

## Features of Exchange Server 2007

### Built-in Protection

Exchange Server 2007 includes built-in protection with features like Edge Transport, Hosted Filtering Integration, and anti-spam filtering and extensibility for antivirus protection. See the table below for more information.

### Anti-spam and Antivirus

Feature	Type	Description
Edge Transport server role		<p>This server role is for perimeter network deployment. It supports Simple Mail Transfer Protocol (SMTP) routing, provides anti-spam filtering technologies and support for antivirus extensibility. The Edge Transport server should be isolated from the Active Directory directory services, but can still leverage Active Directory for recipient filtering by using Active Directory Application Mode (ADAM). EdgeSync in Exchange Server 2007 publishes pertinent organization information, encrypted, to the Edge Transport server for use in robust recipient filtering and respects Microsoft Outlook safe sender lists on the Edge. Communications between the Edge Transport server and the internal network in an Exchange Server 2007 organization are encrypted by default.</p> <p>Edge Transport includes anti-spam technologies that protect at many layers.</p>
Anti-spam	Connection Filtering	<p>Exchange Server 2007 provides an integrated, IP based block-and-allow list based on sender reputation. Lists are automatically updated as new versions become available. Administrators can establish additional IP allow-or-deny lists as needed.</p>
Anti-spam	Sender and Recipient Filtering	<p>Sender reputation is dynamically analyzed and updated. When the Edge Transport server spots specific trends from a given domain, it can impose certain actions to either quarantine or reject incoming messages. Sender ID is also used to verify that each e-mail message originates from the Internet domain from which it claims to come from based on the sender's SMTP server IP address. Once a Sender ID record has been verified, the results can be cross-referenced to past traffic patterns and sender reputation, creating an associate weight into the domain reputation. Finally, recipients are validated, and administrators have the ability to block messages sent to non-existent user accounts or internal-only distribution lists</p>
Anti-spam	Safe Sender List Aggregation	<p>Via EdgeSync, the Edge Transport server respects Outlook 2003 and Outlook 2007 safe sender lists to help reduce false positives.</p>
Anti-spam	Sender ID	<p>Exchange Server 2007 embeds support for Sender ID, an e-mail industry initiative designed to verify that each e-mail message originates from the Internet domain from which it claims to come based on the sender's SMTP server IP address. Sender ID helps prevent domain spoofing and protect legitimate senders' domain names and reputation and helps recipients more effectively identify and filter junk e-mail and phishing scams.</p>

Feature	Type	Description
Anti-spam	Content Filtering	Content is analyzed using the Intelligent Message Filter (IMF), Exchange Server's implementation of Microsoft SmartScreen content filtering technology. SmartScreen is based on Microsoft Research's patented machine-learning technology. Anti-phishing capabilities are also built-in to the IMF to help detect fraudulent links or spoofed domains and protect users from these types of online scams. When used with Outlook 2007, a phishing warning or block appears in the user interface. Customers are protected from emerging spam attacks through the automatic filter updates for Exchange Server 2007, which are published on a frequent basis. Should the administrator require additional control, the Edge Transport server enables customization, including the ability to add words or phrases to the filter.
Anti-spam	Outlook E-Mail Postmark	Exchange 2007 verifies Outlook E-mail Postmarks attached to messages sent from Outlook 2007. The Outlook E-mail Postmark can reduce false positives for messages from legitimate senders that have little to no reputation.
Anti-spam	Spam Assessment	In addition to scanning message content, the IMF consolidates guidance from Connection, Sender/Recipient, Sender Reputation, Sender ID verification, and Outlook E-mail Postmark validation to apply a Spam Confidence Level (SCL) rating to a given message. Administrators can preconfigure actions on the message based on this SCL rating. Actions may include deliver to the inbox or junk mail folder, deliver to the spam quarantine, or reject outright and no deliver.
Anti-spam	Service Resilience	The Edge Transport server role controls the inbound SMTP message receipt rate for increased availability. This control, coupled with the ability to detect open proxy machines, can aid in preventing denial of service attacks. Tar pitting is supported to slow the server response for certain SMTP communication patterns, minimizing exposure to directory harvest attacks.
Anti-spam	Anti-spam Stamp	Messages filtered by the Edge Transport server role are stamped with information, including why the message was considered spam and which combination of filters and reputation services (IP, domain, sender, recipient, content) determined its spam assessment. Administrators may use this information in an aggregate way to understand the effectiveness of filtering across their multilayered approach and tune appropriately.
Anti-spam	Two-Tiered Spam Quarantine	The Exchange Server 2007 environment enables two-tiered spam quarantine. First, administrators have access to a Spam Quarantine housed in the perimeter network. Using Outlook, administrators can access the Spam Quarantine to search for messages, release to the recipient, or reject and delete. Messages with borderline SCL ratings (borderline definition configured by the administrator) may be released to the end user's junk mail folder in Outlook, and are converted to plain text for further protection.
Anti-spam	Consolidated Management	Management of the Edge Transport Server role and corresponding rules is consistent with the rest of the Exchange environment and can be performed using the Exchange Management Console graphical interface or the Exchange Management Shell for automation. Finally, the administrator can leverage notifications through Microsoft Operations Manager (MOM) or

Feature	Type	Description
		reports within Exchange to analyze the effectiveness of their anti-spam filters.
Antivirus Extensibility	Attachment Filtering	To effectively protect against worms delivered via e-mail, the administrator can strip attachments based on their size, content or file type. Zip file manifests can be examined as well for offending file types.
Antivirus Extensibility	Edge Protocol Rules	As a reactive defense mechanism, protocol rules provide a layer of protection before antivirus signature updates become available. Administrators can filter on known text patterns in malware carriers and drop the connection.
Antivirus Extensibility	Antivirus Stamp	Messages scanned in the Exchange environment can be assigned an antivirus stamp. This stamp identifies which engine did the scanning, which signature was used, and when the message was last scanned.
Antivirus Extensibility	Deep Integration for Antivirus Scanning	Antivirus solutions can be more tightly integrated in the Exchange Server 2007 environment. Antivirus solutions have access to the Multipurpose Internet Mail Extensions (MIME) parsers and can scan the message stream in transport (on Edge Transport or Hub Transport servers). Catching viruses in transport helps prevent their delivery and storage in Exchange mailboxes.
Hosted Filtering Integration		Exchange Server 2007 provides integration with Exchange Hosted Services, offering off-site protection against spam and viruses.

### Confidential Messaging

Feature	Type	Description
Intra-Org Encryption		All mail traveling within an Exchange Server 2007 organization is encrypted by default. Transport Layer Security (TLS) is used for server-to-server traffic, Remote Procedure Call (RPC) is used for Outlook connections, and Secure Socket Layers (SSL) is used for Client Access traffic (Outlook Web Access, Exchange ActiveSync, and Web Services). This prevents spoofing and provides confidentiality messages in transit.
SSL Certificates Automatically Installed		SSL certificates are installed by default in Exchange Server 2007, enabling broad use of SSL and TLS encryption from clients such as Outlook Web Access and other SMTP servers.
Opportunistic TLS Encryption		If the destination SMTP server supports TLS (via the "STARTTLS" SMTP command) when sending outbound e-mail from Exchange Server 2007, Exchange Server will automatically encrypt the outbound content using TLS. In addition, inbound e-mail sent to Exchange Server 2007 from the internet will be encrypted if the sending server supports TLS (Exchange Server 2007 automatically installs SSL certificates).

## Compliance

Feature	Type	Description
Transport Rules		Exchange Server 2007 includes a policy engine based on rules that execute on Hub Transport servers. With Transport Rules, administrators and compliance officers can establish and enforce regulatory or corporate policies on internal or outbound e-mail, voice mail, or fax. For example, using a wizard in the Exchange Management Console or the command line in Exchange Management Shell, rules can be written that would prohibit communication between members of distinct distribution lists, require encrypted delivery of any message containing confidential information identified through text pattern matching, append a disclaimer to any message being sent externally, or BCC the compliance officer anytime a specific phrase appears in the subject or content of a message.
Messaging Records Management		Various corporate retention policies exist for e-mail, voice mail, and fax communications. With Managed Folders, a user can organize messages into Outlook folders that are provisioned and managed by the administrator. An automated process scans the inbox and these folders to retain, expire, or journal communications based on compliance requirements.
Flexible Journaling		Journaling is flexible in Exchange Server 2007. Journaling can be triggered per database, per distribution list, or per user. All messages can be journaled, or just those sent internally or externally. Transport rules may also dictate when to journal based on message sender, recipient, or content.
Multi-Mailbox Search		Using the Microsoft standard search technology, content in Exchange Server 2007 mailboxes is fully indexed and searchable using a variety of criteria. If compliance or legal requirements require information discovery, administrators can search across multiple mailboxes within an organization with a single query, routing the results to a Microsoft Windows SharePoint Services site or mailbox that can be made available via Outlook to HR, compliance officers, or others.
Archive Integration		Journalled messages can be archived to any SMTP address, including an Exchange mailbox or Windows SharePoint Services site.

## Business Continuity

Feature	Type	Description
Local Continuous Replication		Availability can be increased using continuous replication of data across multiple disks on a single server. This establishes a second copy of the production database on the local server that is kept up-to-date automatically. In the event of a disk failure or data corruption, switching over to the copy database provides a less costly and less complex recovery solution for the administrator.
Cluster Continuous Replication		Availability can be increased using replication in an active/passive cluster. Data recorded on the active server node is copied to the passive server node, enabling a copy of not only server configuration and settings but data as well. By not requiring shared storage, the active node and

Feature	Type	Description
		passive node can be located in separate geographical locations without the performance impact of synchronous replication solutions. Automated failover to the passive server node is transparent to the end user, dramatically reducing the risk of data loss by relying on logs and queues and providing a less costly and less complex recovery solution for the administrator.
Fast and Fewer Backups		Backups can be run against the copy of the production database on either the local server or passive server node, decreasing the performance impact on production. Continuous Replication also reduces the frequency of costly, full disk or tape backups currently used for disaster recovery.
Database Portability		In the case of a complete server failure, an empty dial tone mailbox database can be created on a new server, enabling users to send and receive e-mail while recovery is underway. A backup of the mailbox database can then be recovered into the dial tone database even though the original database in the backup was created on a different server.

## Operational Efficiency

Exchange Server 2007 helps IT professionals administer, automate, and deploy more efficiently. See what features are included with Exchange Server 2007 for operational efficiency in the table below.

### Administration and Automation

Feature	Type	Description
Exchange Management Console		Improves the graphical user interface for management. Management actions are easily discovered through the action pane, and the navigation tree is simplified to three levels deep. Exchange management and troubleshooting tools are integrated in the toolbox. The Exchange Management Console is built upon the Exchange Management Shell; actions taken in the Console are also available, and visible, through the command line shell.
Exchange Management Shell		The Exchange Management Shell, based on Microsoft Windows PowerShell, is a highly extensible and flexible management environment that complements the graphical interface available through the Exchange Management Console. It enables rapid management through a scriptable command line for automation, batching, and reporting and integrates with Active Directory. To help administrators quickly learn the syntax of the Exchange Management Shell and build custom scripts, wizards in the graphical Exchange Management Console display the command line syntax for each action the administrator has specified via the wizard. This text can be cut and pasted directly into the Exchange Management Shell or into a script file.
Extended Integration with Active Directory		Use of Active Directory sites helps automate new server discovery and configuration within the organization. The topology of an Exchange Server 2007 environment is defined and managed through Active Directory, alongside other servers in the infrastructure.
Exchange		Manual configuration for synthetic transactions has been dramatically reduced or eliminated. All

Feature	Type	Description
Management Pack for Microsoft Operations Manager		synthetic transactions are now accessible from the Exchange Management Shell. Rules directly align with Exchange Server 2007 server roles. New reports are introduced for Exchange ActiveSync, unified messaging service availability, message hygiene features, and server performance. Exchange Best Practices Analyzer (ExBPA) integration features are also included.
Exchange Troubleshooting Tools		In addition to the deep integration of Exchange Best Practices Analyzer, Exchange Server 2007 provides several troubleshooting tools within the toolbox in the Exchange Management Console. These tools are kept up-to-date with the latest information and capabilities through integration with Microsoft Update. Included in the toolbox are the Exchange Mail Flow Troubleshooter, Exchange Database Troubleshooter, and the Exchange Performance Troubleshooter. The Exchange Mail Flow Troubleshooter can diagnose and help remediate inbound and outbound e-mail failures. The Exchange Database Troubleshooter isolates database mounting failures, is used to manage recovery storage groups, and walks the administrator through dial tone recovery. Finally, the Exchange Performance Troubleshooter identifies the cause of Outlook or Exchange performance problems and advises on remediation.
Flexible Permission Model		Permissions become more granular and straightforward to manage in the Exchange Server 2007 environment. The permissions model enables a set of new, predefined administrator “roles.”
Automatic Server Updates		Automates Exchange Server updating and patching using either Microsoft Update on the Web, Windows Update Server on-site, or Microsoft Systems Management Server, soon to be released as System Center Configuration Manager.

## Deployment

Feature	Type	Description
Server Roles		Exchange Server 2007 is a modular system of five server roles—Edge Transport, Hub Transport, Mailbox, Client Access, and Unified Messaging – that reduces the time required for installation; minimizes manual, post-install configuration by the administrator; and limits the surface area available for attack to increase security. Administrators also gain the flexibility to deploy only the features and services necessary on a given server and manage accordingly. All server roles, with the exception of Edge Transport, can be deployed on a single server, and only the Hub Transport and Mailbox server roles are required for Exchange Server 2007 installation.
Setups		A new setup process goes from installation to configuration and reduces complexity by incorporating the modular, server role architecture of Exchange Server 2007 into the process. Microsoft Windows Installer technology provides distinct installation packages and smart default settings. Exchange Best Practices Analyzer (ExBPA) is integrated with a setup process to perform

Feature	Type	Description
		prerequisite checking and identify potential deployment errors. To ease deployments in large environments, Exchange Management Shell scripts can be used to automate server installation and provisioning.
Exchange Best Practices Analyzer		Embedded in the Exchange Server 2007 setup process and available through the Exchange Management Console toolbox, the Exchange Best Practices Analyzer can be used to proactively examine the topology and individual servers for configuration discrepancies that may lead to service outages and reliability problems in the future. The Analyzer surfaces warnings or error messages to the administrator and information on how to address the warning or error. It is recommended that the Exchange Best Practice Analyzer be run periodically against an Exchange environment to ensure optimal configuration.
Autodiscover		Configuring Outlook 2007 to connect with Exchange is easier than ever before. If logged on to the network, Exchange Server 2007 automatically completes all inputs required for the user to initiate the connection. Even for users not logged on to the network, connecting Outlook 2007 to Exchange Server 2007 using Outlook Anywhere (formerly known as RPC over HTTP or RPC/HTTP) requires only the user name, e-mail address, and password; no Exchange server name is required. In the event of a mailbox move, migration or disaster, Autodiscover eliminates the need for users to change their settings by automatically detecting the new server and reconfiguring the connection.
Single Migration Engine		Exchange Server 2007 provides a single, comprehensive tool for administrators to perform intra or inter-organizational migrations, minimizing migration complexity.

## Scalability and Performance

Feature	Type	Description
Native x64		As a native 64-bit application, Exchange can access more memory, ensuring high performance and reliability as mailbox sizes and the number of user accounts per server increase.
Storage Optimization		With reduced input/output (I/O) requirements (up to 75 percent reduction in I/O per second) enabled by the larger memory caches available on x64 systems, Exchange Server 2007 makes better use of existing storage systems and also allows administrators to use low-cost options like Direct Attached Storage, even in demanding, enterprise environments.
Optimized Browser Access		Outlook Web Access (OWA) 2007 delivers improved performance and decreased latency. Increased client caching reduces server roundtrips, thereby reducing bandwidth usage and providing an optimal user experience when accessing over slow connections.
Simplified		Message routing is automatically determined, and mail is delivered using the most direct route by

Feature	Type	Description
Routing and Optimized Bandwidth		default. Administrators can also configure schedule and priority to optimize bandwidth usage.

## Extensibility and Programmability

Feature	Type	Description
Web Services Application Programming Interface (API)		Developers now have a simple way to embed information from the Exchange Server 2007 mailbox or calendar within line-of-business or other custom applications. The Exchange Web Services API provides a single, documented, standards-based API to be called from any client, language, or platform.
OWA Web Parts		Developers can easily embed Outlook Web Access functionality into their custom portals and portal applications using OWA Web Parts.
Free/Busy Web Service		The Free/Busy Web Service offers a flexible, extensible way to access free/busy information in Exchange Server 2007. Used by clients such as Outlook, Outlook Web Access, and mobile devices based on Exchange ActiveSync, the Free/Busy Web Service allows developers to embed free/busy information in line-of-business or custom applications
.NET Integration		Commands or scripts used in the Exchange Management Shell can be called from managed code such as C# or VB.NET. This allows developers to build custom applications which organizations may use to execute common management tasks in the messaging environment.

## Anywhere Access

Exchange Server 2007 offers features that allow you and your employees anywhere access to e-mail, calendaring, and more. See what features are included with Exchange Server 2007 for anywhere access in the table below.

### Calendaring

Feature	Type	Description
Calendar Attendant		The Calendar Attendant reduces scheduling conflicts by limiting calendar items (request, declines, accepts) in the inbox to the latest version. The Calendar Attendant also marks meeting requests as tentative on recipient calendars until users can act on the request and relies on the Exchange Server 2007 free/busy Web service for always up-to-date availability information.
Resource Booking Attendant		The Resource Booking Attendant enables resources, including meeting rooms or other equipment, to be automatically managed. Resources can auto-accept requests when available or decline and provide details explaining the decline. Administrators can set granular policies on resources, including available hours or scheduling permissions.

Feature	Type	Description
Scheduling Assistant		The Scheduling Assistant helps users efficiently schedule meetings by providing visual guidance on the best and worst dates and times to meet based on meeting invitees and required resources.
Schedulable Out of Office		Out of Office (OOF) messages can now be scheduled to begin and end on specific dates and times, reducing the likelihood of a user's out of OOF not being set. A separate out of office message can be sent to external recipients, a capability the administrator can enable or disable. Out of Office messages can also be set or unset from a mobile device.

## Mobile Messaging

Feature	Type	Description
Search		Information can be quickly found from a mobile device using the search capability of Exchange ActiveSync. When executing a search from a mobile device, both the local device store and the user's entire Exchange mailbox are queried. Results found through the over-the-air search of the Exchange mailbox can be rapidly retrieved to the device. This capability enables access to information sent or received days, weeks, or even months before, regardless of the storage limitations of the mobile device.
Direct Push		Mobile devices incorporating Exchange ActiveSync maintain a secure connection with Exchange Server 2007, receiving new or updated e-mail, calendar, contacts, and tasks as soon as they arrive on the server. This push method optimizes bandwidth usage while keeping users up-to-date.
Rich Experience on a Breadth of Devices		Users can get a familiar experience on a range of mobile devices without requiring the organization to deploy expensive third-party software or services. The Exchange Server 2007 ActiveSync protocol is licensed for use by Windows Mobile, Nokia, Symbian, Motorola, Sony Ericsson, Palm, and DataViz. Given the breadth of partners, device choice continues to expand.
Device Security and Management		Administrators may choose to enforce policies on devices used in their organizations including requiring PINs of varying length and strength and enforcing a device wipe of data and applications, should the device be lost or stolen. These controls become granular with Exchange Server 2007, allowing per-user policies. Device usage can be tracked and managed centrally within the Exchange Server environment.
LinkAccess		When a user receives a link to a Windows SharePoint Services site or file share while using a mobile device, Exchange Server 2007 uses LinkAccess to retrieve and display the document, no VPN or tunnel required.
Calendar and Out of Office		With Exchange Server 2007, users have many new options when accessing their calendar from a mobile device using Exchange ActiveSync. They can reply to a meeting invitation with a message, forward the invitation to another person, and view acceptance tracking for meeting attendees. Out of Office messages can also be set from the mobile device.

## Web-based Messaging

Feature	Type	Description
Outlook 2007 Experience		<p>Outlook Web Access, an AJAX application since its first release with Exchange Server 5.5, provides a rich, Outlook like experience in a browser. New features in Outlook Web Access 2007 enable users to:</p> <ul style="list-style-type: none"> <li>• Schedule Out of Office messages and send to internal and/or external recipients</li> <li>• Use the Scheduling Assistant to efficiently book meetings</li> <li>• Access SharePoint documents without a VPN or tunnel using LinkAccess</li> <li>• Use WebReady Document Viewing to read attachments in HTML even if the application that created the document is not installed locally</li> <li>• Access RSS subscriptions</li> <li>• View content in Managed E-mail Folders</li> <li>• Retrieve voice mail or fax messages through Unified Messaging integration</li> <li>• Search the Global Address List</li> </ul>
Access Security		<p>Outlook Web Access 2007 security is improved. Two-factor authentication is supported, and administrators can enforce HTML-only document viewing to avoid information being left behind on public kiosks.</p>
Self-Service Support		<p>The Outlook Web Access 2007 Options menu allows users to quickly and easily resolve many of the most common sources of helpdesk calls on their own. OWA users can request a Unified Messaging voice mail PIN reset, issue a remote wipe request to their mobile device should it be lost or stolen, and add senders to their safe or block list all within Outlook Web Access.</p>
Outlook Web Access Light		<p>Outlook Web Access Light provides a rich Outlook Web Access experience over slow connections and enables many of the new features in Outlook Web Access 2007, including schedulable Out of Office messages (internal and external), Really Simple Syndication (RSS) subscriptions, and Managed E-Mail Folder access.</p>
Search		<p>Exchange Server 2007 mailboxes are fully indexed by default, allowing users to quickly search for information from Outlook Web Access. Re-indexing is significantly faster than Exchange Server 2003, and search spans both content within the e-mail itself and data contained in attachments.</p>
Remote Document Access	LinkAccess	<p>When a user receives a link to a Windows SharePoint Services site or file share while working remotely using Outlook Web Access, Exchange Server 2007 uses LinkAccess to retrieve and display the document, no virtual private network (VPN) or tunnel required.</p>
Remote Document Access	WebReady Document Viewing	<p>Outlook Web Access 2007 can transcode a variety of document types – including Microsoft Word, Microsoft Excel, Microsoft PowerPoint, and PDF files – from their native format into HTML so that they can be viewed in a client browser even if the application that created the document is not installed on the client. This allows users to be productive from almost any machine and keeps viewed documents safe, even on kiosk machines, since HTML documents are purged by Outlook Web Access at logoff or session timeout.</p>

## Unified Messaging

Feature	Type	Description
Voice Messaging System		Voice mail can now be stored in the mailbox and accessed from a unified inbox in Outlook, Outlook Web Access, on a mobile device, or from a standard telephone. This unification improves employee productivity by simplifying access to the most common types of communications. It also dramatically reduces cost by removing the need for a standalone voice mail system and by taking advantage of any existing investments in Active Directory. Exchange Server 2007 Unified Messaging can be connected with a legacy private branch exchange (PBX) infrastructure through an IP gateway, or can be directly connected with certain IP PBX installations.
Fax Messaging System		Faxes can now be stored in the mailbox and accessed from the user's unified inbox in Outlook, Outlook Web Access, or their mobile device. Unified Messaging centralizes the management of inbound fax services within the Exchange infrastructure.
Speech-Enabled Automated Attendant		The Attendant answers calls using an automated operator, with customizable menus (e.g. "press 1 for sales"), and global address list directory lookups (e.g. "who would you like to contact?"). Callers can interact with the Automated Attendant through touch tone menus or their voice using speech recognition.
Self-Service Voice Mail Support		Using Outlook Web Access, users can request a reset of their voice mail PIN, set their voice mail greeting, record their out-of-office voice message, and specify mailbox folders to access when calling in by phone to hear e-mail messages through text-to-speech translation.
Outlook Voice Access		Users can access their Exchange mailbox using a standard telephone, available anywhere. Through touch tone or speech-enabled menus, they can hear and act on their calendar, listen to e-mail messages (translated from text to speech), listen to voice mail messages, call their contacts, or call users listed in the directory.
Play on Phone		Exchange Unified Messaging allows users to playback voice messages received in their Exchange inbox on a designated phone. This feature is useful when a user is in a public place and does not want to play the voice mail over their computer speakers. Play on Phone routes the voice mail to a cell phone, desk phone, or other number specified by the user.