

Microsoft **Exchange Server 2003**

Upgrading to Exchange Server 2003

A technical features guide for IT professionals

Abstract

Microsoft® Exchange® Server 2003 provides significant enhancements over Microsoft's previous mail server products. This document provides an overview of the new technical features that can be found within Exchange Server 2003 that make it a secure, scalable and highly dependable tool for messaging and collaboration.

"Eurodata Systems' work has been superb, combining a professional approach, appropriate technical knowledge and attention to detail. Without the detailed work of the consulting team, QEF would not have been in a position to successfully start the migration when they did, or to have the level of confidence in the upgrade and migration plan that they now have".

- Ingrid Jack, Principal Consultant Microsoft Consulting Services.

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1. Document Management

1.1. Document Control

This document is controlled and maintained according to the document standards and procedures detailed in the Process Document – '[Eurodata Document Management Process](#)'.

2. Contact Details

Eurodata is number one for Microsoft solutions and is one of the few companies to obtain the prestigious level of Microsoft Gold Certified Partner.

You benefit directly from our 9-year relationship with Microsoft through in-depth access to exclusive resources and early product information. To keep you up to date with current and new Microsoft technologies, we hold regular customer briefings and we use the sophisticated Eurodata Systems test lab to evaluate Microsoft Beta software.

For further information on our Microsoft Solutions portfolio please go to www.eurodatasystems.com or call 020 7619 1500.

3. Introduction

Microsoft® Exchange® Server 2003 is the next version of the Exchange collaborative communications server. Microsoft Exchange Server 2003 is the most feature-rich, most reliable and the most secure mail product offering from Microsoft to date. Exchange Server 2003 offers tremendous benefits over its predecessor in the areas of disaster recovery, performance, security, mobility, collaboration, serviceability and management.

This document presents the new technical features that can be found in the latest version of Exchange. An accompanying paper presents some of the business benefits of Exchange Server 2003 and the value of selecting Eurodata for complete end-to-end migration support.

4. New Feature Overview

Exchange Server 2003 offers mobile, remote, and desktop e-mail access with state-of-the-art security and privacy; lower cost of ownership through the services provided by Microsoft Windows® Server® 2003; high reliability and outstanding performance; e-mail-based collaboration; and easy upgrading, deployment, and administration. This section describes the new and enhanced abilities and features that come with the latest version of Exchange. New and improved features have been categorised into the following areas of interest:

- **Security and Privacy**
- **Reliability**
- **Performance**
- **Administration**
- **Deployment**
- **Development**

4.1. Security and Privacy

4.1.1. Ability to Restrict Distribution Lists to Authenticated Users

Exchange Server 2003 allows administrators to restrict distribution lists to only allow sending from authenticated users. Administrators can also specify which users can or cannot send to specific distribution lists.

These measures can help make it impossible for external mail users to send unsolicited email to large numbers of email users by targeting a single company email Distribution List. Similarly, it is possible to determine the users that are permitted to send mail to certain sensitive lists, for example one that may incorporate all executives within the organisation.

4.1.2. Support of real-time safe and block lists

Service Providers on the Internet now provide access to dynamic lists of users and organisations that are considered irresponsible email users (typically those responsible for producing unsolicited email, or *spam*). Exchange Server 2003 supports connection filtering based on real-time *safe* and *block* lists. This offers organisations a powerful method for reducing the amount of unsolicited mail delivered to their organisation.

4.1.3. Inbound recipient filtering

The recipient filter reduces unsolicited e-mail by filtering inbound e-mail based on the recipient. E-mail that is addressed to users that are not found, or to whom the sender does not have permissions to send, is returned to the sender with the appropriate non-delivery report. This applies only to mail sent by anonymously authenticated users.

4.1.4. Kerberos authentication between a front-end and back-end server

Exchange Server 2003 uses Kerberos delegation when sending user credentials between a front-end server (such as Outlook Web Access or Outlook Mobile Access) and a back-end server (such as the mailbox store) to help ensure that credentials are secure.

4.1.5. Privacy protection in Outlook and Outlook Web Access

By default, content from outside a user's network is blocked in Outlook 2003 and Outlook Web Access. Users can override this to view external content. This feature helps prevent spammers from identifying valid e-mail addresses by means of links to external content (known as '*web beaconing*').

4.1.6. Anti-virus API 2.5

Exchange Server 2003 improves the virus Application Programming Interface (API) by allowing anti-virus vendor products to run on Exchange servers that do not have resident Exchange mailboxes. Anti-virus vendor products can now delete messages and send messages to the sender in the Exchange Server 2003 anti-virus API version.

4.1.7. Clustering security

Exchange Server 2003 clustering supports Kerberos authentication against an Exchange virtual server. Exchange Server 2003 also supports IPSec secure encryption between front-end servers and clustered back-end servers running Exchange.

4.1.8. Administrative permissions

Cross-forest support and the ability to administer both Exchange 2000 Server and Exchange Server 2003 help organisations that have segmented the administration of their Windows-based environment and Exchange environment into two unique groups.

4.1.9. Ability to restrict relaying

Relaying can be restricted to a limited number of security principles through the standard Windows 2000 Discretionary Access Control List (DACL). The ability to grant relaying to an IP address is still present. This feature offers another measure to prevent spam originators from using Exchange Server to relay unsolicited email.

4.2. Reliability

4.2.1. Support for up to eight node clusters

Exchange Server 2003 introduces support for up to eight-node clustering (with at least one passive node) on Windows Server 2003 Enterprise Edition. Exchange 2000 Server supports a maximum of 4 nodes and Exchange 5.5 only 2 nodes.

Exchange Server 2003 also includes improvements that reduce the time taken for a node to fail over.

4.2.2. Mailbox Recovery Center

The Mailbox Recovery Center tool provides bulk reconnection of mailboxes to the appropriate user in the Microsoft Active Directory directory service to support disaster recovery scenarios. Recovering mailboxes on previous versions of Exchange was a time consuming and onerous operation; the new mailbox recovery center tool scans the mailbox database to determine all disconnected mailboxes, automatically matches user mailboxes to user accounts in Active Directory, recovers individual or multiple mailboxes, and identifies conflicts.

4.2.3. Cluster failover time

The dependency hierarchy of Exchange services has been flattened so that the Exchange protocol services are no longer dependent on the Microsoft Exchange Information Store service. This allows administrators to bring the Exchange store online and offline in parallel with the protocols.

4.2.4. Virtual memory usage and monitoring

Clients have previously experienced problems when running Exchange 2000 Server in conjunction with the Standard version of Windows 2000 Server on machines with more than 2 GB of physical RAM installed; virtual memory fragmentation problems can result in problems that require regular server reboots in order to recover.

The virtual memory (VM) usage in Windows Server 2003 in conjunction with the Microsoft Exchange Information store service now reduces memory fragmentation and allows higher-end servers with a large number of users to achieve higher availability.

4.3. Performance

4.3.1. Suppressing Out of Office messages to distribution lists

If a user is not specified on the To: or Cc: line, the Out of Office message is not sent. This prevents sending Out of Office messages to distribution lists, whose readers frequently do not want to see them.

4.3.2. Outlook synchronisation performance

Client performance improves by reducing the number of change notifications when a client is working in the cached Exchange mode. In addition, the server detects the native format of messages and only sends that format to the client. Clients using a cached Exchange mode also receive the number and size of messages to be downloaded.

4.3.3. Distribution list member caching

The Exchange Server 2003 implementation improves performance by redesigning the cache so that lookups, insertions, and expiration can be completed more efficiently, resulting in a 60 percent reduction of Active Directory queries.

4.3.4. Enhanced DNS-based Internet mail delivery

DNS-based Internet mail delivery achieves load balancing, better performance characteristics, and better tolerance of network/host unavailability and external DNS server responsiveness problems.

4.4. Administration

4.4.1. Support for Volume Shadow Copy service

Exchange Server 2003 supports the Volume Shadow Copy service implemented in Windows Server 2003. The copy service functionality provides a near-instantaneous backup and restore because a mirrored copy of the database exists at any time and can be used for restore processes.

4.4.2. Dynamic distribution lists

Query-Based Distribution Group (QDG) is a new feature that deals with distribution lists. QDGs achieve the same functionality as standard distribution lists, but instead of specifying static user memberships, they allow use of a Lightweight Directory Access Protocol (LDAP) query to *specify* the members of the distribution lists. For example, a query may take the form of "All full-time employees in my company"; the group membership would then be maintained automatically as and when the source list of employees is modified. This reduces the time some organisations spend managing distribution lists.

4.4.3. Exchange System Manager

User interface improvements include a simplified search filter, improved sorting by columns, and the ability to select multiple queues and messages for manipulation.

Queues are now centralised on a per-server basis as opposed to a per-virtual basis, which means all queues on a server can be viewed in one location.

Performance in queue enumeration is also improved, and all queues are initially displayed in Exchange System Manager. User control of Exchange System Manager is returned before all queues are displayed.

All system queues are now exposed, which provides a great aid for troubleshooting. Exchange System Manager includes the Enable Forms Based Authentication feature on the virtual servers so authentication cookies can be enabled or disabled easily through the User Interface (UI).

Exchange System Manager now has the ability to move log files and queue data. Before Exchange Server 2003, moving log files had to be carried out manually using directory modification tools and referring to knowledgebase articles. Now message tracking log files are moved by means of Exchange System Manager, as well as X.400 message transfer agent (MTA) queue data, and Simple Mail Transfer Protocol (SMTP) queue data.

Exchange System Manager exposes more cluster-related properties. In a cluster, status can be viewed for virtual servers and for failover operations.

4.4.4. Public folder management

Improvements in the user interface for public folders include several new tabs: Details, Content (shows content using Outlook Web Access), Find (uses new search capabilities), Status (provides the folder's server, the folder's public store, folder size, the number of items in the folder, and the last time it was accessed), and Replication (statistical data on replicas).

4.4.5. Link state

There is no change in link state if no alternate path exists. Furthermore, if no alternative path for the link (or route) exists, Exchange considers the path available.

Exchange Server 2003 improves the routing of link state code by reviewing the link state queue. If there are multiple conflicting state changes for a connector, Exchange 2003 considers the connector available. It has been determined that leaving such an oscillating connector available proves to be more efficient than to continually change the link state.

4.4.6. Public folder referral

Public folder referral is specified through a new list in the Exchange administrator user interface.

4.4.7. Move Mailbox tool

Selection of multiple mailboxes in the Move Mailbox tool eases mailbox movement from one server to another or to a different Exchange store. Furthermore, the move operation is multi-threaded, which greatly improves the speed of the move operation and also prevents the failure of one mailbox move from terminating the entire operation.

4.5. Deployment

4.5.1. Deployment tools and Help files

A set of new deployment tools and documentation helps Exchange Server 2003 be deployed easily into an existing Exchange 5.5 topology. The deployment tools provide a step-by-step approach by giving detailed information, analysing the existing topology, checking for prerequisites, recommending a configuration setting, and validating each step. In this way it is anticipated that a great number of prerequisite conditions will be satisfied before a deployment commences, thus avoiding common pitfalls.

Microsoft has deemed the prerequisite tests so important that it is not possible to run Exchange setup without having satisfied all of the necessary installation requirements.

4.5.2. Active Directory Connector tools

Exchange 2003 includes an updated version of Active Directory Connector with many customer-requested features included.

As an extension of the Active Directory Connector manager snap-in, the new Active Directory Connector wizard helps deployment by analysing an existing Exchange 5.5 topology, automatically preparing the Exchange 5.5 directory, and creating the needed connection agreements to ensure successful deployment.

4.5.3. Advancements in Setup

Outlook Mobile Access and Exchange Server ActiveSync are installed by default on all Exchange Servers, meaning every Exchange Server 2003 is mobile-enabled and able to support mobile phones and Windows-powered mobile devices.

Setup permission requirement changes allow additional Exchange servers to be added to an existing Administration Group without the need of a Full Exchange Administrator.

4.6. Improvements for Developers

4.6.1. Portal enhancements

Exchange Server 2003 includes specific Outlook Web Access customisations to enable Outlook Web Access Web Parts to be embedded in portals. These services allow the embedding of specific mail, calendar, contact, Outlook Today, and public folder information into a Web portal. Two specific enhancements include: the introduction of an

Outlook Web Access Today Web Part, which summarizes a person's agenda, and support for cascading style sheets on the Outlook Web Access page.

These new services allow corporate intranet developers to easily incorporate Exchange components in company web portals.

4.7. Focus on Outlook Web Access (OWA)

OWA allows users to extend the messaging capabilities of Exchange Server through the Internet to the World Wide Web. By using a Web browser, users can now connect to their Exchange Server 2003 mailbox and enjoy very similar functionality to that provided by the Outlook 2003 client.

By leveraging the benefits that Exchange Server 2003 OWA offers, organisations can now confidently extend the workplace, gaining the competitive edge by creating more productive users.

OWA was first introduced in Exchange 5.5 and then improved upon in Exchange 2000. Remote OWA connection scenarios might include checking e-mail, calendar, and contacts from airport and trade show kiosks, Internet cafés, a computer at home, or at a customer's location. In many cases, travelling users may reconsider the need to carry laptops on short business trips or customer visits when only e-mail access is required.

With Exchange Server 2003, rich features and a new user interface make the OWA user experience very similar to the full desktop Outlook client. Microsoft has greatly improved OWA functionality in direct response to customer demands for new features. OWA in Exchange Server 2003 now provides the following functionality:

- New Outlook 2003 'look-and-feel' including right-click functionality to access context menus.
- Support for Tasks, Search Folders, and the ability to digitally sign and encrypt e-mail and support for message signatures.
- A spelling checker.
- Support for Rules (processes incoming e-mails).
- Support for 'block/accept' sender lists, and an auto time-out logoff.
- Enhanced performance when operating over slow network connections.
- Improved keyboard shortcuts and the ability to mark emails as unread.
- New mail notifications now appear on the navigation pane.
- User can create new Contacts.
- Ability to pick names from address book and to find names within mail message window.
- Public folders now display in their own browser window.
- Attendee reminder option for meeting request and the ability to forward meeting requests.
- New calendar view to launch the calendar in its own window.
- Attachment blocking.

4.8. **Productivity Benefits with Mobile Device Support**

Exchange Server 2003 enables direct wireless synchronisation of email, calendar, and contacts with Pocket Outlook in Pocket PC, Pocket PC Phone Edition and Windows Powered Smartphones. Mobile functionality comes “built-in” with Exchange Server 2003, and no separate licensing is required for mobile access.

Staying up-to-date with e-mail, calendar, and contacts while on the move has never been easier. With an integrated Phone in the Pocket PC Phone Edition and Smartphones, you can also directly phone a contact by simply tapping on the stored phone number in your contact lists. Pocket PCs also come with Pocket Word and Pocket Excel, allowing users to review attachments sent by e-mail.

4.9. **Exchange Interoperability**

Although the new version of Exchange will run on Microsoft Windows 2000 Server, Exchange Server 2003 is the first version of Exchange designed to run on and take advantage of Microsoft Windows Server 2003 and to take advantage of the benefits that the new Operating System provides.

The compatibility matrix below summarises the various supported combinations of Exchange 5.5, Exchange 2000, and Exchange Server 2003 with Windows 2000 Server and Windows Server 2003. The physical server running Exchange must be installed on a Windows Server version as shown in the table. For example, Exchange 5.5 with SP3 cannot be installed or run on a computer that is running Windows Server 2003:

Exchange Version	Exchange can be installed and run on		Supported Active Directory Environments	
	Windows 2000 Server SP3+	Windows Server 2003	Windows 2000 Server SP3+	Windows Server 2003
Exchange 5.5 with SP3	Yes	No	Not required	Not required
Exchange 2000 with SP2	Yes	No	Yes	Yes
Exchange 2000 with SP3	Yes	No	Yes	Yes
Exchange Server 2003	Yes	Yes	Yes	Yes

The table also indicates the Active Directory versions that are supported for Exchange. Note that Exchange 5.5 does not require Active Directory; however, it does work if Active Directory is present.

Organisations who intend to upgrade from either Exchange 5.5 or Exchange 2000 to Exchange Server 2003 can rest assured that operating in a mixed Windows environment during the upgrade is fully supported.

Organisations who are considering upgrading their Windows-based servers to Windows Server 2003 can rest assured that doing so would not disrupt their messaging infrastructure. Although Exchange 5.5 and Exchange 2000 cannot be installed on servers running Windows Server 2003, file and print servers, domain controllers, and global catalog servers can all be upgraded to Windows Server 2003 with no impact on Exchange.

4.10. **Integration with Windows Server 2003**

Whilst Exchange Server 2003 provides many new and enhanced features, Windows Server 2003 provides significant enhanced functionality that Exchange 2003 takes advantage of, as described below:

- **Outlook HTTP access** - IIS 6.0 and Windows RPC Proxy service in Windows Server 2003 enable communication between Outlook 2003 and Exchange Server 2003 by means of HTTP. Outlook 2003 users can therefore synchronise directly with the server running Exchange Server 2003 over a HTTPS connection, without a need for a separate VPN.
- **Internet protocol support** – Windows Server 2003 IIS 6.0 provides Exchange with its support for many common Internet access protocols that increase the flexibility of the operating system, such as HTTP, Post Office Protocol version 3 (POP3), Internet Message Access Protocol version 4 (IMAP4), and Simple Mail Transfer Protocol (SMTP).
- **Volume Shadow Copy service** - This and Virtual Disk Service are part of a storage framework that provides heterogeneous interoperation of storage hardware, storage software, and applications. Exchange 2003 writes to the Volume Shadow Copy service on Windows Server 2003, reducing dramatically the backup and restore times for Exchange messaging environments. This enables IT departments to support greater numbers of users per server and reduces the total number of servers running Exchange in their environment.

5. **About Eurodata Systems Plc**

Eurodata Systems develops and implements comprehensive IT strategies and integrated business solutions to help enterprises make a successful transition to new technology.

Eurodata has become one of the few truly end-to-end service providers. Established in 1990, the company is now a mature business with more than 100 highly-skilled technical professionals offering solutions across the complete IT spectrum from network audit to full network security.

The company's end-to-end capability allows clients to pick and choose from an unrivalled range of skill sets and expertise. A single point of contact saves you time, effort and money, eliminating the problems of dealing with multiple service providers, warranties and agreements.

5.1. **Proven Project Methodology**

Successful change means identifying the processes that will transform organisational performance, gain the commitment of people, and develop the right technology solution. Our "People, Process and Technology" approach ensures an effective environment for change.

Eurodata Systems delivers business benefit to clients through its close working partnership with Microsoft, an in-depth knowledge of the Exchange Server 2003 technology and a refined migration methodology developed over many years. This tried and tested methodology ensures a smooth and seamless upgrade minimising any business disruption, from concept through to solution delivery and support. Eurodata will manage your migration through four phases:

- **Analysis**

- **Design**
- **Implementation**
- **Review**

Eurodata's comprehensive planning process will establish a sound definition of the work to be performed and generate a solid understanding of the commitments to be undertaken.

As always the focus is on the business enablers of the technology, rather than a technical functionality. Migration projects are always driven by commercial needs.

By offering a high level of continuity throughout the project – the same personnel involved from the beginning of the tender process will remain throughout the entire project – Eurodata can ensure that your commercial goals are realised.

The team's methodology includes proven risk minimisation techniques incorporated into the management of each of the complex elements that make up a project. These include:

- **Maintenance of an effective customer relationship**
- **Leadership of a productive and motivated project delivery team**
- **Focusing on quality management and quality assurance**

Eurodata draws on more than 12 years' experience of delivering IT solutions to ensure each migration project is completed smoothly and successfully. The company's Consultancy and Engineering teams comprise of IT professionals with multi-faceted skills as well as industry and professional accreditations that span numerous disciplines. Knowledge transfer is an essential part of the migration project – by ensuring clients have the appropriate post installation knowledge, skill set and system management capability.

Eurodata's complete end-to-end migration expertise includes:

- **Flexible, scalable and manageable solutions**
- **A tried and tested migration methodology**
- **A focus on delivering business benefits, not just technological functionality**
- **Tailored support contracts to meet clients' precise needs**
- **Automated and escalated helpdesk facility**
- **Microsoft Gold Certified Partner for Enterprise Systems with access to Microsoft resources and early product information**

Eurodata's commitment to its clients does not end when implementation is complete. The importance of continuous support is underlined with a comprehensive portfolio of end-to-end services designed to give you flexible support whenever you need it.

5.2. Partnerships and Accreditations

Eurodata have built strategic relationships with all the leading IT vendors and have achieved some of the industry's toughest accreditations, so you can be confident of receiving qualified, independent technical advice.

Some of Eurodata's key partnerships and accreditations include:

- **Microsoft Gold Certified Partner for Enterprise Systems**

- HP Enterprise Partner
- Cisco Elect and Premier Partner
- Whale Communications Master Partner
- Check Point Consulting Partner
- CHECK Accredited
- ISO 9001 compliant

6. Related Links

6.1. Case Studies

[Neopost Ltd – Windows Server 2003 Case Study](#) at
<http://www.eurodatasystems.com/CaseStudies/Neopost>

6.2. Further Information

Working with our clients, we have found more and more the need for precise and relevant information that is easy to digest whether you are a non technical business decision maker or an IT Director who doesn't have the time to wade through mountains of technical and business links on new Microsoft technologies.

For these reason we have developed a number of precise information guides, please visit the following link and take a look at the most relevant one for you.

[Microsoft 2003 Technologies Business and Technical Papers](#) at
<http://www.eurodatasystems.com/MSConsultancy/Infodocs.asp>