outlook Web Access). One of the design goals for the Outlook Web App was a seamless cross-browser experience, so users running a browser like Safari, even on an Apple MacBook, should have exactly the same user experience as users running Internet Explorer. Outlook Web App offers a very rich client experience and narrows the gap between a fully-fledged Outlook client and Outlook Web Access.

2. Exchange Core Store functionality

Compared to Exchange Server 2003, Exchange Server 2007 dramatically decreased the I/O on the disk subsystem (sometimes by 70%). This was achieved by increasing the Exchange database page size from 4KB to 8KB and by using the 64-Bit operating system. The memory scalability of the 64-Bit platform makes it possible to use servers with huge amounts of memory, giving them the opportunity to cache information in memory instead of reading and writing everything to the disk.

One of the design goals of Exchange Server 2010 was to use a single 1TB SATA disk for the mailbox database and its log files. Another goal was to allow multi GB mailboxes without any negative performance impact on the server. To make this possible, the database schema in Exchange Server 2010 has now been flattened, making the database structure used by the Exchange Server much less complex than it was in Exchange Server 2007 and earlier. As a result, the I/O requirements of an Exchange Server 2010 server can be up to 50% less than for the same configuration in Exchange Server 2007.

3. New Administration Functionality

As a consequence of the major changes made to the High Availability features of Exchange Server 2010, the Exchange Management Console has also changed rather significantly.

Due to the new replication functionality, the Mailbox object is no longer tied to the Exchange Server object, but is now part of the Exchange Server 2010 organization. Also, since the concept of Storage Groups is no longer relevant, their administration has been removed from both the Exchange Management Console and the Exchange Management Shell. PowerShell cmdlets like New-StorageGroup, Get-StorageGroup, and so on, have also all been removed, although the options of these cmdlets have been moved into other cmdlets, like database-related cmdlets.

Speaking of which, Exchange Server 2010 also runs on top of PowerShell Version 2. This version not only has a command line interface (CLI), but also an Interactive Development Environment (IDE). This enables you to easily create scripts and use variables, and you now have an output window where you can quickly view the results of your PowerShell command or script.

In addition to PowerShell V2, Exchange Server 2010 also uses Windows Remote Management (WinRM) Version 2. This gives you the option to remotely manage an Exchange Server 2010 server without the need to install the Exchange Management Tools on your workstation, and even via the Internet!

One last small but interesting new feature is "Send Mail", allowing you to send mail directly from the Exchange Management Console - ideal for testing purposes.

4. Exchange Control Panel

It is now possible to perform some basic Exchange management tasks using the options page in Outlook Web Access; not only on the user's own properties, but also at an organizational level. With this method, it is possible to create users, mailboxes, distribution groups, mail-enabled contact, management e-mail addresses etc.
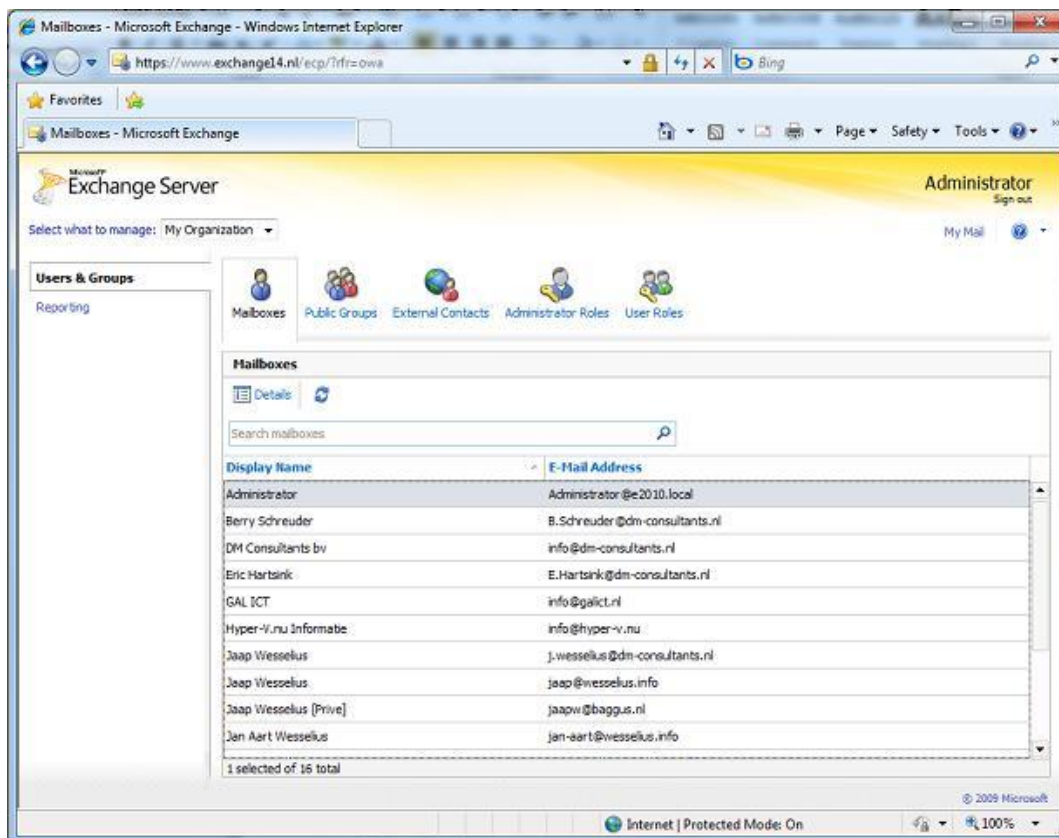
5. Active Directory Rights Management

Active Directory Rights Management Service lets you control what users can do with E-mail and other documents that are sent to them. It is possible, for example, for classified messages to disable the "Forward" option to prevent messages being leaked outside the organization. With Exchange Server 2010, new features have been added to the Rights Management Services, such as:

- Integration with Transport Rules - a template for using RMS to protect messages over the Internet.
- RMS protection for voice mail messages coming from the Unified Messaging Server Role.

Active Directory is discussed throughout this book, as the Exchange Server 2010 has a much close relationship with AD than previous versions of Exchange Server.

6. Transport and Routing

With Exchange Server 2010 it is possible to implement cross premises message routing. When using a mixed hosting environment, Exchange Server 2010 can route messages from the datacenter to the on-premise environment with full transparency.

Exchange Server 2010 also offers (at last) enhanced disclaimers, making it possible to add HTML content to disclaimers to add images, hyperlinks, etc. It is even possible to use Active Directory attributes (from the user's private property set) to create a personal disclaimer.

To create a highly available and reliable routing model, the Hub Transport Servers in Exchange Server 2010 now contain Shadow Redundancy. A message is normally stored in a database on the Hub Transport Server and, in Exchange Server 2007, the message is deleted as soon as it is sent to the next hop. In Exchange Server 2010, the message is only deleted after the next hop reports a successfully delivery of the message. If this is not reported, the Hub Transport Server will try to resend the message.

For more High Availability messaging support, the messages stay in the transport dumpster on a Hub Transport Server, and are only deleted if they are successfully replicated to all database copies. The database on the Hub Transport Server has also been improved on an ESE level, resulting in a higher message throughput on the transport level.

7. Permissions

Previous versions of Exchange Servers relied on delegation of control via multiple Administrative Groups (specifically, Exchange Server 2000 and Exchange Server 2003) or via Group Membership. Exchange

Server 2010 now contains a Role Based Access Model (RBAC) to implement a powerful and flexible management model. .

8. Messaging Policy and Compliance

As part of a general compliance regulation, Microsoft introduced the concept of Managed Folders in Exchange Server 2007, offering the possibility to create some sort of compliancy feature. This has been enhanced with new interfaces in Exchange Server 2010, such as the option of tagging messages, cross mailbox searches and new transport rules and actions.

9. Mailbox Archive

Exchange Server 2010 now contains a personal archive; this is a secondary mailbox connected to a user's primary mailbox, and located in the same Mailbox Database as the user's primary mailbox. Since Exchange Server 2010 now supports a JBOD (Just a Bunch of Disks) configuration this isn't too big a deal, and the Mailbox Archive really is a great replacement of (locally stored) .PST files

Major changes from previous versions of Exchange Server include:

- The high availability options for Mailbox Databases (SCC: Single Copy Clustering, CCR: Clustered Continuous Replication and LCR: Local Continuous Replication) and site resiliency functionality (SCR: Standby Continuous Replication) have been replaced by Database Availability Groups (DAGs) in Exchange Server 2010. Major DAG benefits include providing database level high availability (as opposed to server level), support for up to sixteen (16) copies of each database, and flexible configuration (databases copies may be added / removed at will without requiring major server reconfiguration). Each server that runs the Enterprise edition of Exchange Server 2010 can host up to 100 database copies.
- High availability for the Client Access Server role in Exchange Server 2010 is provided by using Client Access Server (CAS) arrays. A CAS array can contain multiple Client Access Servers in an Active Directory site and provide a single name endpoint for client connections. CAS arrays cannot span multiple Active Directory sites.
- In Exchange Server 2007, a clustered mailbox server could not be combined with any other roles. In Exchange Server 2010, the Mailbox Server Role may be combined with the Client Access Server and/or Hub Transport roles, regardless of whether or not the mailbox server participates in a Database Availability Group. (However, since Database Availability Groups use Windows Failover Clustering, and Microsoft does not support the combination of Windows Failover Clustering and Windows Network Load Balancing on

the same server, a multi-role deployment will require the use of a 3rd party load balancer to provide load balancing and fault tolerance for the Client Access Server role).

- With the introduction of the RPC Client Access service, all Outlook clients access their mailbox database through the Client Access Server role. This abstraction layer allows for improved load balancing and redundancy and minimal client impact in the event of a database level *-over ("switchover" or "failover") event.
- Exchange Server 2010 provides cost savings in required hardware. Storage performance requirements (measured in IOPS: Input/Output operations Per Second) have been reduced by approximately 70% over Exchange Server 2007, and by approximately 90% over Exchange Server 2003. According to a case study, Microsoft IT was able to reduce hardware costs by 75% during the migration from Exchange Server 2007 to Exchange Server 2010.
- Exchange Server 2010 extends the large mailbox support introduced in Exchange Server 2007, and also introduces a Personal Archive feature to allow messages to be retained longer without the need for a 3rd party archival system. The Personal Archive is implemented as a secondary mailbox for archive-enabled users, and in Exchange Server 2010 Service Pack 1, the Personal Archive may be located on a different database than the primary mailbox, which may reside on a different disk if desired.
- The compliance and legal search features have been enhanced. What was formerly known as the "Dumpster" in previous versions of Exchange (a special storage area for messages which have been deleted from the Deleted Items folder or "permanently deleted" from a regular folder, such as the Inbox) has been evolved into the Recoverable Items folder in Exchange Server 2010. If configured appropriately, the Recoverable Items folder allows for a "tamper proof" storage area (users cannot circumvent the Recoverable Items folder to bypass legal discovery), which also provides a revision history of any modified items.
- Administration delegation can now be performed at a granular level due to Exchange Server 2010's implementation of Role Based Access Control (RBAC). Users and administrators can be given extremely fine grained abilities for functions provided both within the Exchange Management Console or Exchange Management Shell and in Outlook Web App. For example, a compliance officer may be given the ability to perform cross mailbox discovery searches within Outlook Web App; a help desk technician may be granted the ability to set an Out Of Office message for other employees within the company, or a branch administrator in a remote office may be granted the permission to perform specific Exchange Management Shell commands that pertain only to the Exchange server in their branch office.
- Outlook Web App includes improvements (including, for example, the ability for users to track their sent messages and printable calendar views) and the "Premium" experience is now available across multiple browsers (including Safari and Firefox).
- Distribution groups can now be "moderated", meaning that distribution groups can now be configured to allow users to join at will or only with a group moderator's permission, and individual messages sent to distribution groups can now be approved or denied by a moderator.

- Exchange Server 2010 introduces a transport concept called "Shadow Redundancy" which protects e-mail messages while they are in transit. If a Hub Transport server or an Edge Transport server fails after it has received a message for processing, but before it was able to deliver it to the next "hop" server, the server which sent the message to that transport server is now able to detect the failure and redeliver the message to a different Hub Transport or Edge Transport server for processing.

Summary

Exchange Server 2010 is the new Messaging and Collaboration platform from Microsoft, and it has a lot of new, compelling features. The new High Availability, management and compliancy features make Exchange Server 2010 a very interesting product for the Exchange administrator. In fact, the new features in Exchange Server 2010 will generally result in less complexity, which is always a good thing and In January 2011, **Microsoft Exchange Server 2010 won InfoWorld's 2011 Technology of the Year Award for Best Mail Server.**