

Microsoft®
Exchange 2000
Server

**Microsoft® Exchange 2000 Server
Service Pack 3 Deployment Guide**

Exchange Core Documentation

Microsoft®

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Microsoft Exchange 2000 Server Service Pack 3 Deployment Guide

Technical Paper

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For the latest information, see <http://www.microsoft.com/exchange>

Introduction

This technical paper presents the best practices for deploying Microsoft® Exchange 2000 Service Pack 3 (SP3). The aim of this paper is to provide Exchange deployment experts with in-depth technical information about the changes introduced with SP3 and real world tips and tricks for deployment. The following teams contributed to the production of this paper:

- Microsoft Exchange Server Development Team
- Microsoft Exchange Joint Development Program (JDP) management team
- Microsoft Exchange Beta Technology Support (BTS)
- Microsoft Exchange User Experience (UE)

Note This paper is intended for advanced-level Exchange 2000 administrators. It is recommended that you have a good understanding of large and complex Exchange 2000 environments before reading this paper. It is also important that you understand the implications of running service pack upgrades on an Exchange server.

Exchange 2000 SP3 contains fixes for various issues reported since the initial release of Exchange 2000. The majority of these issues address the overall quality of the product, while others address critical problems found in the original code. Installing Exchange SP3 on your Exchange servers resolves these issues, thereby increasing the performance, stability, availability, and functionality of Exchange 2000 servers.

Build Information

Each version of Exchange 2000 Server includes a build number so that you can easily identify which version of the product you are running:

- Exchange 2000 = 4417.5
- Exchange 2000 Service Pack 1 = 4712.7
- Exchange 2000 Service Pack 2 = 5762.4
- Exchange 2000 Service Pack 3 = 6249.4

Preparing for Exchange 2000 SP3

It is imperative that you prepare for and test Exchange 2000 SP3 before deployment. Lack of planning can result in long periods of user downtime. In addition to following the planning tips in this section, you should also thoroughly test SP3 in your laboratory environment before deploying it on production servers. If you plan to use Exchange 2000 SP3 in conjunction with Microsoft Windows® .NET domain controllers, thoroughly review the Windows .NET product documentation to ensure that you are familiar with the new product.

Release Notes

Before you upgrade your servers to SP3, read the Exchange 2000 SP3 release notes. Because the release notes are finalized a few weeks before a service pack is released, view the release note updates on the Microsoft Exchange Web site at <http://www.microsoft.com/exchange>.

Microsoft Knowledge Base Articles

For a list of articles associated with Exchange 2000 SP3, see Microsoft Knowledge Base article [Q311456](#), "XGEN: List of Bugs Fixed by Exchange 2000 Server Service Packs."

Running Exchange 2000 on Windows 2000

You can install Exchange 2000 SP3 on existing Exchange 2000 servers that are running Windows 2000 SP2 and later. To download Windows 2000 SP2, see the Windows 2000 Web site at <http://www.microsoft.com/windows2000>. You should also install the critical post-SP2 hot fixes for Windows 2000 or upgrade to Windows 2000 SP3.

Although not absolutely necessary, you should also install Windows 2000 SP2 or later on computers running the Active Directory Connector (ADC) service, Microsoft Exchange 2000 Conferencing Server, and all domain controller and global catalog servers.

Exchange 2000 and Windows .NET

You cannot install Exchange 2000 SP3 on servers that are running Windows .NET. However, by utilizing the Microsoft Active Directory® directory service that is hosted on Windows .NET domain controllers and global catalog servers, you can install Exchange 2000 SP3 on servers running Windows 2000 SP2 or later.

Additionally, versions of Exchange earlier than Exchange 2000 SP3 (including Exchange Server 5.5) are not supported on servers running Windows .NET.

Exchange 2000 and Windows .NET Domain Controllers

Both Exchange 2000 SP2 and SP3 support the use of Windows .NET domain controllers and global catalog servers. However, Exchange 2000 SP2 requires application of a post-SP2 hot fix to support the use of .NET domain controllers.

For more information, see Microsoft Knowledge Base article [Q316463](#), "XGEN: Exchange 2000 Server Post-Service Pack 2 Directory Fixes Available."

If you want to upgrade existing Windows 2000 Active Directory servers to Windows .NET or install new Windows .NET Active Directory servers, you must first use the Adprep.exe utility to prepare your Exchange organization. The following sections explain how to use the Adprep.exe utility, whether or not you have Exchange 2000 SP3 installed.

Using Adprep.exe if You Have Exchange 2000 Installed

For information about how to use Adprep.exe if you have Exchange 2000 servers installed in your Windows 2000 Active Directory, see to Microsoft Knowledge Base article [Q314649](#), "Windows .NET Server ADPREP Command Causes Mangled Attributes in Windows 2000 Forests That Contain Exchange 2000 Servers".

Using Adprep.exe if You Do Not Have Exchange 2000 Installed

If you do not have Exchange 2000 servers installed in your Windows 2000 Active Directory, perform the following procedure.

To use Adprep.exe if you do not have Exchange 2000 installed

1. Locate the Windows 2000 schema master.
2. From the \i386 folder on the Windows .NET installation media, run **WINNT32 /CHECKUPGRADEONLY**. This copies the Adprep.exe tool and its associated files to the local computer.
3. Run **ADPREP /FORESTPREP**. This prepares your Windows 2000 Active Directory forest for Windows .NET domain controllers. Part of the preparation includes a schema update (from schema version 13 to 24). The schema update does not change the partial attribute set in the Active Directory database, therefore replication traffic is reduced during the update.
4. Run **ADPREP /DOMAINPREP**. This is a quick operation that prepares the domain for Windows .NET servers. You must run **ADPREP /DOMAINPREP** in each Windows 2000 domain that you want to upgrade to Windows .NET.

After you have prepared the forest and domains, use the Dcpromo.exe tool to install new Windows .NET domain controllers into the existing forest.

Note If you run Dcpromo.exe before running the Adprep.exe tool, an error appears during the promotion (Figure 1).

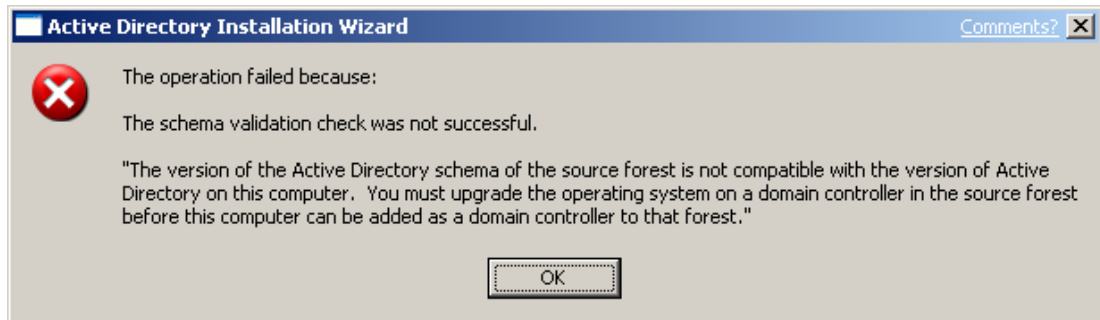


Figure 1 Resulting error message if you attempt to run Dcpromo.exe before Adprep.exe

Co-Existence Between Exchange 5.5 and Windows .NET Domain Controllers

Because Exchange 5.5 does not depend on Active Directory, you can install Exchange 5.5 servers within a .NET Active Directory framework; however, some of the enhanced functionality within .NET Active Directory is not available with Exchange 5.5.

Additionally, Exchange 5.5 does not support the use of distribution groups that contain more than 5000 members. Therefore, if you use large distribution groups in native .NET Active Directory forests, problems may occur in Active Directory Connector (ADC) replication or Exchange 5.5 directory replication.

Advantages of Using Windows .NET Domain Controllers with Exchange 2000 SP3

- **Global Catalog Partition Occupancy** Windows 2000 global catalog servers are advertised in DNS before being completely up to date, often resulting in problems with Exchange 2000 servers. In contrast, when you promote Windows .NET domain controllers to global catalog servers, the Active Directory server does not start to advertise itself until it receives a complete replication from all domains in the forest. This new functionality is also included with Windows 2000 SP3.
- **Dynamic NSPI Protocol** When Windows .NET domain controllers are promoted to global catalog servers, the Name Service Provider Interface (NSPI) protocol becomes enabled dynamically (a server reboot is required with Windows 2000 Active Directory servers). This new functionality is also included with Windows 2000 SP3.
- **Linked Value Replication** After a forest is in Windows .NET forest mode, multi-valued directory attributes replicate between domain controllers at the value level rather than the attribute level. This feature allows for very large group memberships (greater than 5000) and minimizes replication when group membership changes occur. Because it is recommended that you deploy Universal Groups when installing Exchange 2000 in a forest, Active Directory replication traffic is greatly reduced when linked value replication is in effect.

Interdependence of Windows and Exchange Service Packs

You can install Windows and Exchange service packs in any sequence. For example, if you install a Windows 2000 service pack after installing Exchange 2000 SP3, you do not need to re-install Exchange 2000 SP3.

Installing Exchange 2000 SP3

Exchange 2000 SP3 is designed as an upgrade. You can install it on any server running:

- Exchange 2000.
- Exchange 2000 SP1.
- Exchange 2000 SP2.

You do not need to upgrade a server running Exchange 2000 to SP1 or SP2 before upgrading to SP3. You can also install Exchange 2000 SP3 on servers running post Exchange 2000, Exchange 2000 SP1, and Exchange 2000 SP2 hotfixes.

Servers with Hotfixes

You can upgrade any server running Exchange 2000 to Exchange 2000 SP3. If your existing servers have Exchange 2000 hotfixes, you do not need to uninstall the hotfixes before applying SP3. The SP3 upgrade process overwrites hot-fixed files.

Some post-SP2 hotfixes are not included with Exchange 2000 SP3. If you are running "special" post-SP2 hotfixes (that is, hotfixes not available from the Microsoft Product Support services Web site at <http://support.microsoft.com/>), you should contact Microsoft Product Support Services (PSS). PSS can confirm whether your post-SP2 hotfix is included with SP3, or they can supply you with a post-SP3 hotfix that corrects the same problem. The following post-SP2 hotfixes are not included with Exchange 2000 SP3:

Q320652, Q320658, Q321314, Q321426, Q321427, Q321605, Q321927, Q322613, Q323278, Q323279, Q323636, Q323662, Q323690, Q324114, Q324132, Q324187, Q324227, Q324369, Q324456, Q324489, Q324526, Q324707, Q324763, Q324778, Q324907, Q325039, Q325092, Q325101, Q325445, Q325456, Q326096

Exchange 2000 SP3 Co-Existence

Servers running Exchange 2000 SP3 can fully co-exist with servers running Exchange 5.5, Exchange 2000, Exchange 2000 SP1, and Exchange 2000 SP2. However, you cannot use an Exchange 2000, Exchange 2000 SP1, or Exchange 2000 SP2 front-end server to access an Exchange 2000 SP3 back-end server. The setup program ensures that front-end servers are upgraded to SP3 before back-end mailbox servers (within the scope of the local Administrative Group).

Active Directory Connector Custom Local.map and Remote.map Files

If you deployed the Active Directory Connector (ADC) service with custom versions of Local.map and Remote.map files, you must make the same customizations to the SP3 version of the ADC service before you upgrade.

As a safeguard, use a tool such as LDP to export the contents of the **msExchServer1SchemaMap** and **msExchServer2SchemaMap** attributes before you upgrade the ADC service.

Active Directory Schema Updates

Exchange 2000 SP3 does not include or require updates to Active Directory schema.

Forest and Domain Preparation

When installing Exchange 2000 SP3, it is not necessary to run SETUP /ForestPrep or /DomainPrep again.

Anti-Virus Software

Exchange 2000 SP3 contains the same virus scanning API as Exchange 2000 SP2.

Exchange 2000 SP3 Installation Considerations

In general, you can update servers running Exchange 2000 to SP3 in any sequence. However, it is important to observe the following rules and best practices:

- Update front-end servers to SP3 before updating back-end servers. The setup program enforces this rule and produces an error if you attempt to upgrade a back-end server before you upgrade all front-end servers (within the local Administrative Group) to SP3.
- As a best practice, update servers running ADC before updating servers running Exchange 2000.
- As a best practice, update messaging bridgehead servers (at both ends of a connector) simultaneously.
- Remember to update servers and workstations that only have the System Management Tools components installed. If you do not update these servers and workstations, you will lose the new management functionality.

Modifications to Permissions on Clustered Servers

After installing Exchange 2000 Service Pack 3 on a clustered server, permissions you have modified may be reset by the upgrade process to their original default value. For example, in Exchange System Manager, if you have removed the **Everyone** group from the permissions on the **Organization** object, this

permission may be automatically re-applied during the upgrade. Permissions are only reset in this fashion on clustered Exchange servers, and no explicitly added permissions will be removed.

Important Keep track of any manual permission modifications so you can re-apply them after installing Exchange 2000 Service Pack 3. For more information, see Microsoft Knowledge Base article [Q320007](#), "XADM: Permissions That Were Modified Manually Are Reset to the Default Values."

Disable Notifications

If you attempt to install Exchange 2000 SP3 on a server that is configured to monitor and send e-mail notifications, the installation will fail; specifically, a 0xC103798A error will occur when processing Miscellaneous Atom. For information about how to correct this problem, see Microsoft Knowledge Base article [Q270668](#), "XADM: Exchange 2000 Setup Fails with 0xC103798A."

Remote Registry Service

If you attempt to install Exchange 2000 SP3 on a server that has the remote registry service stopped or disabled, the installation will fail; specifically, a 0xC0070035 error will occur during the upgrade. You must restart the Remote Registry service, and then you can continue the upgrade.

Slipstream Support

Exchange 2000 SP3 does not support "slipstreaming" – meaning that you must install Exchange 2000 before applying SP3. However, the Active Directory Connector (ADC) service supplied with Exchange 2000 SP3 is a full installation that includes Setup.exe. Therefore, you can install the SP3 version of the ADC service without first installing the original SP1 or SP2 version.

SP3 Causes Mobile Information Server Notifications to Fail

If you are using a server that is running Exchange 2000 SP3 that has Mobile Information Server Exchange Event Source installed on it, notifications are not sent to users. This behavior also occurs if you apply SP3 to a server that is running Exchange 2000 that has Mobile Information Server Exchange Event Source installed on it. For information about how to resolve this problem, see Microsoft Knowledge Base article [Q326232](#), "XCCC: Mobile Information Server Notifications Do Not Work After You Upgrade to Exchange 2000 SP3."

Unattended Installation

To create an unattended installation script for updating your servers running Exchange 2000, use the /CreateUnattend command-line parameter of Update.exe.

Updating Through Terminal Services

You can install all SP3 components through Terminal Services Client. However, to properly update the Exifs.dll driver, you must restart the server at the end of the update (you will be notified to restart). You must do this because the Exchange Installable File System driver, which resides in kernel mode, cannot be properly shut down through Terminal Services Client.

For best results, select **No** when prompted for the automatic restart. Then manually initiate the restart from the Start menu. Some automatic restart prompts actually shut down the server rather than restart it.

To ensure that your server restarts after applying SP3 through Terminal Services

1. After the SP3 update process is finished, indicate that you do not want to restart the server.
2. Click **Start**, and then click **Shut Down**.
3. In **Shut Down Windows**, in the drop-down list box, click **Restart**.
4. Click **OK**.

Minimizing Downtime

To update your servers running Exchange 2000 to SP3 without requiring a restart at the end of the installation, use the Update.exe file at the server console (however, all Exchange services still shut down during the update process). The installation process determines whether the **You must restart** message appears at the end of the installation process.

To avoid a server restart after applying SP3

1. Run Update.exe directly from the console, not through Terminal Services Client.
2. Before you run the update, shut down all Exchange management consoles and any custom scripts and applications that rely on Exchange resources (such as Cdoexm.dll). During the update process, if all files can be successfully overwritten, you are not prompted to restart.
3. If the update experiences problems updating one or more files, the file names in question appear in a warning dialog box during the installation. You are usually presented with the option to **Retry**, **Continue**, or **Abort**. If you realize that an external process is keeping the file in question open, close down that process and then select **Retry**. If selecting **Retry** does not allow the update to continue, you should select **Continue**. Selecting **Continue** forcibly gives the files in question temporary names and copies the new versions of the files to the correct folder. If you select **Continue**, a restart is required, so the temporary files can be deleted, and the images of the old file versions can be removed from memory.

If you are prompted to restart at the end of the installation, you must restart the server. Failing to restart the server causes access violations (service crashes) due to incompatible versions of DLLs in memory.

It is also important to restart the server if the databases fail to mount after SP3 is applied. The following events in the application log indicate that there is a problem:

Event Type: Error
Event Source: ESE98
Event Category: Database Corruption
Event ID: 470
Computer: SERVER-01
Description:

Information Store (2688) Database F:\EXCHSRVR\MDBDATA\PRIV3.edb is partially attached. Attachment stage: 4. Error: -1811.

Event Type: Error
Event Source: MExchangeIS
Event Category: General
Event ID: 9519
Computer: SERVER-01
Description:

Error 0xffffbbe starting database "Storage Group 1\Mailbox Database 3" on the Microsoft Exchange Information Store.
Failed to attach to Jet DB.

This problem occurs when outstanding file handles to IFS are still open during the upgrade to SP3. The ExIFS driver does not shut down cleanly and therefore fails to restart. To fix the problem, restart the server — you do not need to reinstall SP3.

SP3 and Front-End Servers

After you upgrade a front-end server running Exchange 2000 to SP2 or SP3, the system attendant process no longer initializes the Recipient Update Service, the offline address book generation process, free/busy publishing, and Mailbox Manager. Ensure that only back-end servers are designated to run the Recipient Update Service and offline address book generation process.

By default, the directory service proxy (DSProxy) process is not enabled on SP2 or SP3 front-end servers. However, you can enable DSProxy after applying a post-SP2 hotfix or after applying Exchange SP3. Additionally, you must set a registry key on the front-end server. For more information, see Microsoft Knowledge Base article [Q319175](#), "XADM: You Cannot Perform a Check Names Query Against a Front-End Exchange Computer."

SP3 Update Process Stops Non-Critical Services

As part of the update process, non-critical services such as License Logging, IIS Admin, and Windows Management Service are stopped. Many of these services hold Exchange-specific DLLs open, and the update process attempts to shut down these services so that files can be upgraded properly.

In some circumstances, these non-critical services may fail to shut down within the allotted time. This is not a problem for the update process; the process continues and does not experience any critical errors during this time. However, during the file copy process, the update process may report files, such as Address.dll, as being in use. Selecting **Retry** does not resolve this issue. If you want to avoid restarting at the end of the update process, use the Computer Management snap-in to manually shut down these non-critical services. After you shut down these services, select **Retry** at the file copy stage to resolve the problem. If you don't mind restarting at the end of the update process, select **Continue** and the file will be cleaned after you restart the server.

Removing SP3

After installation, it is not possible to remove Exchange 2000 SP3. If you need to back-out of the SP3 upgrade and go back to the original release of Exchange 2000, you must restore the original system state, file system, transaction log files, and databases.

If you apply SP3 to a server, the databases are upgraded to a newer version. For this reason, you should immediately back up your server after applying SP3. If you attempt to restore an SP2 database and log file set to an SP3 server, the database is automatically upgraded before it is mounted. However, if you attempt to restore a database that is older than Exchange 2000 SP2, the upgrade will fail. For more information see Microsoft Knowledge Base article [Q316794](#), "XADM: Exchange 2000 SP2 Does Not Allow You to Restore Exchange 2000 or Exchange 2000 SP1."

Active Directory Connector SP3 Update Permissions

To install a new Active Directory Connector, or to update an existing Active Directory Connector to SP3, log on to the target machine with the following permissions:

- Member of the "Enterprise Admins" group in the Active Directory database
- Member of the local "Administrators" group

Exchange 2000 SP3 Update Permissions

To update an existing Exchange 2000 installation to SP3, log on to the target machine with the following permissions:

- Exchange Full Administrator of the Organization or the Administrative Group that contains the server object to be updated
- Member of the local "Administrators" group

Note If the server running Exchange 2000 is part of an Exchange cluster, or has Key Management Service installed, log on to the target machine with the following permissions:

- Full Exchange Administrator to the Exchange organization
- Member of the local "Administrators" group

Exchange System Management Tools SP3 Update Permissions

It is important that you update any computers running Exchange System Management Tools to SP3. To update an existing Exchange System Manager installation to SP3, log on to the target machine with the following permission:

- Member of the local "Administrators" group

Applying Exchange 2000 SP3

This section outlines the recommended steps for upgrading your Exchange installation to SP3.

Updating the Active Directory Connector Service

To update an existing Active Directory Connector to SP3

1. Run Setup.exe from the \adc\i386 folder.
2. Select **Reinstall**.

Updating Exchange 2000 Server

To update an existing server running Exchange 2000 to SP3

1. Run Update.exe from the \Setup\i386 folder.
2. From the component list, select **Update**.
3. After the installation, restart the server if prompted to do so.

Updating an Exchange 2000 Cluster

Exchange 2000 SP3 supports rolling upgrades.

To update an Exchange 2000 cluster running in Active/Passive mode

1. Update the passive node to SP3 by running Update.exe from the \Setup\i386 folder.
2. Select **Update**.
3. Wait for the update to complete.
4. Restart the upgraded node.

Note If you do not restart the node after applying SP3, the virtual servers may not fail-back correctly.

5. Fail-over the Exchange virtual servers from the active node to the updated passive node.
6. Repeat steps 1 through 4 for the other node.
7. **(Optional)** Fail-over the Exchange virtual servers to the original server. To minimize user downtime, ignore this step.

If you are running a 2-node Active/Active cluster, you can follow a similar process to update your servers to SP3. For Active/Active cluster upgrades, you should fail-over your Exchange virtual servers so that both are running on the same node. After you have performed this operation, follow the Active/Passive upgrade steps listed above.

Verifying That the Upgrade was Successful

After you upgrade each server running Exchange 2000 to SP3, verify that the upgrade was successful.

To verify that an SP3 upgrade was successful

1. In Exchange System Manager, click **Servers** and verify that the build stamp shows the upgraded server running build 6249.4
2. In the Computer Management snap-in, ensure that all the appropriate Exchange services are listed as **Started**.
3. Log on to a mailbox homed on the upgraded server. Send a message to yourself and expand the public folder hierarchy.
4. Look in the application log on the upgraded server. Verify that unexpected warning and/or error messages were not logged.

Troubleshooting SP3 Upgrade Problems

Your Exchange 2000 SP3 upgrade should be free of errors. This section helps you troubleshoot unexpected upgrade problems.

Troubleshooting Exchange 2000 SP3

In some circumstances, you may see an error when attempting to apply Exchange 2000 SP3.

To troubleshoot errors while applying Exchange 2000 SP3

1. Record the error and search for it at <http://support.microsoft.com> to see if the error is a known issue.
2. Restart the server running Exchange, and immediately attempt to reinstall SP3.

3. Restart the server running Exchange, manually shut down all Exchange and IIS services, and then attempt to reinstall SP3.
4. Look at the Exchange Server Setup progress log that exists in the root of your system partition. Starting at the end of the log file, search the contents until you see the details of the error. The progress log may give you additional information as to why the update failed.
5. Contact Microsoft Product Support Services (PSS). Be ready to supply the Exchange Server Setup progress log to PSS.

In practice, you can rectify most failed service pack installations by restarting the server and attempting the installation again. Problems can occur when a server running Exchange has been in continuous operation for a long duration, and the services fail to stop before the timeout. For example, it is relatively common for the Microsoft Exchange Store process (Store.exe) or Site Replication Service (SRS) to take a long time to shut down.

Clustering Scenarios

Exchange 2000 SP3 includes support for the following cluster configurations on Windows 2000 Advanced Server with SP2 or SP3:

- 2-node Active/Active
- 2-node Active/Passive

For Active/Active clusters, it is strongly recommended that you configure no more than two Exchange virtual servers. For Active/Passive clusters you should configure a single Exchange virtual server.

Note Exchange 2000 SP3 strictly enforces a maximum of four active storage groups per node, independent of the number of Exchange virtual servers running.

Additionally, Exchange 2000 SP3 includes support for the following cluster configurations on Windows 2000 Datacenter Server:

- 2-node Active/Passive
- 3-node Active/Active/Passive (N+1)
- 4-node Active/Active/Active/Passive (N+1)
- 4-node Active/Active/Passive/Passive (N+2)

To successfully install or upgrade an Exchange 2000 SP3 cluster on Windows 2000 SP2 or later, you may need to run Comclust.exe on all nodes in the cluster. Comclust.exe creates a Microsoft Distributed Transaction Coordinator (MSDTC) cluster resource, which is required by Exchange 2000. For more information, see Microsoft Knowledge Base article [Q312316](#), "XADM: Setup Does Not Install Exchange 2000 on a Cluster If the MSDTC Resource Is Not Running."

When possible, use Active/Passive clusters to increase scalability and reduce failover times. In contrast, Active/Active clusters are only supported in 2-node configurations, where each node has a maximum of 40 percent loading and 1900 simultaneous users.

Exchange 2000 enforces N+1 mode in 3- and 4-node configurations. Additionally, you can only have one Exchange virtual server active on a node at any time.

For more information about clustering with Exchange 2000 SP3, see the technical paper *Deploying Microsoft Exchange 2000 Server Clusters* at <http://go.microsoft.com/fwlink/?LinkId=6271&clcid=0x409>.

Unsupported Windows .NET Features

Exchange 2000 SP3 does not support the following Windows .NET features:

- InetOrgPerson mail recipients
- Domain rename (any domain in the forest)

Fixes in Exchange 2000 SP3

To increase functionality and reliability for Exchange customers, various fixes were made for Exchange 2000 SP3. Many of these fixes allow Exchange 2000 SP3 to function properly as a domain controller or a global catalog server within the Windows .NET platform.

Critical fixes found in SP3 include the following:

- **DS2MB performance enhancement**

This fix modifies the search behavior of the DS2MB component. DS2MB is the process that replicates configuration data in Active Directory to the Internet Information Services (IIS) metabase. After applying SP3, Exchange produces a much lighter load on Active Directory servers. For more information, see Microsoft Knowledge Base article [Q312606](#), "XADM: The Search for Deleted Objects in the Metabase Update Process Overloads Domain Controllers."

- **Routing performance enhancement**

This fix modifies the search behavior of the routing service component. After applying SP3, the routing service makes fewer LDAP queries to Active Directory.

- **Change to the IsAlive check**

When the Exchange Information Store service is busy, it may return an RPC_S_SERVER_TOO_BUSY on an IsAlive check. In SP2, this event causes the cluster to fail-over. In SP3, this event is ignored, and the Exchange Information Store service is considered to be functioning correctly. For more information, see Microsoft Knowledge Base article [Q315771](#), "XADM: The Information Store Stops on a Cluster Because of the IsAlive Check."

- **Inbox rules fix**

If a mailbox is moved from one server to another, server-side rules sporadically cease functioning due to invalidated message streams. This fix resolves that problem.

- **System Attendant crashes**

If all the domain controllers in a local site shut down, and the number of failover global catalog servers is less than the number of local global catalog servers, then DSProxy could crash. This fix stops the System Attendant process (Mad.exe) from crashing as well.

- **Posting to public folders**

If you create a Network News Transfer Protocol (NNTP) virtual directory, Exchange may not allow messages to be posted to a public folder. This fix allows Microsoft Outlook® posts to public folders, even if an NNTP virtual directory exists for the same folder.

- **Viewing MAPI messages through NNTP**

In SP3, you can now view MAPI messages with an NNTP newsreader.

- **Updating free and busy data in a nested organizational unit structure**

This fix allows you to correctly update free and busy data when conference rooms are deeply nested in an organizational unit structure within the Active Directory database.

- **Exchange Information Store service generates 0xfffffae2 JET_errInvalidTableId Error**

An Exchange 2000 server may generate a **0xfffffae2 JET_errInvalidTableId** error and Event IDs 1115 and 1110 from MExchangeIS Mailbox Store. This error is often followed by an **Access denied** error. This fix resolves the errors and corresponding performance problems. For more information, refer to Microsoft Knowledge Base article [Q312966](#), "XADM: The Information Store Generates a 0xfffffae2 JET_errInvalidTableId Error During Many Client Operations."

- **Virtual Address Fragmentation (Event 9582) on Large Servers**

A heavily loaded Exchange 2000 server may generate 9582 Events or suffer performance problems as memory becomes fragmented. To better avoid this memory fragmentation, this fix changes the method by which memory is allocated at startup.

- **9551 Warning Logged when Zombie Users exist on access control lists**

Access control entries (ACEs) are entries that originate from Microsoft Windows NT® security for Exchange Server 5.5 disabled accounts. When zombie users exist on access control lists (ACLs), a warning may appear if you migrate the Exchange Server 5.5 mailboxes (or public folders) to Exchange 2000, and the DS/IS consistency adjuster is not used on the Exchange Server 5.5 information store to remove these entries from the ACL. To remove these invalid entries, SP3 introduces a new registry key and method for removing the invalid ACEs from the ACL. For more information, see Microsoft Knowledge Base article [Q318549](#), "XADM: Migrated Exchange Server 5.5 Mailboxes Generate Event ID 9551 Warning Messages for the ACL."

- **Malformed Mail Attribute Exhausts CPU Resources**

A “denial of service” vulnerability exists in Microsoft Exchange 2000 Server. A hacker who can successfully connect to an Exchange 2000 server and pass raw, hand-crafted mail messages directly to that server can exploit this vulnerability and cause the system to become unresponsive.

This vulnerability does not enable the hacker to gain any privileges on the system; nor does it enable the hacker to read, send, or delete any user's mail on the system. After the message had been processed, the system returns to normal.

For more information, see Microsoft Knowledge Base article [Q320436](#), “MS02-025: Malformed Mail Attribute Can Cause Exchange 2000 to Use Up CPU Resources.”

Additional Resources

Web Sites

- Microsoft Exchange 2000 Server
<http://www.microsoft.com/exchange>
- Windows 2000
<http://www.microsoft.com/windows2000>
- MSDN Exchange Development
<http://msdn.microsoft.com/exchange>

Microsoft Knowledge Base Articles

The following Microsoft Knowledge Base articles are available on the Web at <http://support.microsoft.com/>:

- [Q311456](#), “XGEN: List of Bugs Fixed by Exchange 2000 Server Service Packs”
- [Q316463](#), “XGEN: Exchange 2000 Server Post-Service Pack 2 Directory Fixes Available”
- [Q314649](#), “Windows .NET Server ADPREP Command Causes Mangled Attributes in Windows 2000 Forests That Contain Exchange 2000 Servers”
- [Q320007](#), “XADM: Permissions That Were Modified Manually Are Reset to the Default Values”
- [Q270668](#), “XADM: Exchange 2000 Setup Fails with OxC103798A”
- [Q326232](#), “XCCC: Mobile Information Server Notifications Do Not Work After You Upgrade to Exchange 2000 SP3”
- [Q319175](#), “XADM: You Cannot Perform a Check Names Query Against a Front-End Exchange Computer”

- [Q316794](#), "XADM: Exchange 2000 SP2 Does Not Allow You to Restore Exchange 2000 or Exchange 2000 SP1"
- [Q312316](#), "XADM: Setup Does Not Install Exchange 2000 on a Cluster If the MSDTC Resource Is Not Running"
- [Q312606](#), "XADM: The Search for Deleted Objects in the Metabase Update Process Overloads Domain Controllers"
- [Q315771](#), "XADM: The Information Store Stops on a Cluster Because of the IsAlive Check"
- [Q312966](#), "XADM: The Information Store Generates a 0xfffffae2 JET_errInvalidTableId Error During Many Client Operations"
- [Q318549](#), "XADM: Migrated Exchange Server 5.5 Mailboxes Generate Event ID 9551 Warning Messages for the ACL"
- [Q320436](#), "MS02-025: Malformed Mail Attribute Can Cause Exchange 2000 to Use Up CPU Resources"

For more information: <http://www.microsoft.com/exchange>

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Microsoft Knowledge Base Article - Q311456

XGEN: List of Bugs Fixed by Exchange 2000 Server Service Packs

The information in this article applies to:

- Microsoft Exchange 2000 Server SP1, SP2, SP3

SUMMARY

This article provides information on the bugs that are fixed by Exchange 2000 Server service packs. Service packs are cumulative, so bugs that are fixed in one service pack are also fixed in subsequent service packs. For example, the bugs that are fixed by Exchange 2000 Server Service Pack 1 (SP1) are also fixed by Exchange 2000 Server Service Pack 2 (SP2).

For additional information about obtaining Exchange 2000 Server service packs, click the article number below to view the article in the Microsoft Knowledge Base:

[Q301378](#)XGEN: How to Obtain the Latest Exchange 2000 Server Service Pack

MORE INFORMATION**Exchange 2000 Server Service Pack 3**

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Exchange 2000 Server Service Pack 2

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Exchange 2000 Server Service Pack 1

[Q301452](#)XGEN: List of Bugs Fixed in Exchange 2000 Server Service Pack 1

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