HP OPENVIEW for UNIX

# Smart Plug-in for Microsoft® Exchange Server

# User's Guide

**Smart Plug-in for Exchange Server**
**Version A.03.30**

**January 2003**

# Legal Notices



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# Conventions

| | |
|---|---|
| **Boldface** | Words in **boldface** type represent programs and commands. |
| Capitalization | Capitalized first letters represent company or product names. |
| `Computer font` | Words in `computer font` represent file or path names, command syntax statements, prompts or messages that appear on your screen, or text you should type on your workstation or terminal. |
| *Italics* | Words in *italics* represent variables in syntax statements or words that are emphasized in the text. |
| { } | Represents required elements in a syntax statement. When several elements are separated by the \| symbol, you must select one of the elements. |
| [ ] | Represents optional elements in a syntax statement. |

# Printing History

New editions are complete revisions of the manual. The printing date for each edition is listed below.

| | |
|---|---|
| Edition 1 (A.03.21) | May 2002 |
| Edition 2 (A.03.30) | August 2002 |

# File Locations

The *HP OpenView Smart Plug-ins CD-ROM* is a collection of OpenView Operations Smart Plug-ins (SPIs) and OpenView supplementary management applications, for HP OpenView Operations for UNIX. The collection offers the convenience of having all SPIs on a single medium with a single Software Distributor depot.The Smart Plug-in for MS Exchange Server files are located according to operating system, as follows:

**Program Files:**

```
cdrom/OV_DEPOT/10.OHPUX.sdtape EXSPI
cdrom/OV_DEPOT/11.OHPUX.sdtape EXSPI
cdrom/OV_DEPOT/SOLARIS.sdtape EXSPI
cdrom/OV_REPORTER/EXCHANGE_SPI_A.03.30/exspi_Reporter.msi
```

**Documentation Files:**

```
OV_DOC/EXCHANGE_SPI_A.03.30/release_notes.pdf
OV_DOC/EXCHANGE_SPI_A.03.30/exspi_users_guide.pdf
OV_DOC/EXCHANGE_SPI_A.03.30/exspi_ref_guide.pdf
```

# Contents

# 1

# Exchange SPI Concepts

# Introduction

This chapter introduces the basic concepts of the HP OpenView Smart Plug-in for Microsoft® Exchange Server (Exchange SPI), version A.03.30, which works together with HP OpenView Operations for UNIX version 6.0, to monitor Microsoft Exchange 5.5 and 2000.

The chapter includes the following sections:

- What to Look for in the Exchange SPI
- How the Exchange SPI Works
- Customization
- Exchange SPI Reports and Graphs

# What to Look for in the Exchange SPI

The Exchange SPI adds Exchange 2000 and Exchange 5.5 server-monitoring capabilities to HP OpenView Operations for UNIX, allowing you to oversee your distributed Exchange environment from a central, easy-to-use console. In so doing, you can:

- Increase Exchange availability and performance
- Lower support costs associated with the Exchange service
- Improve capacity management and planning for Exchange

With the Exchange SPI integrated into the OVO console, you can apply the HP OpenView performance and problem management processes that you use for networks and systems to monitor MS Exchange. The basic process is that metrics collected by the Exchange SPI are sent to the HP data collecting agent and can be viewed as graphs with HP PerfView, and/or reports with HP Reporter.

After setup, the Exchange SPI will monitor critical Exchange application/database resources including:

- Process Monitor (for monitoring the amount of CPU time being used by core Exchange processes)
- Inactive Process Monitor (for monitoring core MS Exchange processes for activity and status)
- Exchange Service Monitor (for monitoring Exchange Server processes for activity levels)
- Data of message processes by Message Transfer Agent and SMTP
- MTA Work Queue and SMTP Queues
- IS Public and Private/Mailbox Average Delivery Time.

This information comes to you in the OpenView Operations console through messages, alerts, reports and graphs.

# How The Exchange SPI Works

The Exchange SPI collects metric information through templates that are deployed to OVO managed nodes.

**Templates:** Templates are found in template groups under the Exchange version folder (Exchange 5.5 or Exchange 2000), in the **SPI for MS Exchange** folder that is added to the OVO console upon installation of the SPI.

**The setup:** The **EXSPI Quick Start** template group contains templates that are easy to install and deploy and require no special customization. Many templates in the **EXSPI Add-Ons** and **EXSPI Advanced** template groups require a more advanced configuration procedure. Before getting started, review template requirements in *Exspi Template Group Requirements* chapter 4  page 5.

**Template types:** Templates measure collected data against predefined rules, generating alarms and messages to assist in problem analysis and resolution. Corrective actions are suggested in help text available in the message details.

Within the Exchange group are *schedule* templates that determine when and what metrics are collected; and *monitor* templates that implement the actual metric condition (threshold, object, message text, instructions, etc.) You can configure schedule templates to run at exact times, for example, Mondays at 12:00 noon, according to the managed node’s clock.

**How data collection occurs:** When the collection’s scheduled time occurs, the Exchange SPI collector/analyzer program is executed and forwards metric values to OVO and the HP data collecting agent. At the same time, OVO checks predefined threshold settings and triggers alarms when violations occur.

**Where data is stored:** The collected data is written to a log file residing on the local file system at pre-defined intervals. Error messages are written to the OVO Management Server. The Exchange-specific Windows event log messages are monitored by the OVO logfile encapsulator.

**How data is displayed:** Messages appear in the OVO Message Browser with message details containing instruction text to help diagnose and remedy problems. If PerfView is present, metric values are available as graphs and if Reporter is installed, reports are available.

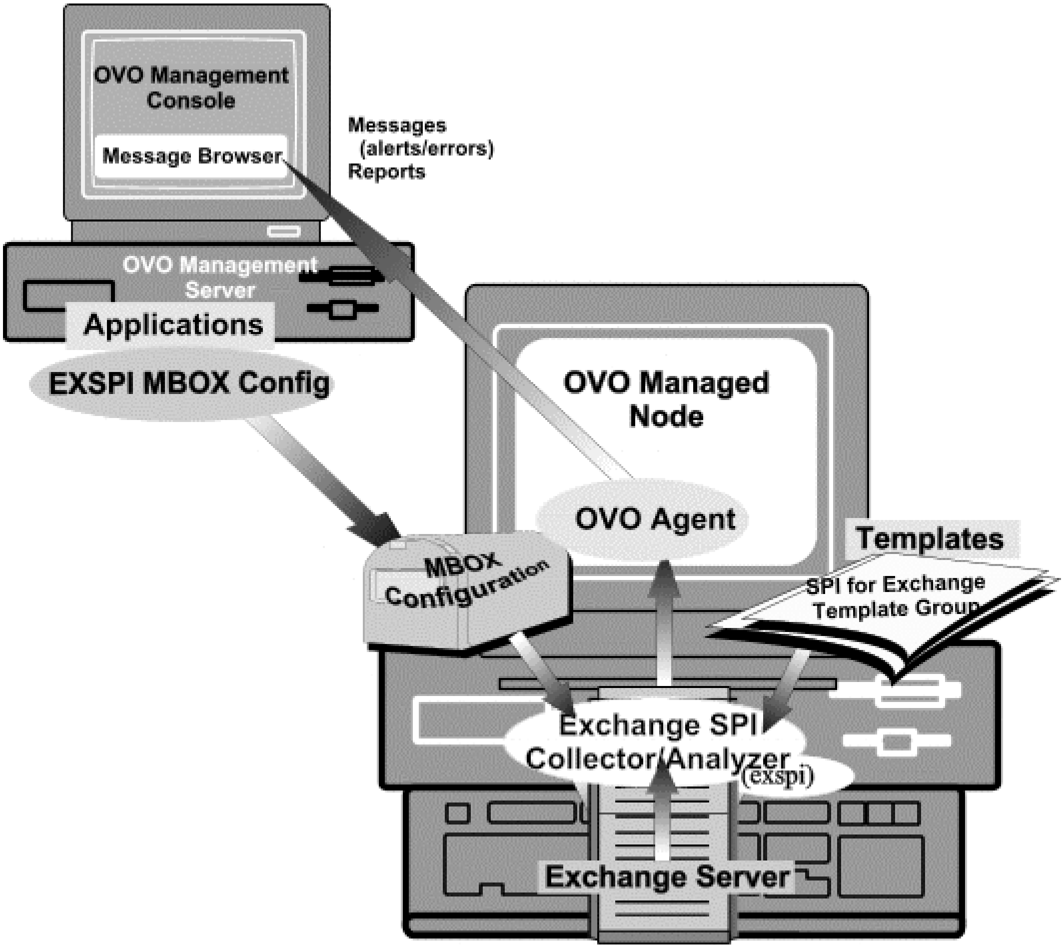
## COMPONENT INTERACTION

The Exchange SPI consists of the following logical components (see the following page for a diagram of how the components interact):

- ***Template Groups with schedule and monitor templates:*** **Monitor** templates define conditions for each metric, **Schedule** templates execute metrics according to the defined schedule.
- ***Collector/analyzer program:*** Collects the metrics specified in the templates at predefined intervals, performs calculations, and forwards data to the OVO data collecting agent. OVO checks the threshold values and triggers alarms.
- ***Windows event log:*** Compares Windows event log entries against predefined logfile templates, and forwards error messages to the OVO management server.
- ***EXSPI MBox Config:*** SPI application that configures an Exchange mailbox for SPI to access mailbox and folder information (advanced configuration).
- ***EXSPI Add DataSource:*** *configures and starts the logging of data****, Enable Data Logging/Disable Data Logging:*** starts/stops data logging.

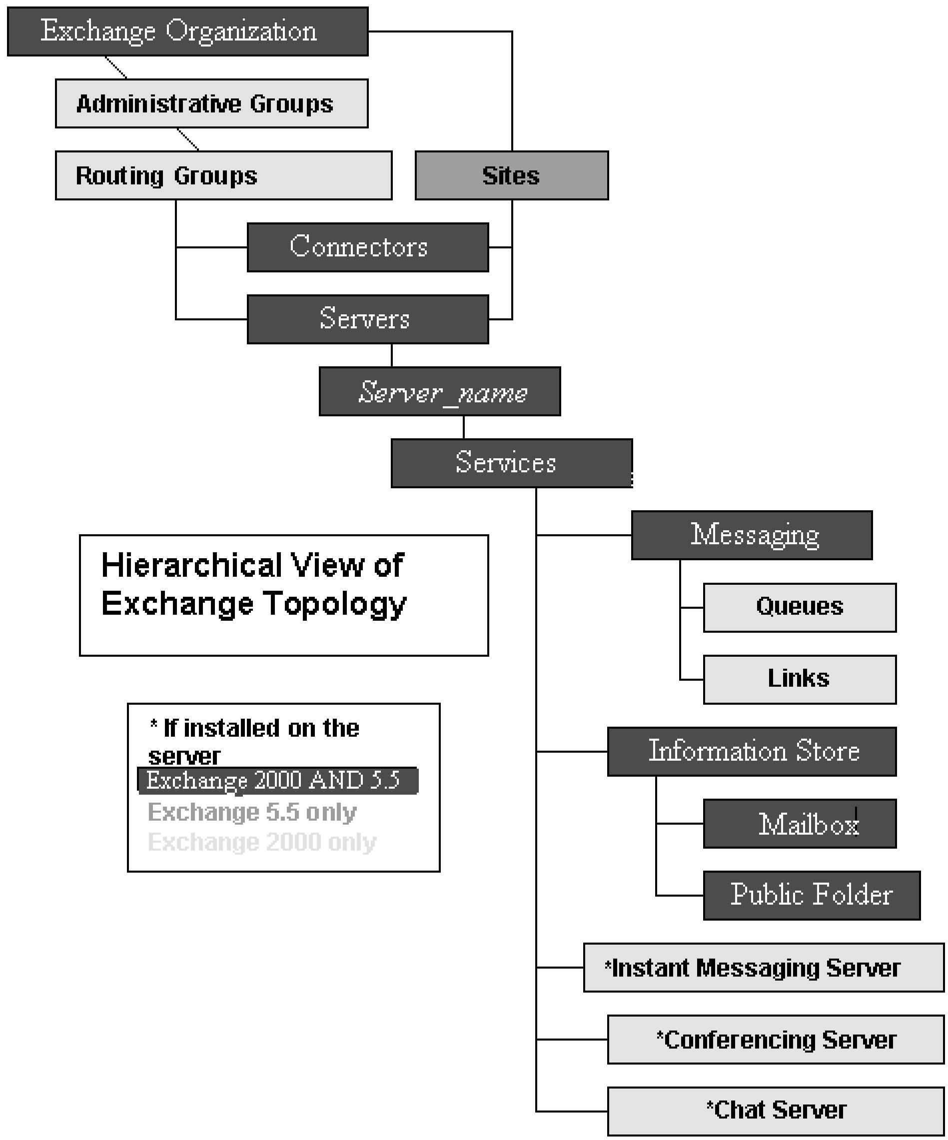
**NOTE:** This version of the Exchange SPI monitors MS Exchange 2000 and MS Exchange 5.5. Template and Template group names contain the version number in the prefix, where ***60*** refers to Exchange 2000 and ***55*** to Exchange 5.5. For example, where an Exchange 5.5 template group has the name ***EXSPI-55 Event Log Errors***, the equivalent Exchange 2000 template group is ***EXSPI-60 Event Log Errors***. In addition, where templates or template groups are referred to that are relevant to both versions, they are referred to in this manual as **EXSPI-60/55** <template name>.

*Exchange SPI Component Interaction*



## EXCHANGE ORGANIZATION

The Exchange organization in an enterprise can be extremely complex, the following diagram might help in keeping an overview:



# Customization

**Changing template settings:**

You can customize the settings on Exchange SPI templates to precisely meet the needs of your organization. The following settings can be changed on the template record:

- Collection interval
- Threshold
- Message text
- Duration
- Severity
- Actions

**Creating new custom templates:**

You can create a custom template by copying an original template, making any desired changes, and saving it with a new name.

When the OVO environment scales, the Exchange SPI *tag feature* provides a way to partition templates into groups with each group customized in a specific manner.

For more information on customization, see *Customizing Exchange SPI* chapter 4  page 15.

# Exchange SPI Reports and Graphs

## Data Collection for Graphing and Reporting

The Exchange SPI collects data for graphing and reporting through data collection templates. Exchange and Windows data is collected, summarized, and forwarded to the OVO data collecting agent. Reporter can be used to access the data source EXSPI and write reports using Seagate Crystal Reports.

Data is collected through the following data collection templates:

**Table 1: Quick Start Data Collector Templates**

| Data Collector Name | Scheduled Times | Metric IDs | Table |
|---|---|---|---|
| Dc-SMTP Message Volume | Hourly | 670: SMTP Server.Messages Sent Total<br>671: SMTP Server.Messages Received Total<br>672: SMTP Server.Bytes Sent Total<br>673: SMTP Server.Bytes Received Total<br>674: SMTP Server.Message Bytes Sent Total<br>675: SMTP Server.Message Bytes Received Total<br>**Note**: These are running totals since the SMTP service started. The Exchange SPI calculates a delta value between readings and logs this value to show message volume. | EXSPI_MULTI |
| Dc-SMTP Message Queues | Hourly | 50: SMTP Server.Categorizer Queue Length<br>51: SMTP Server.Local Queue Length<br>52: SMTP Server.Local Retry Queue Length<br>53: SMTP Server.Messages Pending Routing<br>54: SMTP Server.Remote Queue Length<br>55: SMTP Server.Remote Retry Queue Length | EXSPI_MULTI |
| Log Data | Hourly | Writes the EXSPI_SINGLE values to the datastore each hour. | EXSPI_SINGLE |

**Table 1: Quick Start Data Collector Templates**

| Data Collector Name | Scheduled Times | Metric IDs | Table |
|---|---|---|---|
| Dc-IS Msg Delivery Time | Every 10 minutes (0,10,20,30, 40,50)<br><br>For hours: 6-18 Weekdays only<br><br>*This must be scheduled every 10 mins beginning at the 0 minute. | 581: MSExchangeIS Mailbox.Average Local Delivery Time<br>582: MSExchangeIS Mailbox.Average Delivery Time<br>583: MSExchangeIS Public.Average Local Delivery Time<br>584: MSExchangeIS Public.Average Delivery Time<br>**Note**: The average value over all samples over all database instances in the hour is logged to EXSPI_SINGLE, while the average value over all samples is logged per instance to EXSPI_MULTI | EXSPI_MULTI (for each Database instance)<br><br>EXSPI_SINGLE (total over all Databases) |
| Dc-IS Mailbox Msg Vol | Hourly<br><br>For hours: 6 - 18 Weekdays only | 540: MSExchangeIS Mailbox.Local deliveries<br>541: MSExchangeIS Mailbox.Messages Delivered<br>542: MSExchangeIS Mailbox.Messages Sent<br>543: MSExchangeIS Mailbox.Messages Submitted<br>544: MSExchangeIS Mailbox.Message Recipients Delivered<br>**Note**: These are running totals since the STORE service started. The Exchange SPI calculates a delta value between readings and logs this value to show message volume. | EXSPI_MULTI (for each Database instance)<br><br>EXSPI_SINGLE (total over all Databases) |

**Table 1: Quick Start Data Collector Templates**

| Data Collector Name | Scheduled Times | Metric IDs | Table |
|---|---|---|---|
| Dc-IS Public Msg Vol | Hourly<br><br>For hours: 6-18 Weekdays only | 550: MSExchangeIS Public.Messages Delivered<br>551: MSExchangeIS Public.Messages Sent<br>552: MSExchangeIS Public.Messages Submitted<br>553: MSExchangeIS Public.Message Recipients Delivered<br>**Note**: These are running totals since the STORE service started. The Exchange SPI calculates a delta value between readings and logs this value to show message volume. | EXSPI_MULTI (for each Database instance)<br><br>EXSPI_SINGLE (total over all Databases) |
| Dc-MTA & IS Queue Lengths | Every 10 minutes (0,10,20,30 ,40,50)<br>For hours: 6-18 Weekdays only<br>*This must be scheduled every 10 mins beginning at the 0 minute. | 570: MSExchangeMTA.Work Queue Length less MSExchangeMTA.Deferred Delivery Msgs<br>571: MSExchangeIS Mailbox.Send Queue Size<br>572: MSExchangeIS Mailbox.Receive Queue Size<br>573: MSExchangeIS Public.Send Queue Size<br>574: MSExchangeIS Public.Receive Queue Size<br>**Note:** The average value over all samples over all database instances in the hour is logged to EXSPI_SINGLE, while the average value over all samples is logged per instance to EXSPI_MULTI. | EXSPI_MULTI (for each Database instance)<br><br>EXSPI_SINGLE (total over all Databases)<br><br>EXSPI_SINGLE for MTA work Queue Length |

### Table 1: Quick Start Data Collector Templates

| Data Collector Name | Scheduled Times | Metric IDs | Table |
|---|---|---|---|
| Dc-MTA Message Volume | Hourly<br><br>For hours: 6-18 Weekdays only | 530: MSExchangeMTA.Inbound Messages Total<br>531: MSExchangeMTA.Outbound Messages Total<br>532: MSExchangeMTA.Total Recipients Inbound<br>533: MSExchangeMTA.Total Recipients Outbound<br>534: MSExchangeMTA.Inbound Bytes Total<br>535: MSExchangeMTA.Outbound Bytes Total<br>**Note**: These are running totals since the MTA service started. The Exchange SPI calculates a delta value between readings and logs this value to show message volume. | EXSPI_SINGLE |
| Dc-User Connections | Hourly<br>For hours: 7-18 Weekdays only | 520: MSExchangeIS.Active User Count<br>521: MSExchangeIS.User Count | EXSPI_SINGLE |

## Table 2: Add-Ons Data Collector Templates

| Data Collector Name | Scheduled Times | Metric IDs | Table |
|---|---|---|---|
| Dc-Chat Data Collection | 30 minutes<br>Weekdays only | 837: Microsoft Exchange Chat Service.Clients<br>838: Microsoft Exchange Chat Service.Channels | EXSPI_MULTI |
| Dc-ConfTrends | 30 minutes<br><br>For hours: 7-18<br>Weekdays only | 800: MSExchangeCONF.Active Conferences<br>808: MSExchangeDcsMgr.Local Conferences<br>809: MSExchangeDcsMgr.Remote Conferences<br>810: MSExchangeDcsMgr.Active MCUs | EXSPI_MULTI |
| Dc-MCU | 30 minutes<br>For hours: 7-18<br>Weekdays only | 811: MSExchangeT120.Data Messages Received<br>812: MSExchangeT120.Data Messages Sent<br>813: MSExchangeT120.KBytes Received<br>814: MSExchangeT120.KBytes Sent<br>**Note**: These are running totals since the Conferencing service started. The Exchange SPI calculates a delta value between readings and logs this value to show message volume. | EXSPI_MULTI |
| Dc-Instant Messaging Enabled Users | Hourly | 843: Number IM enabled users on Server<br>542: MSExchangeIS Mailbox.Messages.sent | EXSPI_MULTI |
| Dc-Instant Messaging | Hourly | 841: MSExchangeIM Virtual Servers.Current Users Online<br>842: MSExchangeIM Virtual Servers.Current Subscriptions<br>845: MSExchangeIM.Failed Requests/sec<br>846: MSExchangeIM.Rejected Requests/sec | EXSPI_MULTI |

## Table 3: Advanced Data Collector Templates

| Data Collector Name | Scheduled Times | Metric IDs | Table |
|---|---|---|---|
| Dc-Exchange Info | Daily | 655: Server<br>656: Site<br>657: Organization | EXSPI_MULTI |
| Dc-Mailbox Data | Weekly | 630: Mailbox size (MB)<br>631: Number of messages<br>632: Storage Limit<br>632: Total number of non-associated messages<br>634: Last logon date/time<br>815: Database Instance | EXSPI_MULTI And EXSPI_DETAILS |
| Dc-Mailbox IS Sum. Data | Daily | 610: Physical DB size (EDB)<br>611: Number of Mailboxes<br>612: Number of Messages<br>613: Logical Size<br>614: MSExchangeIS Mailbox.Single | EXSPI_SINGLE |
| Dc-Public Folder Data | Weekly | 640: Folder Size<br>641: Number of Messages | EXSPI_MULTI |
| Dc-Public IS Sum. Data | Daily | 620: Physical DB size (EDB)<br>621: Number of Folders<br>622: Number of Messages<br>623: Logical Size<br>624: MSExchangeIS Public.Single Instance Ratio | EXSPI_SINGLE |
| Dc-TrackLog Data | Weekly | 660: Email Senders<br>661: Email Recipients<br>662: Email Destinations<br>663: Email Sources | EXSPI_M0660<br>EXSPI_M0661<br>EXSPI_M0662<br>EXSPI_M0663 |
| End to End Message Ping | 15 minutes | 1002: SLA values of:<br>Met SLA<br>Almost Met SLA<br>This schedule not only executes the sending of messages it also logs the data to the data store. | EXSPI_M1002 |

## EXCHANGE SPI REPORTS

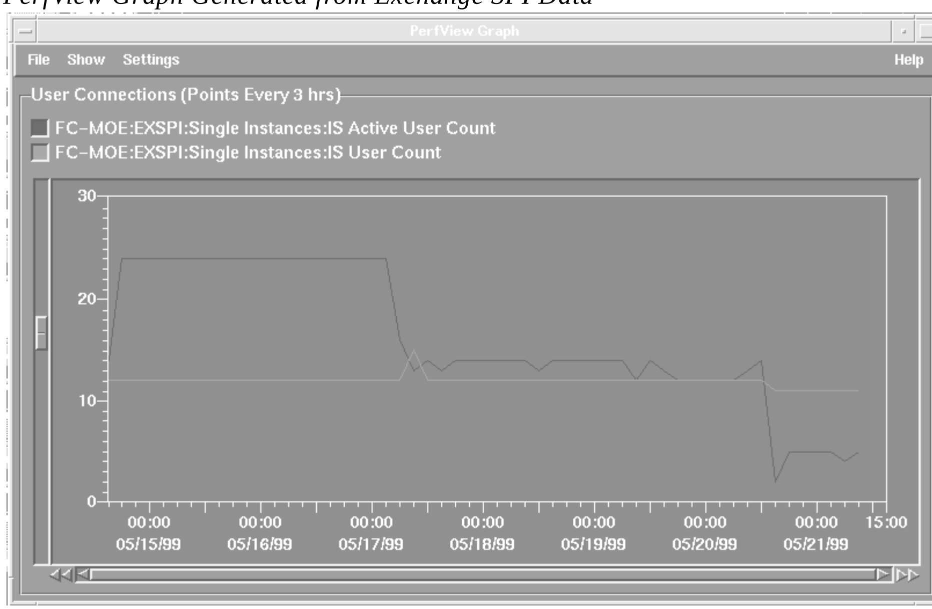
Exchange SPI includes a set of reports available in OpenView Reporter: summary reports which show data for all servers, and detail reports which show information by system. See *EXCHANGE 2000 Report List* chapter 5 page 10, and *EXCHANGE 5.5 Report List* chapter 5 page 13, for complete lists of Exchange SPI reports.

## EXCHANGE SPI GRAPHS

PerfView graphs require that an OpenView Performance Agent (also known as MeasureWare Agent) be running on the managed node. You can generate these graphs from the Application Bank or by selecting a message within the OVO message browser and **Perform Action**. This displays a graph of the metric monitor that generated the message as well as others that may be related to it.

In addition, data from any Exchange SPI server can be graphed using PerfView and data from the Exchange SPI OVO data collecting agent DSI logfiles.

*PerfView Graph Generated from Exchange SPI Data*



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# User Privileges for Exchange SPI

# Introduction

For full usage of the Exchange SPI, two user account types are required: the Local System Account and the Domain Admin User account with special Exchange privileges. This chapter outlines:

- ❑ Which templates/applications have user account requirements
- ❑ How to create the user account and grant proper access permissions in the following environments:
    - Exchange 2000 nodes in a Windows 2000 domain
    - Exchange 5.5 nodes in a Windows NT domain
    - Exchange 5.5 nodes in a Windows 2000 domain

# User Privileges

There are 2 levels of user privilege needed by the Exchange SPI:

**1. Local System Account (HP ITO Account)**

All templates in the Quick Start group, and some templates in the Add-Ons and Advanced groups, run under this type of account. No customization to templates is required, only threshold changes if desired.

**2. Domain Admin User with special Exchange privileges**

**TEMPLATES**: Some templates in the Add-Ons and most templates in the Advanced group run under this type of account:

- EXSPI Add-Ons > EXSPI Transaction Log > EXSPI-60 1d-Transaction Log
- EXSPI Add-Ons > EXSPI Transaction Log > EXSPI-60 15m-Transaction Log
- EXSPI Add-Ons > EXSPI Instant Messaging > EXSPI-60 Dc-Instant Messaging Enabled Users
- EXSPI Advanced > EXSPI End to End Message Ping > EXSPI-60/55 End to End Message Ping. These templates use the mailbox created by the Exchange SPI application Mailbox Config.
- EXSPI Advanced > EXSPI Reporter Collection > all templates (for Exchange 2000 and Exchange 5.5). These templates use the Mailbox created by the application Exchange SPI Mailbox Config, to extract information from the public folder and mailbox tables via MAPI (Messaging Application Programming Interface).

**APPLICATIONS**: In addition, the **Mailbox Config** application requires this type of account.

# Creating a User Account with Proper Access Permissions

Some templates and applications require a user account for each logon domain where Exchange servers reside (see *Exspi Template Group Requirements* chapter 4 page 5). This user account enables the Exchange SPI to access information from the Exchange database.

The user account must be created and the access privileges granted. As significant configuration differences exist between Exchange 5.5 and Exchange 2000, and configuration details depend on operating system version, detailed instructions for each of the following case scenarios are outlined in the following pages:

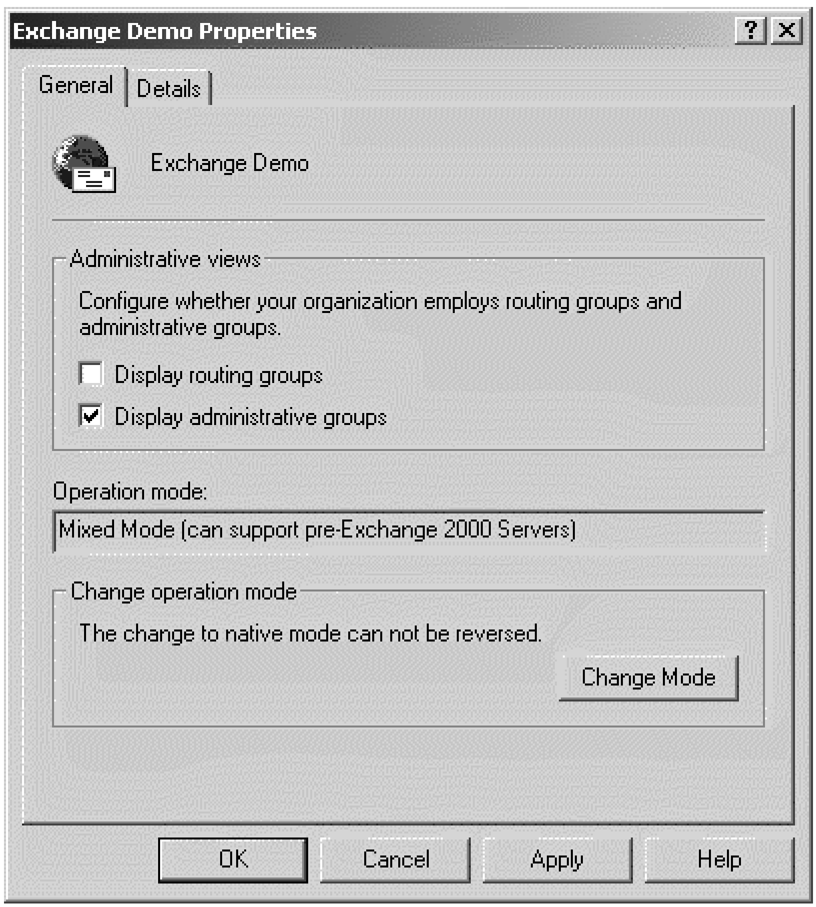
- Case 1: For Nodes with Exchange 2000 in a Windows 2000 Domain (Ex2k/W2k)
- Case 2: For Nodes with Exchange 5.5 in a Windows NT Domain (Ex5.5/NT4)
- Case 3: For Nodes with Exchange 5.5 in a Windows 2000 Domain (Ex5.5/W2k)

## ENABLE VIEWING OF ADMINISTRATIVE GROUPS FOLDER

To enable viewing the administrative groups folder which is necessary for creating the user account:

1. Open the Exchange server **Properties**
2. Select **Display administrative groups.**
3. Click **Apply** and **OK**.

*Exchange Server Properties Dialog*



# 1: Exchange 2000 nodes in a Windows 2000 Domain (Ex2k/Win2k)

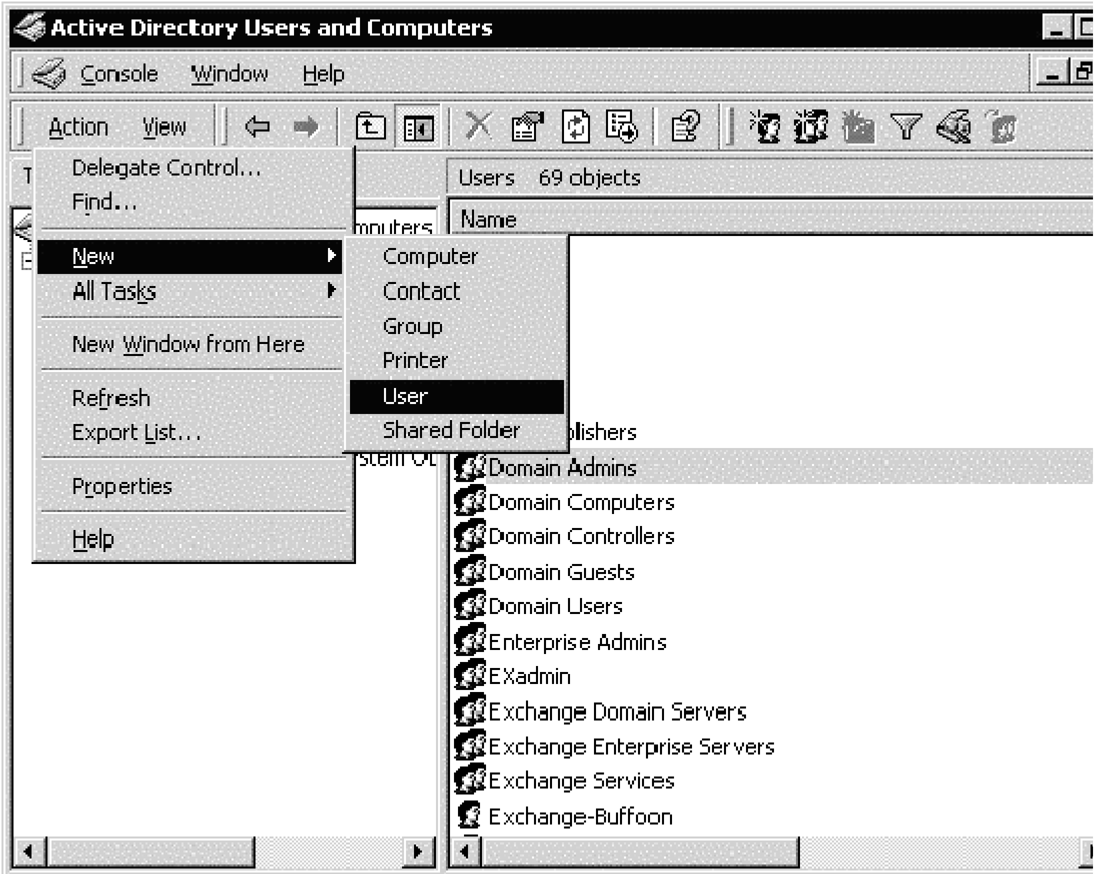
## CREATE USER ACCOUNT (EX2K/WIN2K)

1. Log on to the system that hosts the managed node's domain.

2. Select **Start** > **Programs** > **Administrative Applications** > **Active Directory Users and Computers**.

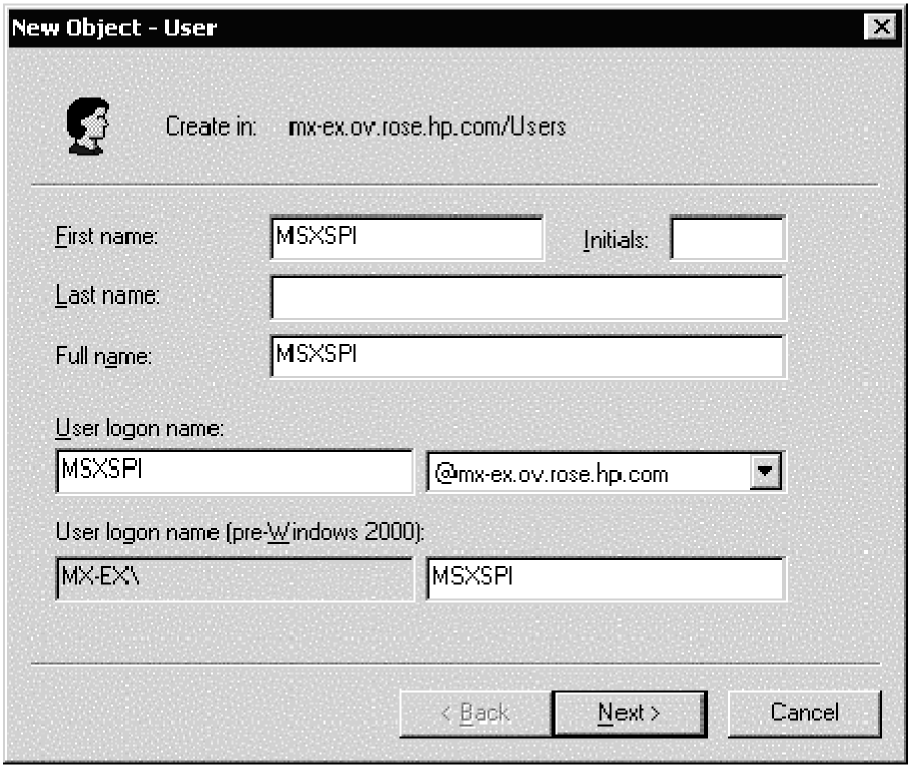
3. Expand the **Active Directory of Users and Computers** and right-click **Users** and select **New** > **User**.

*Opening New User dialog*




4. In the dialog that appears, enter the new user account name, in this example *MSXSPI*, as the **First Name** and as the **User logon name**, click **Next**.

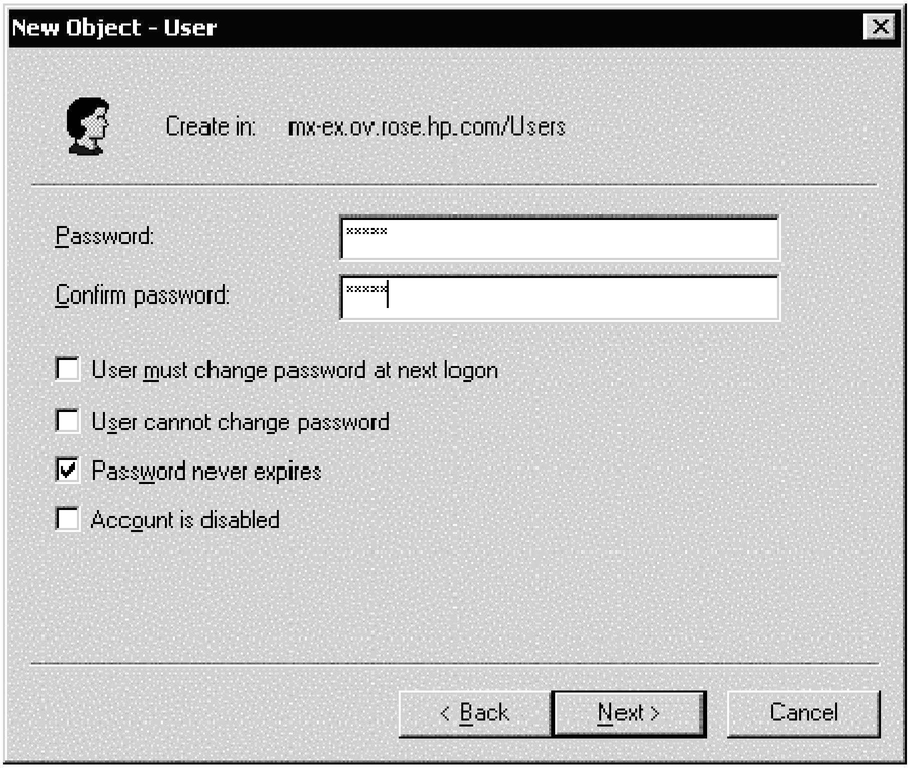
*New User dialog*




5. In the dialog, enter a password for the user account in the **Password** and **Confirm Password** fields (in this example *MSXSPI*). Select **Password Never Expires**, and click **Next**.

6. In the **New Object** dialog, deselect **Create an Exchange** mailbox. Click **Next**. In the next dialog complete creating the user by clicking **Finish**.

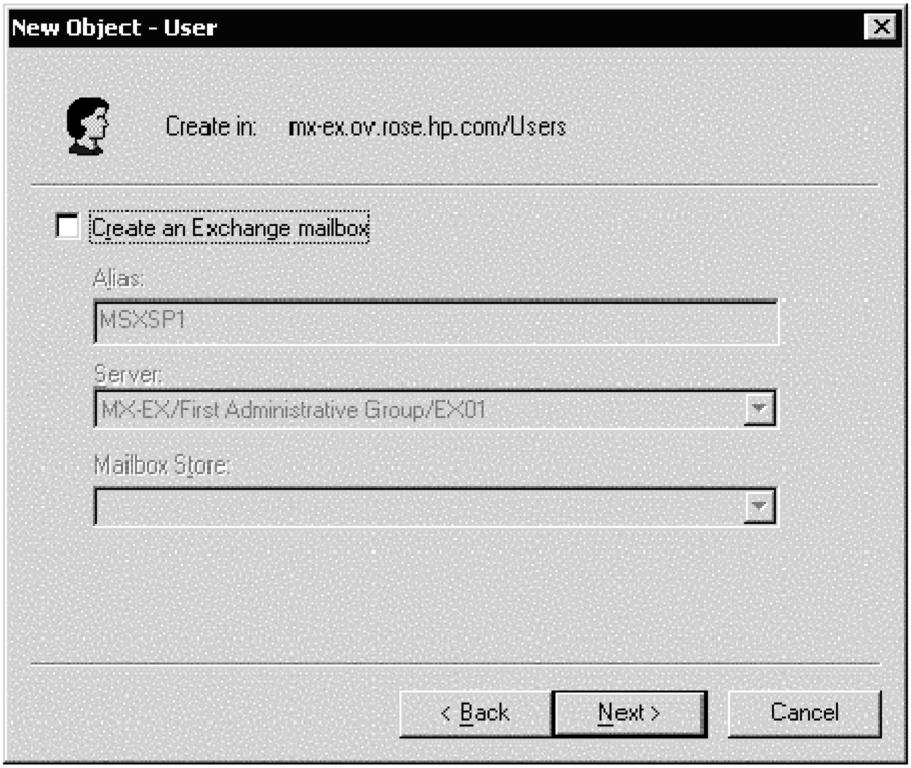
*Select Password never expires*




The user account has been created.

7. You are now back at the **Active Directory Users and Computers** dialog. In the right pane, right-click on the user just created (*MSXSPI*) and select **Properties**.

*Deselect Create an Exchange mailbox*

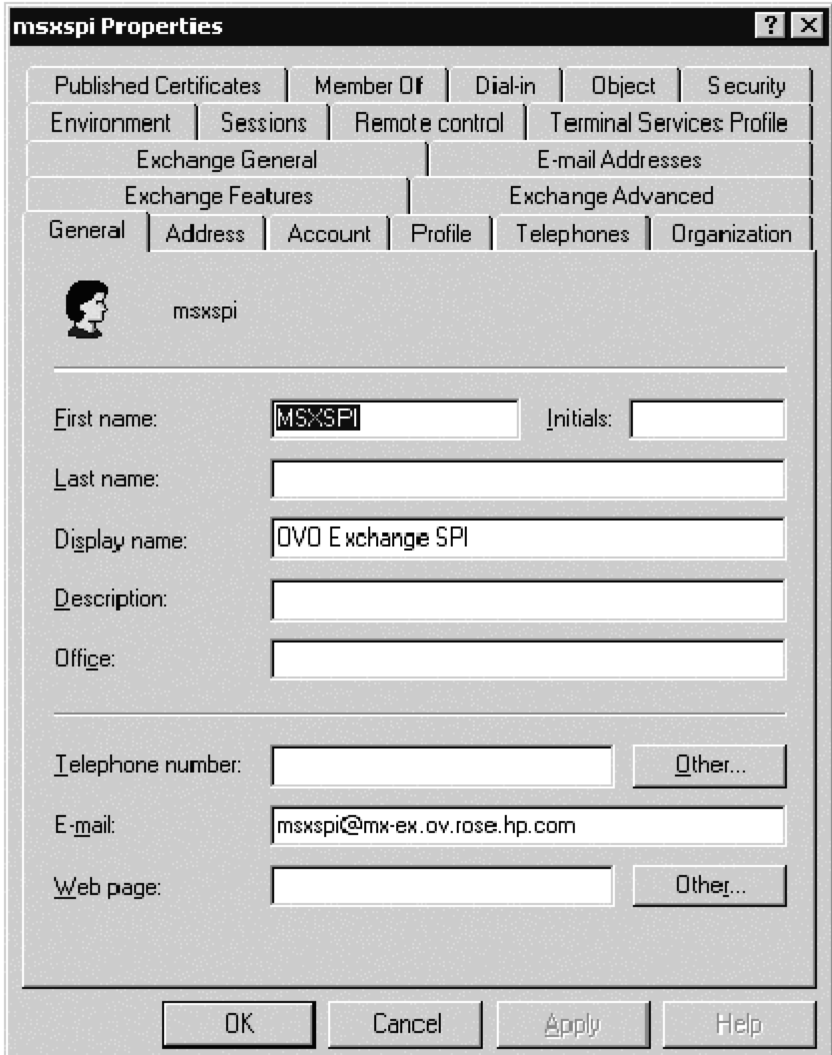



8. In the **MSXSPI Properties** page, select the **General** tab. Enter "*OVO Exchange SPI*" in the **Display name** and **Description** fields.

9. Select the **Member Of** tab, and click **Add**.

10. In the **Select Group** dialog select **Domain Admin** from the top pane.

*MSXSPI Properties dialog*

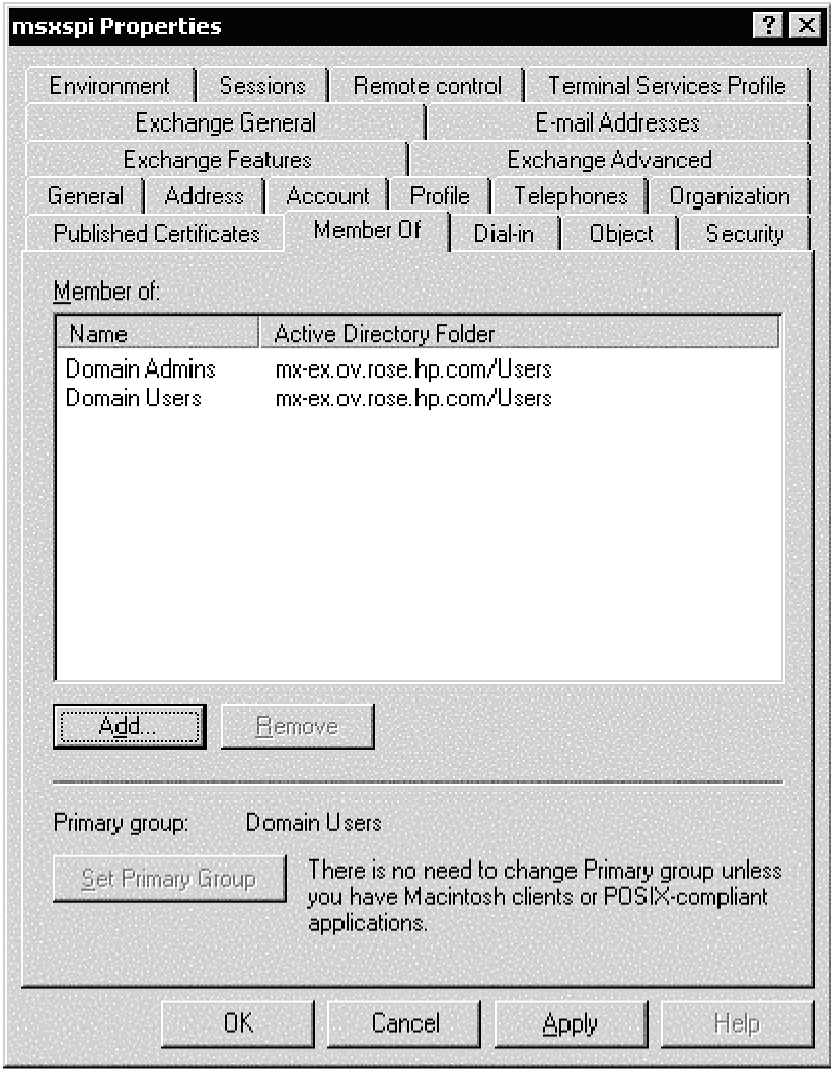



11. Click **Add**, then **OK**.

The new user (in this example MSXSPI) is now a member of the Domain Admin group.

12. Click **OK** and exit the **Active Directory Users and Computer** dialog.

*Confirming Membership privileges*

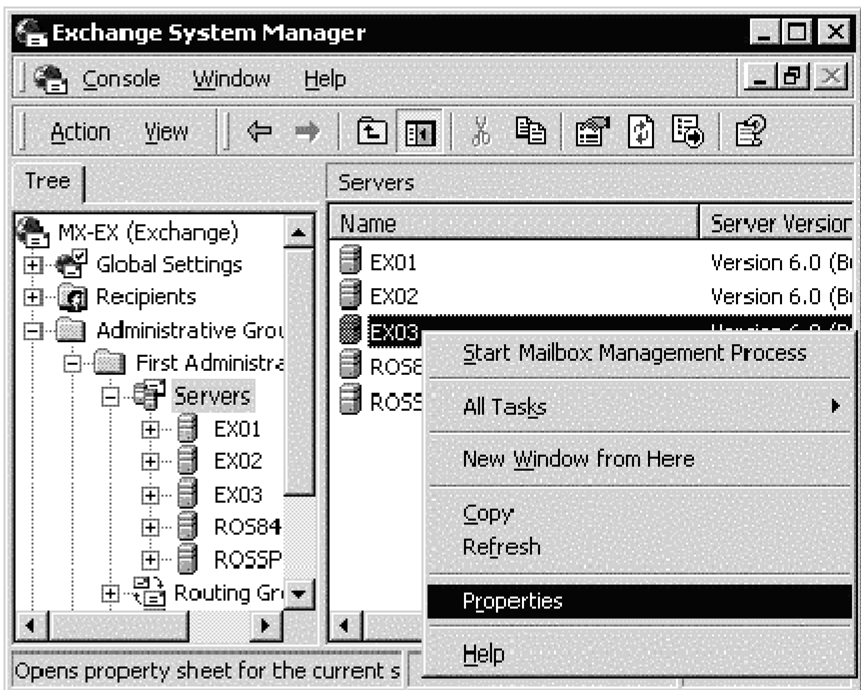


## GRANTING EXCHANGE ACCESS PERMISSIONS TO USER ACCOUNT (EX2K/WIN2K)

In order for the user account (in this example *MSXSPI*) to have access to a mailbox as well as the Exchange IS Public and Private databases, it must have certain Exchange Admin permissions. Use Exchange System Manager to grant these.

1. Select **Start** > **Program** > **Microsoft Exchange** > **System Manager**.

*Opening System Manager Properties*




2. In the left pane expand the Administrative Groups folder.

3. Expand your <*Exchange_server_administrative_group*> folder.

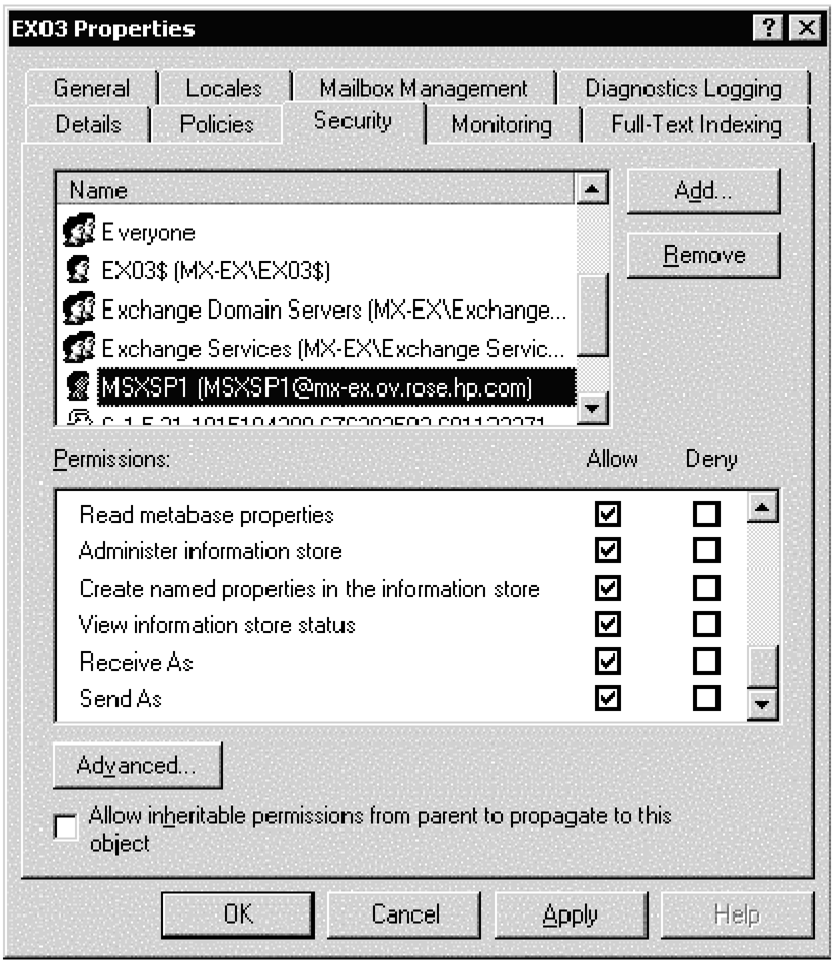
4. In the right pane, right-click the server to which you want to grant the user account access, and select **Properties**.

5. In the **Properties** dialog, select the **Security** tab.

6. In the **Name** box select the user name, in this example *MSXSPI*.

7. In the **Permission** box, check both the **Receive As** and **Send As** permissions check boxes.

*Assigning Permissions*




8. Uncheck the box **Allow inheritable permissions from parent to propagate to this object**.

9. Click **OK** and exit the Exchange System Manager dialog.

10. Repeat this procedure for each targeted Exchange server.

**NOTE:** At a large Exchange site, it can take several minutes to propagate the new Exchange administrator information. If you experience permission problems while accessing Exchange databases, enforce the setting of the new Exchange Admin account by logging directly onto the affected Exchange server (which is not yet replicated) and setting the account manually.

# 2: Exchange 5.5 Nodes in a Windows NT Domain (Ex5.5/NT4)

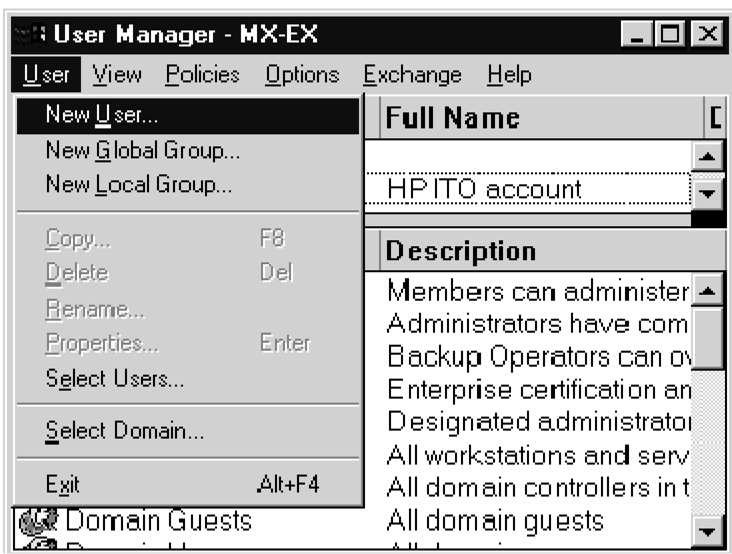
## CREATE USER ACCOUNT (EX5.5/NT4)

1. Log on as Domain Administrator of the domain to which the Exchange server belongs.

2. Select **Start** > **Programs** > **Administrative Tools (common)** > **User Manager** for Domain.

3. Select **User** > **New User**. In the dialog that appears create a new user as follows:

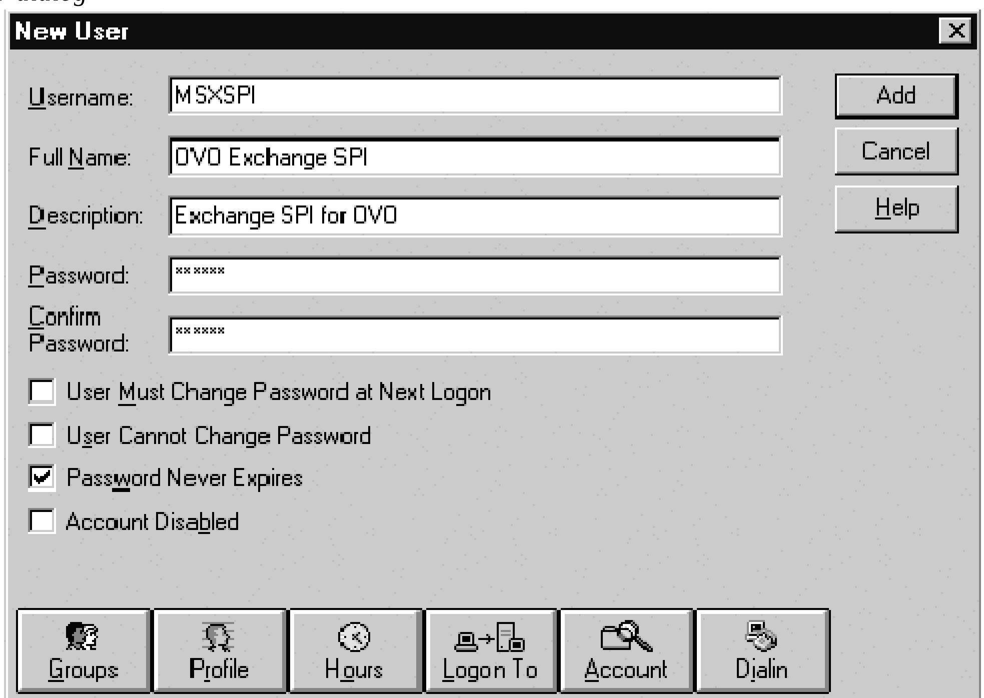
*User Manager dialog*



| | |
|---|---|
| Username: | MSXSPI |
| Full Name: | OVO Exchange SPI |
| Description: | Exchange SPI for OVO |
| Password/Confirm Password: | ********* |

**NOTE:** Remember this password; you will need it later to update applications and templates.

*New User dialog*

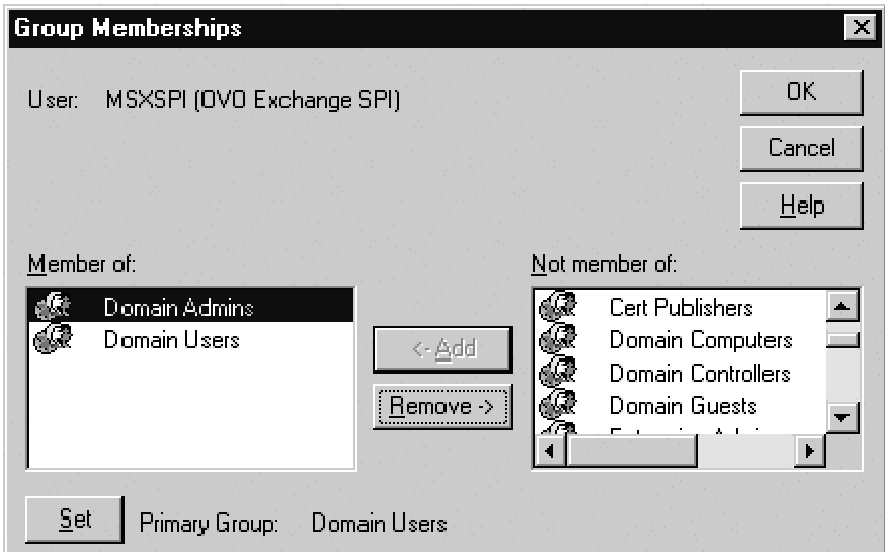



This password must be entered *but will not be authenticated later.*

4. Deselect **User Must Change password at Next Logon** and select **Password Never Expires**.

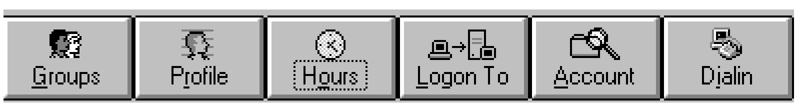
5. Click the **Groups** button to display the **Group Memberships** window.

*Group Memberships dialog*




6. At the right, from the **Not a member of**: box select the **Domain Admins** user, click **Add**, and **OK** to close the **Group Memberships** window.

7. To include necessary information, click buttons in the **New User** window:




| | |
|---|---|
| Profile: | No User Profile should be specified. |
| Hours: | All hours of the day and week should be allowed. |
| Logon To: | All workstations should be specified. |
| Account: | Should never expire/should be Global Account. |

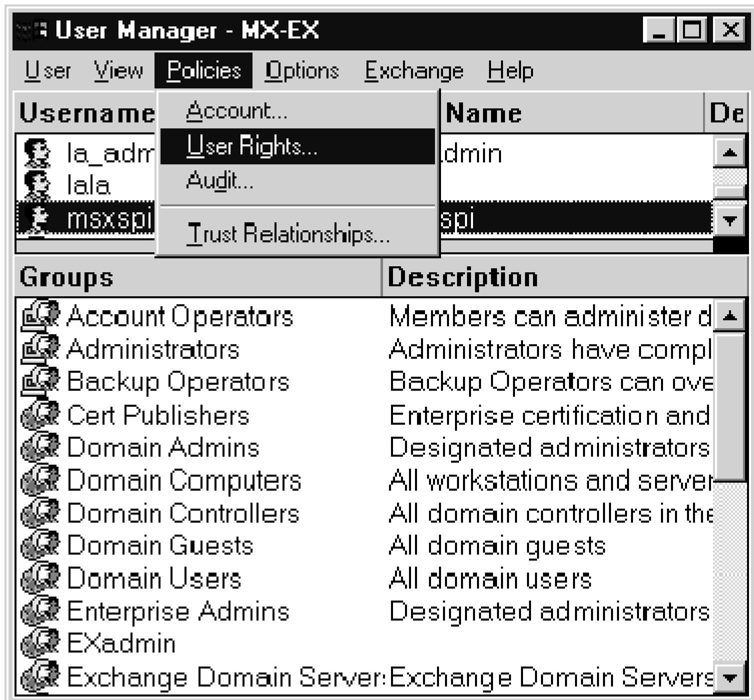
8. Click **Add** to add this user. (If the **Exchange Add Mailbox** window is

displayed, select **Cancel** to close it).

9. Click the **Close** button to close the **New User** window.

10. From the **User Manager** menu bar select **Templates > User Rights....**

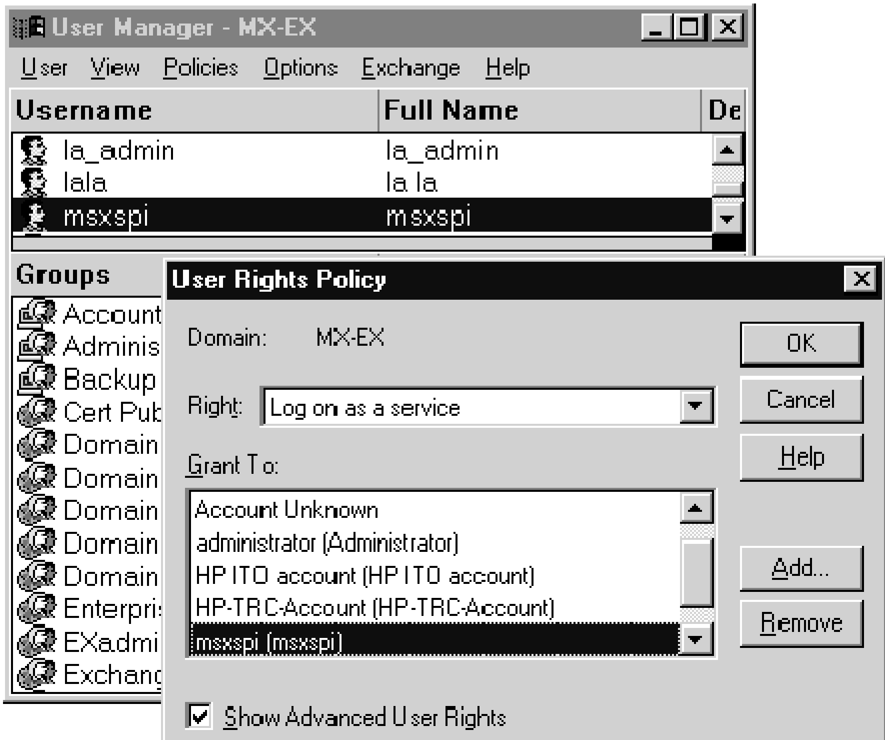
*User Manager dialog*




11. Check the **Show Advanced User Rights** checkbox.

12. From the drop-down list select **Log on as a service** in the **Right** field

*Selecting Log on as a service for User Rights.*

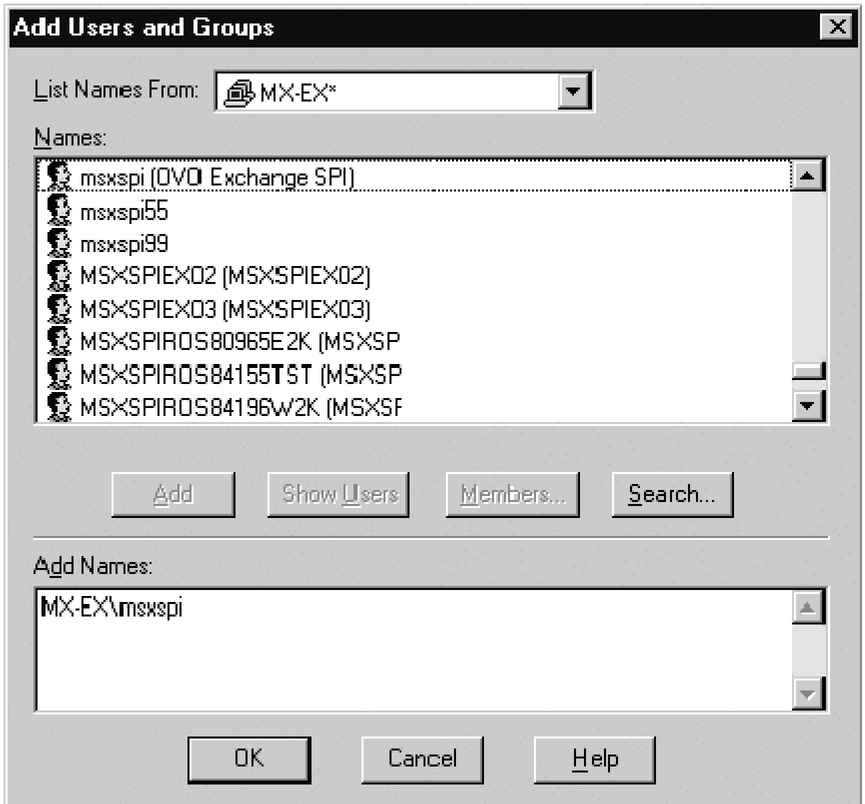



13. Click the **Add** button to open the **Add Users and Groups** window.

14. Click the **Show Users** button.

15. Select the user account just added (*MSXSPI*), click **Add**, then **OK**.

*Adding the new User Account*




16. Repeat steps 12-15 to add the **Profile system performance** right.

## GRANT EXCHANGE ACCESS PERMISSIONS TO USER ACCOUNT (EX5.5/NT4)

In order for the user account (in this example *MSXSPI*) to have access to a mailbox as well as the Exchange IS Public and Private databases, it must have Exchange Admin permissions. Use Exchange Administrator to grant these permissions at the site level.

1. Select **Start** > **Program** > **Microsoft Exchange** > **Microsoft Exchange Administrator**.

2. For each Exchange site where Advanced templates are to be deployed:

   a. In the left pane within the tree, select **<site_name>**.

   b. From the File menu select **Properties**.

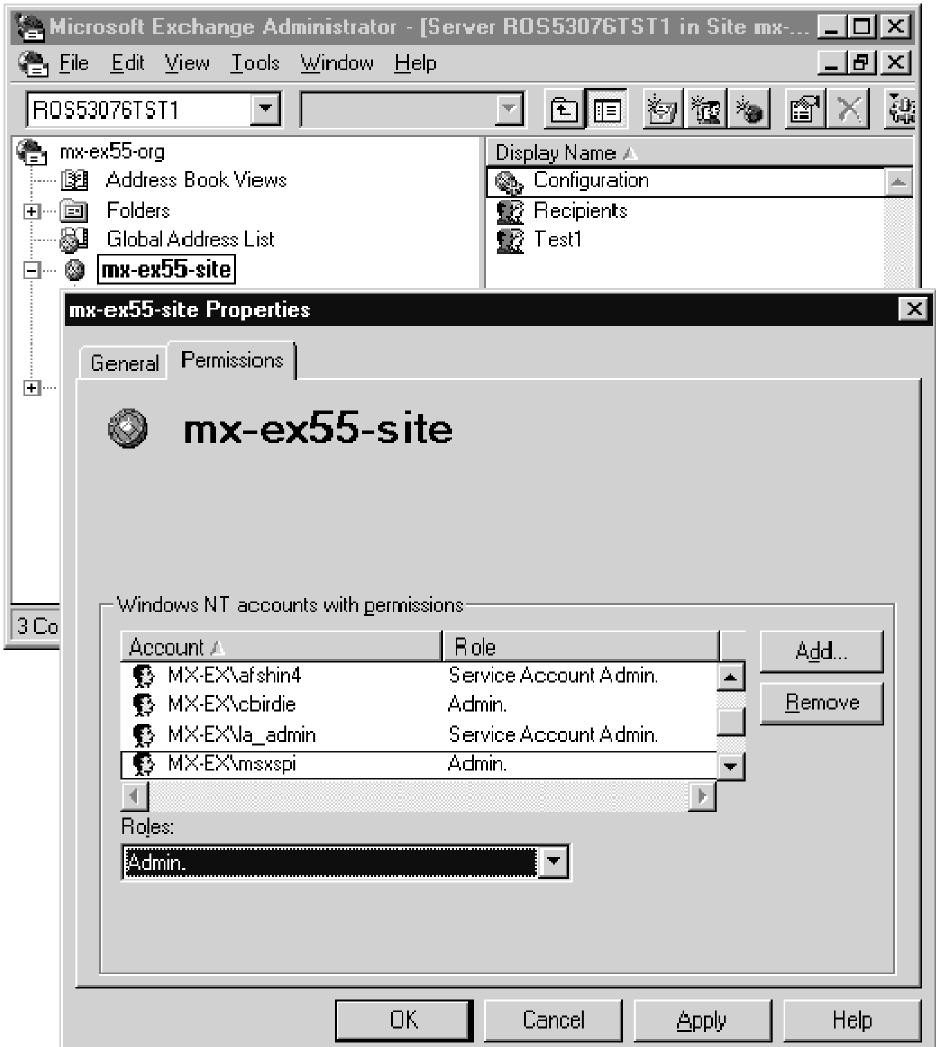
   c. In the Properties window, select the **Permission** tab and click **Add** to open the **Add Users and Groups** window.

   d. Select the user account previously created (*MSXSPI*), and click **Add**.

   e. Click OK to add the user, and close the **Add Users and Groups** window.

   f. Verify the user has the role of **Admin**.

*Verifying the User role*



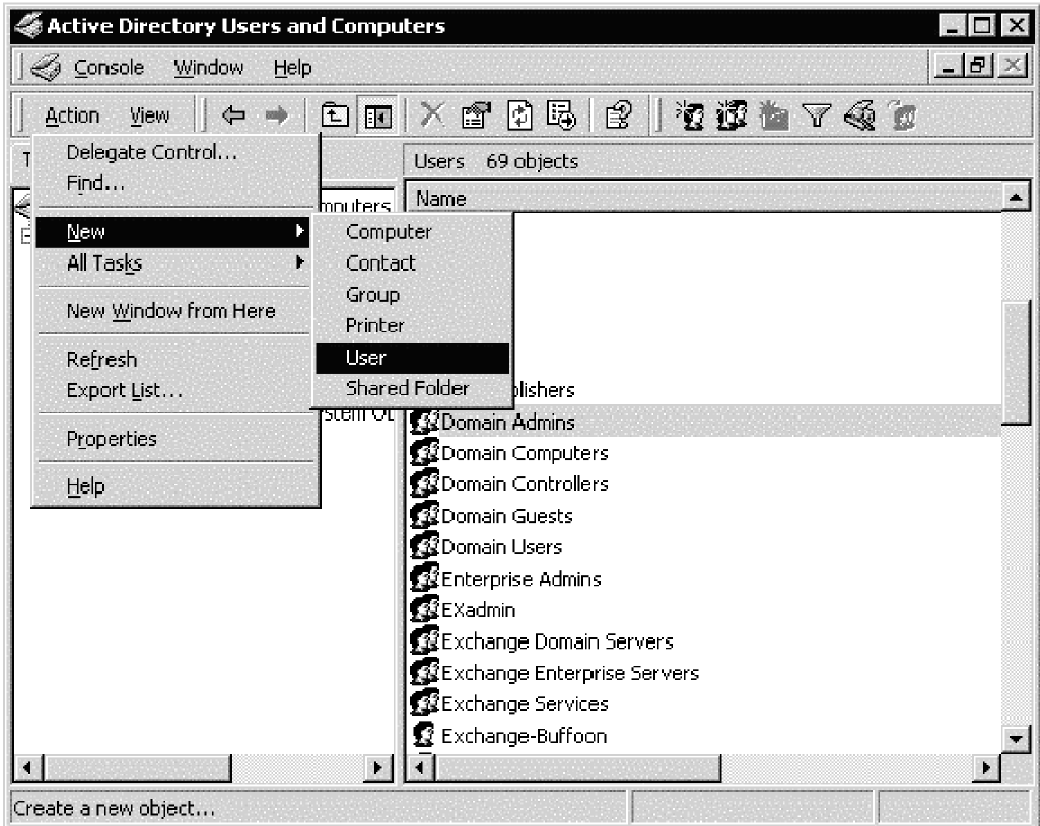

g. Click **OK** to save the changes.

# 3: Exchange 5.5 Nodes in a Windows 2000 Domain (Ex5.5/W2k)

## CREATE USER ACCOUNT (EX5.5/W2K)

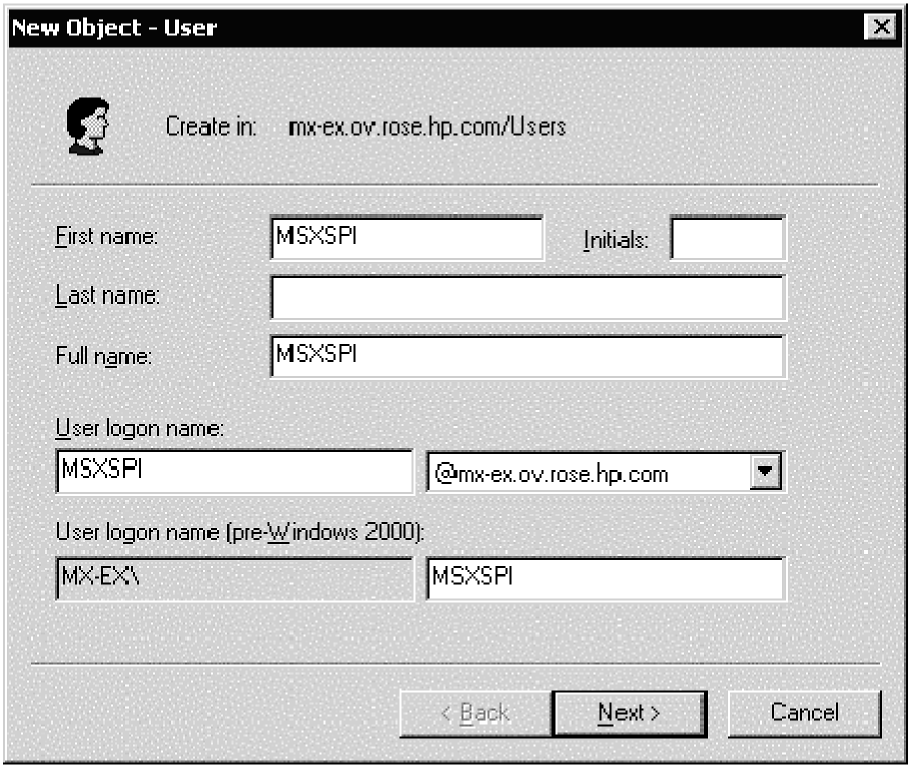
1. Log on to the system that hosts the managed node's domain.
2. Select **Start** > **Programs** > **Administrative Tools** > **Active Directory Users and Computers.**
3. Expand the Active Directory of Users and Computers, right-click **Users,** and select **New** > **User**.

*Selecting New User dialog*




4. In the dialog box that appears, enter the user name just created (in this example *MSXSPI*) as the **First Name** and as the **User logon name**.

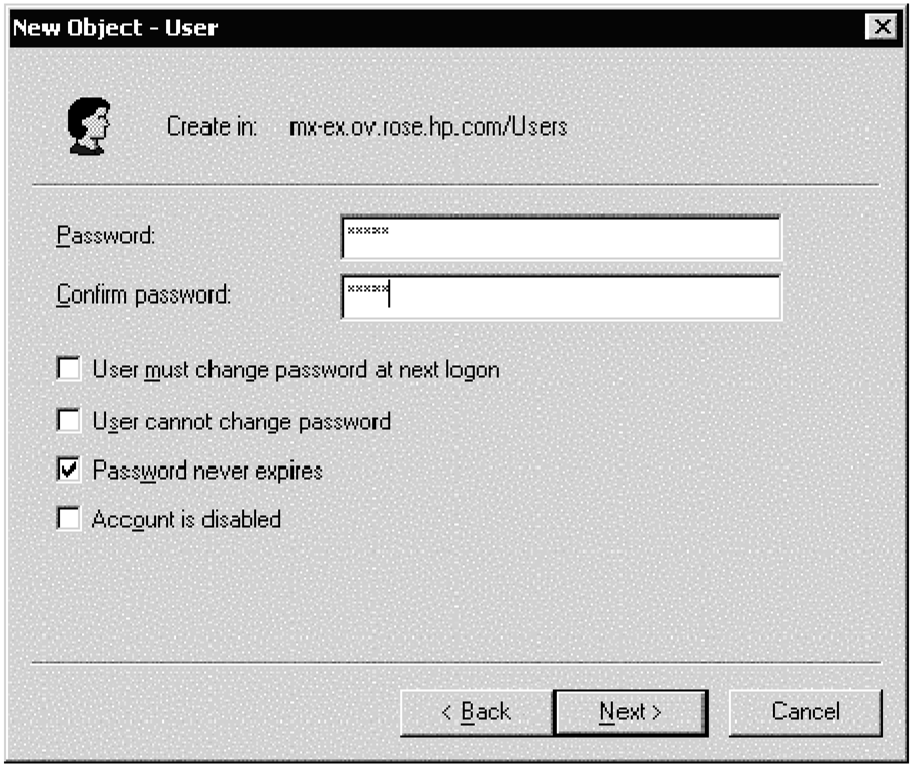
*New object dialog*




5. In the next window, enter **Password/Confirm Password** for the user account (in this example MSXSPI).

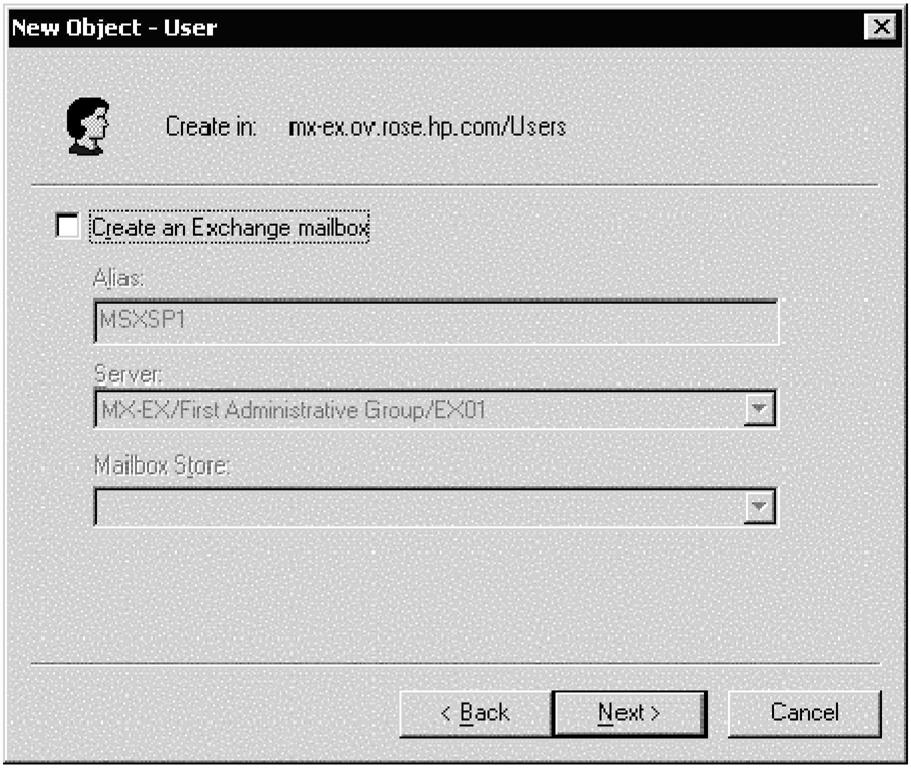
6. Select **Password Never Expires**. Then click **Next**

*Setting User Privileges*.




7. In the **New Object** dialog, deselect **Create an Exchange mailbox**, and click **Next**.

*Deselect Create an Exchange Mailbox*

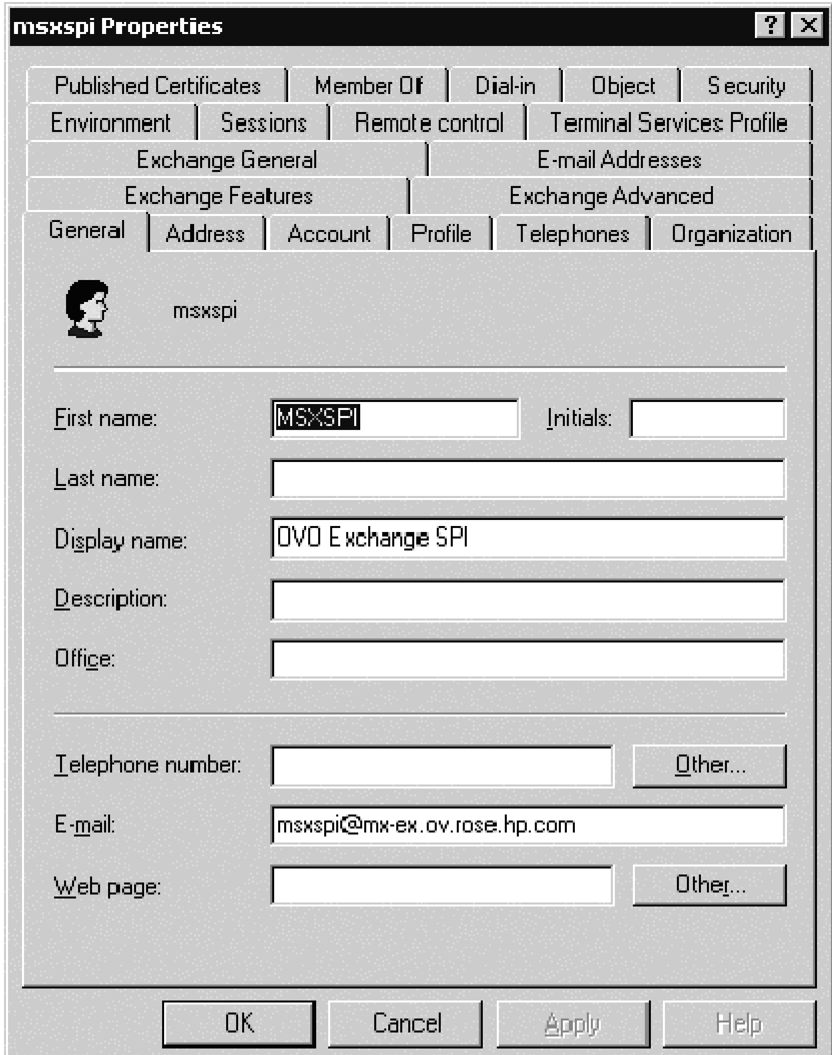



8. In the next dialog, complete creating the user by clicking **Finish**.

9. You are now back at the **Active Directory Users and Computers** dialog. In the right pane, right-click on the user just created (in this example *MSXSPI*) and select **Properties**.

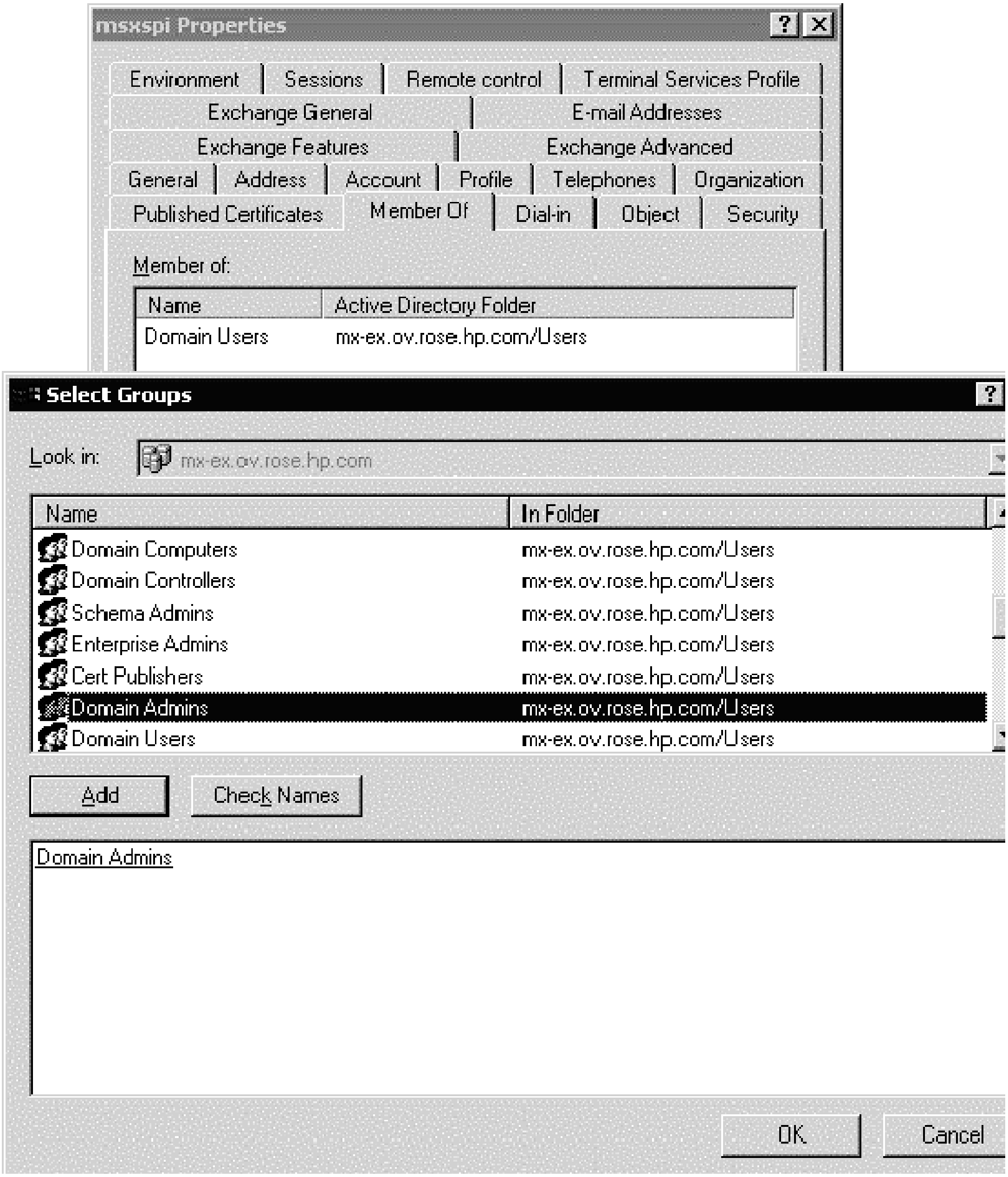
10. In the **MSXSPI Properties** page, select the **General** tab. Enter “Exchange SPI for OpenView Operations for Windows” in the **Description** field.

*Properties dialog*




11. Select the **Member Of** tab. Click **Add**

*Setting User account privileges*

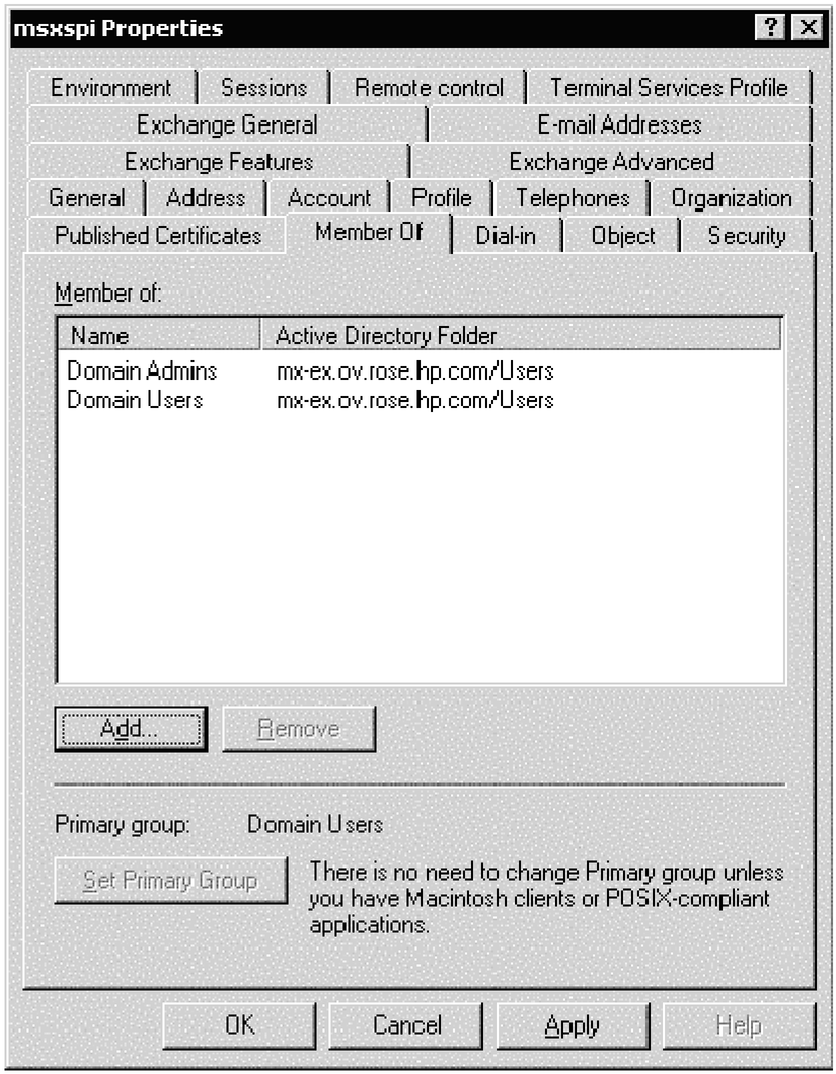



12. In the **Select Group** dialog select **Domain Admins** from the top pane.

Click **Add**, then **OK**.

13. The new user (MSXSPI) is now a member of Domain Admins group. Click **OK** and exit the **Active Directory Users and Computer** dialog.

*New User with new Membership status*



## GRANT EXCHANGE ACCESS PERMISSIONS TO USER ACCOUNT (EX5.5/W2K)

In order for the user account (in this example *MSXSPI*) to have access to a mailbox as well as the Exchange IS Public and Private databases, it must have certain Exchange Admin permissions. Use Exchange Administrator to grant these permissions at the site level.

1. Select **Start** > **Program** > **Microsoft Exchange** > **Microsoft Exchange Administrator**.

2. For each Exchange site where Advanced templates are to be deployed:

   a.. In the left pane within the tree, select **<site_name>**.

   b. From the File menu select **Properties**.

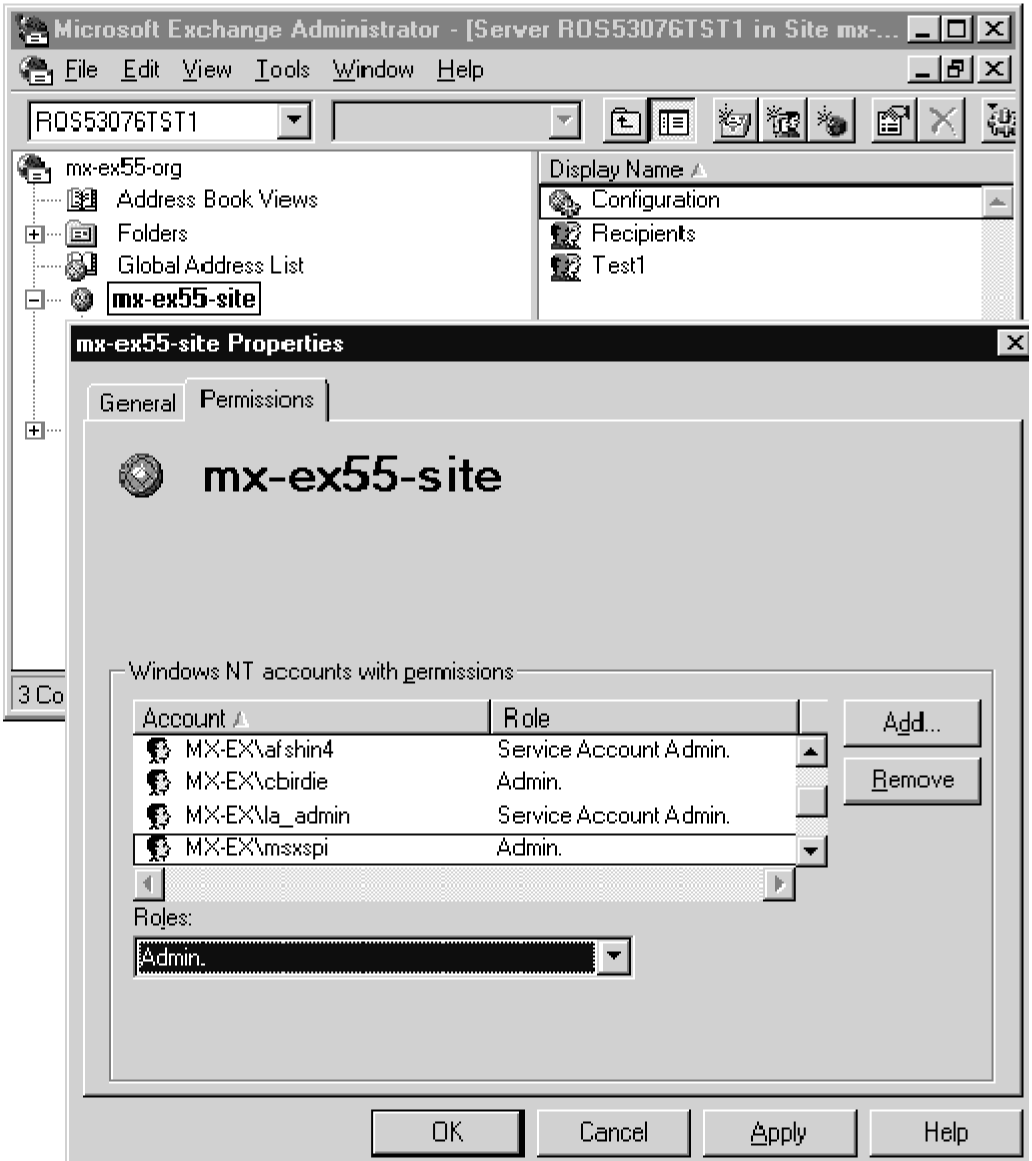
   c. In the Properties window, select the **Permission** tab and click **Add** to open the **Add Users and Groups** window.

   d. Select the user account previously created (in this example MSXSPI), and click **Add**.

   e. Click OK to add the user, and close the **Add Users and Groups** window.

   f. Verify the user has the role of **Admin.**

*Verifying User roles.*




g. Click **OK** to save the changes.

3

# Installing & Configuring the Exchange SPI

# Introduction

This chapter offers instructions for installing, configuring and removing Exchange SPI components. It covers the following topics:

- Installing and configuring the Exchange SPI
  - Template Groups: installation considerations
  - Installation and Basic Configuration
  - Advanced Configuration
- Removing the Exchange SPI
- Deleting Exchange SPI Templates

# Prior to Installation

- This release is targeted at OVO for UNIX 6.0 or higher. Please verify your current OVO version.

- Before installing this version of the Exchange SPI (A.03.30), any previous version of the Exchange SPI must be removed.

- Every installation of the Exchange SPI requires a basic configuration procedure which is detailed in the *Installation and Basic Configuration* chapter 3 page 6 section.

- A more advanced configuration procedure is required before deploying some of the Add-Ons and Advanced templates, for example those for collecting Exchange folder and mailbox information, and testing connections between pairs of servers. See *Advanced Configuration* chapter 3 page 12 for the advanced configuration procedures.

- Some templates require a domain admin account with special Exchange privileges. See *Exspi Template Group Requirements* chapter 4 page 5 for template requirements, and see *Creating a User Account with Proper Access Permissions* chapter 2 page 4 for procedures for creating this type of account.

- Exchange SPI requires a data collection agent - OpenView Performance Agent [also known as MeasureWare Agent] or OpenView Operations subagent [included with OpenView Operations 7.0], to collect data for reporting and graphing purposes. Use the Exchange SPI application **EXSPI Add DataSource** to configure the data source and start logging data.

- Exchange SPI reports require HP OpenView Reporter. Exchange SPI graphs require HP OpenView PerfView.

## TEMPLATE GROUPS: INSTALLATION CONSIDERATIONS

After installation, you can view the Exchange SPI templates using the **Templates→Reload Templates** command in the Message Source Templates window.

Exchange SPI templates are located under the SPI for MS Exchange group and can be deployed as groups or individually. The groups are as follows:

- **SPI for MS Exchange:** under this folder are the version specific folders **Exchange 5.5** and **Exchange 2000.** All the version specific template groups can be seen under each of these folders. In general, the requirements for each group are as follows:
    - **SPI for MS Exchange Quick Start** templates, in general require the HP ITO Account, see *Exspi Template Group Requirements* chapter 4 page 5.
    - **EXSPI Add-Ons** templates group are designed to monitor specific software components, which may or may not be installed on the MS Exchange Server (for example, Lotus Notes must be installed for the EXSPI-60 Lotus Notes Connector templates to work). Consequently, you individually select templates for the software components you are using on the targeted MS Exchange Server.
    - **EXSPI Advanced** templates and **EXSPI Add-Ons** generally require a Domain Admin account (MSXSPI). See *Creating a User Account with Proper Access Permissions* chapter 2 page 4 for details.

All data collection templates require that a data collection agent (the OV Performance or OVO subagent) be installed and running on the managed node.

## EXCHANGE USER ACCOUNT REQUIREMENTS

Some of the templates and/or applications require a domain admin user account with special Exchange privileges. For information on which templates require this type of account, see *Exspi Template Group Requirements* chapter 4 page 5. For procedures to create this type of account, see *Creating a User Account with Proper Access Permissions* chapter 2 page 4.

# Installation and Basic Configuration

The **Basic** Exchange SPI configuration is designed to get you started quickly by using the Quick Start group or individual templates that require only the HP ITO Account as a beginning basis for server monitoring. Many of the templates in the Add-Ons and Advanced template groups require an Exchange Domain Server Account (MSXSPI), and a more **Advanced** configuration procedure which is covered later in this chapter.

When finished with the basic installation and configuration procedure, you will have completed the following tasks:

- ❑ **Task 1:** Install Exchange SPI on the management server.
- ❑ **Task 2:** Install OVO agents on all MS Exchange server systems (required if the OVO Windows agent is not yet deployed).
- ❑ **Task 3:** Configure the OVO Message Browser.
- ❑ **Task 4:** Distribute Exchange SPI actions, commands, monitors to the Exchange servers.
- ❑ **Task 5:** Configure data sources.
- ❑ **Task 6:** Assign and distribute template groups to managed node(s) running MS Exchange server.

## TASK 1: INSTALL EXCHANGE SPI ON THE MANAGEMENT SERVER

**Prerequisite**: OpenView Operations (OVO) management server must be installed. It is not necessary to stop OVO sessions before beginning the Exchange SPI installation.

**NOTE**: The instructions that follow show the command line usage of swinstall. For HP-UX systems you can also use the graphical user interface (GUI), but the procedure is not covered here.

The Exchange SPI is available on the *HP OPenView Operations for UNIX Applications CD-ROM*. There are two CDs in the Applications CD-ROM set, the first contains the products' management server install packages, and the second contains the *OpenView Reporter* and *OpenView Performance Manager* integrations for the applications. At this point use the first CD.

For an **HP-UX 10.20** management server, enter:

```
swinstall -s /cdrom/OV_DEPOT/10.OHPUX.sdtape EXSPI
```

For an **HP-UX 11.0** management server, enter:

```
swinstall -s /cdrom/OV_DEPOT/11.OHPUX.sdtape EXSPI
```

For a **Solaris** management server, enter:

```
swinstall -s /cdrom/OV_DEPOT/SOLARIS.sdtape EXSPI
```

## TASK 2: INSTALL OVO AGENTS ON MS EXCHANGE SERVERS

Install an OVO Windows agent on all MS Exchange servers. (If you need details for installing the OVO agent, refer to the *OVO Installation Guide for the Management Server.*)

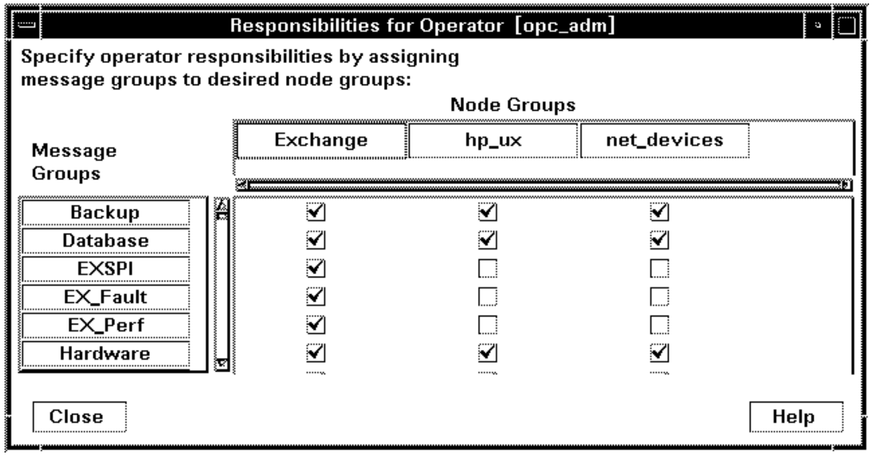
## TASK 3: CONFIGURE THE OVO MESSAGE BROWSER

All target hosts for Exchange SPI must be OVO managed nodes and must be running on an OVO 6.0 intelligent agent.

1. Log on to OVO as the OVO administrator `(opc_adm)`.

2. Select **Window** > **User Bank**
   a. Select the **opc_adm** user
   b. Choose **Actions** > **User** > **Modify**
   c. Press the **Responsibilities** button and use the Responsibilities for Operator `(opc_adm)` window to view messages.

*The Configure Administrator Message Browser Window*




3. In the Node Group that contains your Exchange managed node, select the following Exchange SPI message groups:

   - EXSPI
   - EX_Fault
   - EX_Perf

4. *U*se the **Actions** > **Browser > Start/Reload** from the OVO User Bank menu.

## TASK 4: DISTRIBUTE EXCHANGE SPI ACTIONS, COMMANDS, MONITORS

To collect Exchange data, you must complete the following steps:

1. Distribute Exchange SPI actions, commands, monitors to the Exchange servers by selecting **Actions>Agents>Install/Update SW & Config** from the OVO Node Bank menu.

2. In the Install/Update OVO Software and Configuration window check the

following checkboxes to select components:

- Actions
- Monitors
- Commands

3. Check the **Nodes in List Requiring Update** checkbox.
4. Check the **Force Update** checkbox.
5. If a node was not selected previously, select the node in the Node Bank and use **Get Map Selections** to add the Exchange server(s) to the target node(s) list.
6. Click **OK**.
7. The following message is displayed in the message browser:

```
The following configuration information was successfully
distributed: Actions, Commands, Monitors
```

## TASK 5: CONFIGURE/UPDATE DATA COLLECTION AGENT DATASOURCES

The OVO data collection agent collects, logs, and timestamps data from individual systems. If you use OV Performance Agent (MeasureWare Agent), you can use PerfView to graph the data; if you use OpenView Reporter, you can use it to generate reports displayed as Web pages.

1. At the OVO console, from the Window menu, select **Application Bank**>**EXSPI Admin**.
2. To create data sources for the OVO data collection agent, run **EXSPI Add DataSource** for each managed node.

## TASK 6: ASSIGN/DISTRIBUTE EXCHANGE SPI TEMPLATES

The following section covers the assignment and distribution of templates to the managed nodes.

1. Open the OVO Node Bank.
2. Select the desired managed node(s) designated to run Exchange SPI.
3. To assign (select) the templates for distribution, select **Actions>Agents>Assign Templates** from the menu bar.
4. In the Define Configuration window select **Add**.
5. In the Add Configuration window select **Open Template Window...**.
6. In the Message Source Templates window double-click the **SPI for MS Exchange** group to display the subgroups.
7. Select, and double-click **Exchange 2000**.
8. Select the desired **EXSPI** template group or individual template(s).
9. Click **Get Template Selections** from the Add Configuration window.
10. Click **OK** from the Add Configuration window.
11. Click **OK f**rom the Define Configuration window.

    The desired templates have been selected for distribution. Next, distribute them to the managed nodes.

12. To distribute the assigned templates, select **Actions >Agents>Install/Update SW & Config** from the Node Bank menu.
13. In the **Install/Update OVO Software and Configuration** window check the **Templates** checkbox to select it.
14. Check the **Nodes in List** and the **Force Update** checkboxes.

15. If a node was not selected previously, select the node in the node bank and click **Get Map Selections** to list the target node(s), then click **OK** to distribute templates to the managed node(s).

16. The following message is displayed in the message browser:

```
The following configuration information was successfully
distributed: Templates
```

The Exchange SPI templates are distributed to the selected managed node(s). Exchange SPI monitors will begin running.

You have now completed the standard Exchange SPI installation and configuration process.

# Advanced Configuration

**Prerequisite:** Complete tasks in the *Installation and Basic Configuration* chapter 3 page 6 section.

Advanced configuration covers the deployment of templates that require a Domain Admin account with special Exchange privileges. When finished, you will have completed the following tasks:

- ❑ **Task 1:** Create an Exchange SPI user account (MSXSPI).
- ❑ **Task 2**: Grant Exchange Access permissions to the user account.
- ❑ **Task 3**: Configure user account on managed nodes.
- ❑ **Task 4:** Enable message tracking.
- ❑ **Task 5:** For each Exchange server create the MSXSPI<*host_name*> mailbox.
- ❑ **Task 6:** Configure MS Exchange servers for End to End Message Ping.
- ❑ **Task 7:** Assign/distribute templates.

## TASK 1: CREATE AN EXCHANGE SPI USER ACCOUNT

A Domain Admin user account is needed for each Windows logon domain where your managed Exchange servers reside. See the procedures in *Creating a User Account with Proper Access Permissions* chapter 2 page 4 for details on creating this type of account in the various combinations of Exchange/Windows environments.

## TASK 2: GRANT EXCHANGE ACCESS PERMISSIONS TO USER ACCOUNT

See the procedures in *User Privileges* chapter 2 page 3, where the procedures for granting proper access permissions for each combination of Exchange/Windows environment is outlined.

## TASK 3: CONFIGURE MANAGED NODES

1. Select all Exchange managed nodes.

2. Drag these nodes and drop them on the **EXSPI Node Config** application located in the EXSPI Admin application group.

3. When prompted, enter the domain, user and password for the user account (created in *Task 1: Create an Exchange SPI User account* chapter 3 page 12). **NOTE:** When you run this application, be sure to enter the correct domain name, user and password. This domain is not the DNS domain name but the NT domain name.

**NOTE**: If Exchange nodes are managed at a later date, perform this procedure for all newly managed Exchange nodes.

## TASK 4: ENABLE MESSAGE TRACKING

Set message tracking on servers so that all messages that are routed through a server are added to the message tracking logs. You can record information about the sender, the message, and the recipient. If you need to log more detailed information, you can also record the subject line of the e-mail message.

The procedure for enabling message tracking on Exchange 5.5 and Exchange 2000 servers, is outlined in *Enabling Message Tracking* chapter 4 page 10.

## TASK 5: CONFIGURE MAILBOXES

In addition to the MSXSPI user, a mailbox is required for accessing mailbox and folder information, necessary for End to End Message Ping and Reporter Collection templates. Use the Exchange SPI application **MBOX Config** (located in the EXSPI Admin application group) to create the mailbox:

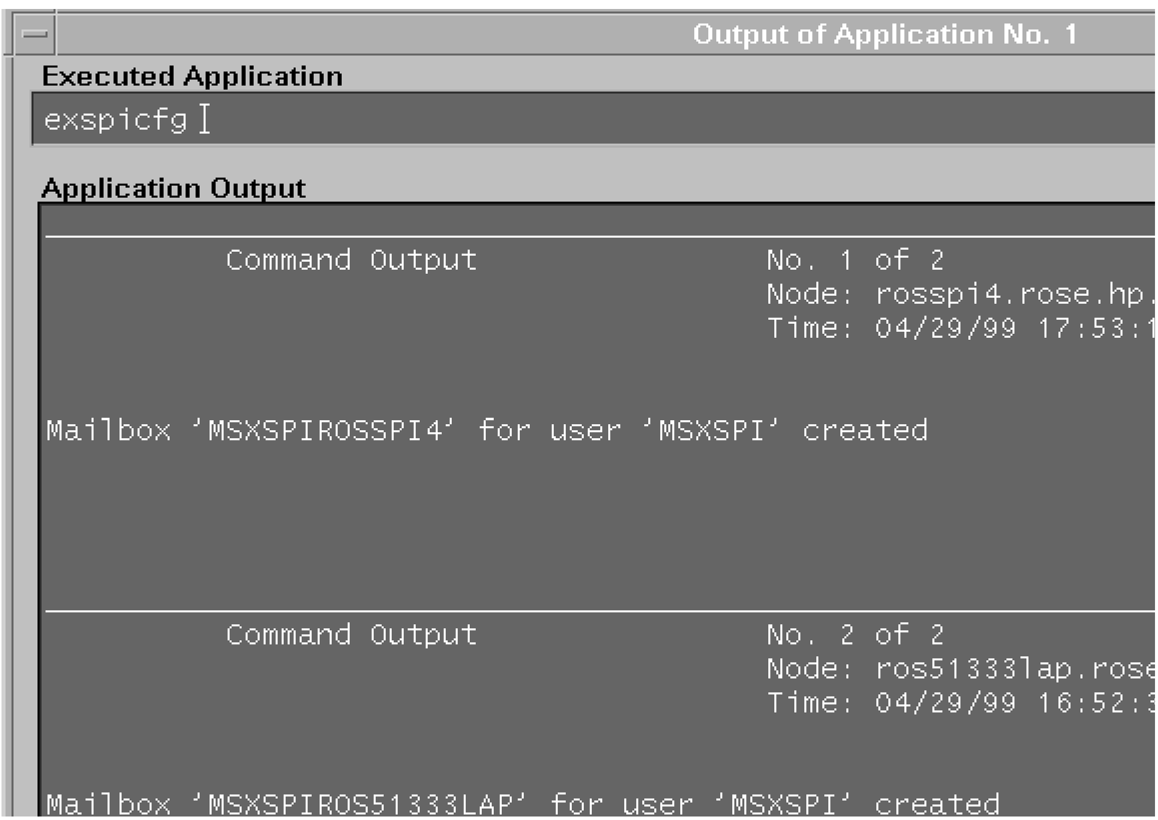
1. Modify the **MBOX Config** application in order to run it as MSXSPI. (Change the **Execute as User** field, add MSXSPI and password.)

2. Run the **EXSPI MBOX Config** application to configure mailboxes for the Exchange servers (you can select multiple nodes simultaneously).

For each Exchange server a mailbox is created with the prefix MSXSPI and Windows hostname. For an Exchange 5.5 server, EXSPI MBOX Config application creates a mailbox MSXSPI<host_name> for the primary Windows account MSXSPI. For an Exchange 2000 server, it creates the mailbox MSXSPI<host_name> for account MSXSPI<host_name> (which it also creates.)

For example, for the node **rosspi4.rose.hp.com** (Internet name) and Windows name **ROSSPI4** a mailbox is created called MSXSPIROSSPI4.

NOTE: In order to create a different mailbox with a different name, see the procedure *Changing the Mailbox Name* chapter 4 page 27.



**NOTE:**

If you receive an error in the above step or you cannot automatically create mailboxes, you must manually complete the following on each Exchange server:

- For each Exchange server create a mailbox with the prefix MSXSPI and Windows hostname.
  - For Exchange 5.5, create this mailbox with primary Windows account **MSXSPI**.
  - For Exchange 2000, create this mailbox with primary Windows account **MSXSPIROSSPI4** (this must first be created).

## TASK 6: SET UP END TO END MESSAGE PING SERVER CONNECTIONS AND ALARMS

To measure the round trip time required for a message to travel from one server to another and then back to the originating server, you can use the *EXSPI-60/55 End to End Message Ping* template group. Before you can use the templates, you must configure the pair of servers that you want to test.

To configure the servers, complete the following steps:

1. Run the **EXSPI Ping Config** application on the OVO management server.

   The EXSPI Ping Config application opens a default file as follows:

```
#Src-Svr:Src-MB:Dest-Svr:Dest-Site:Dest-MB:Timeout:MetSLA
:
AlmostMetSLA

[Entry Descriptions]
# Src-Svr=Source Server (required)
# Src-MB=Source Mailbox (optional).
# Defaults to"MSXSPI<host_name>".
# Dest-Svr= Destination Server #(optional) -
# Required only for SMTP systems.
# Dest-Site=Destination Site (not used/reserved for
future use)
# Almost always NOT required.
```

```
# Dest-MB= Destination Mailbox (required)
# Timeout= Timeout (required)
# (s-seconds, m-minutes, h-hours)
# MetSLA= Met SLA time (required for reports)
# (s-seconds, m-minutes, h-hours)
# AlmostMetSLA = Almost met SLA time (require for reports)
# (s-seconds, m-minutes, h-hours)

#Examples:
#EXCH1::::MSXSPIEXCH2:25m:1m:1m
#EXCH1:MAILBOXEXCH1:::MAILOXEXCH3:2h:5m:2m
#EXCH2:MAILBOXEXCH2:::MAILOXEXCH4:1h:20m:10m
#EXCH3:MSXSPIEXCH3:EXCH4.AM.HP.COM::MSXSPIEXCH4:25m:5m:5m
```

2. Enter information about the servers to replace each entry separated by a colon (**:**).

   - **Source Server -** The server that the ping originates *from*. Each server where EX-SPI is distributed has the same file, so the EX-SPI collector/analyzer will parse this file and use all lines where the Source Server matches the server where it is run from.

   - **Source Mailbox** (optional) **-** The mailbox to send the mail *from*. If this is not included, a default account is used "MSXSPI<*host_name*>" where <*host_name*> is replaced with the name of the server.

   - **Destination Server** (optional) **-** The destination server, used only for SMTP systems, is necessary only when the site directory does not contain the destination mailbox. In this case, SMTP is used and the fie ld would contain the SMTP server name (the server following the "@"; for example, the entry for mailbox "brendan_belcastro@am.exch.hp.com", would contain "am.exch.hp.com."

   - **Destination Site** (currently not used) **-** The destination site is needed only in the rare case where the destination mailbox is not unique. In such a situation, the entry contains the MS Exchange site to send the message *to*. It is currently *not used* and is reserved for future functionality.

- **Destination Mailbox** (required) -The mailbox to send the ping *to*. This field is usually the only required destination entry.
- **Timeout** (required) (s-seconds, m-minutes, h-hours): - If a sent message does not return in the defined timeout interval, EXSPI logs it as a failure and sends a message to OVO. Failed messages are tallied in terms of count and percentage within a report. The timeout value must be larger than the values for **MetSLA** and **AlmostMetSLA** so that a returned message can be processed using these values. It may have **Exceeded SLA** even though it has not exceeded the timeout interval. A **Failed/Timedout** message occurs, therefore, only when the message never returns and the timeout period is exceeded.

**NOTE** The minimum timeout value should be set slightly less than the collection interval. For example, if the collection interval for metric 1002 is 30 minutes (the default), the timeout should be set to at least 25 minutes. The logic is that because the next measurement occurs only every 30 minutes, you should allow up to that amount of time for any messages to return before "giving up" and generating a failure. If you keep the timeout value within the collection interval and the reply message does return, it can be processed as Met, Almost Met or Exceeded as opposed to Failed/Timedout.

- **MetSLA** (required for reports) (s-seconds, m-minutes, h-hours) - If the round trip time is greater than this value, the message is logged as either Almost Met SLA or Exceeded SLA. This value is required if data is being sent to MeasureWare Agent DSI for reporting (-l option when running exspi_e2k.exe or exspi_e55.exe). It is optional if only using alarms.
- **AlmostMetSLA** (required for reports) (s-seconds, m-minutes, h-hours) - If the round trip time is greater than the MetSLA value but less than or equal to MetSLA plus AlmostMetSLA, the message is logged as Almost Met SLA. Otherwise, when the round trip time is higher than MetSLA plus AlmostMetSLA, it is logged as Clearly Exceeded SLA. This parameter is required if data is being logged to MeasureWare Agent DSI (-l option when running exspi_e2k.exe or exspi_e55.exe), optional if only using alarms.

**NOTE**

*Timeout*, *MetSLA*, and *AlmostMetSLA* values can have optional identifiers that denote the measurement units the value represents; for example, 4m (4 minutes) 30s (30 seconds) or 1h (1 hour). The default unit is seconds; for example, the entry *4* is recognized as 4 seconds.

Examples:

**EXCH1::::MSXSPIEXCH2:25m:1m:1m -**
Use the default FROM mailbox of MSXSPIEXCH1. Message must return within 1 minute to meet the SLA, 2 minutes to almost meet the SLA, and at over 25 minutes generates a failure/timeout.

**EXCH1:MAILBOXEXCH1:::MAILOXEXCH3:2h:5m:2m -**
Message must return within 5 minutes to meet the SLA, 7 minutes to almost meet the SLA, and at over 2 hours generates a failure/timeout.

**EXCH2:MAILBOXEXCH2:::MAILOXEXCH4:1h:20m:10m -**
Message must return within 5 minutes to meet the SLA, 7 minutes to almost meet the SLA and at over 2 hours generates a failure/timeout.

**EXCH3:MSXSPIEXCH3:EXCH4.AM.HP.COM::MSXSPIEXCH4:25m:5m** -
This represents a server/mailbox that is not located in the site's directory and will use SMTP to communicate with the EXCH4 server. Message must return within 5 minutes to meet the SLA, 10 minutes to almost meet the SLA, and at over 25 minutes generates a failure/timeout.

## WHERE DATA IS NOT BEING LOGGED: MODIFY SCHEDULE TEMPLATE

Before you deploy the EXSPI-60/55 End to End Message Ping template group you need to modify the schedule template in the group to prevent errors from occurring.

Modify the Schedule template as follows:

1. Select **Window>Message Source Template**

2. Double-click the **EXSPI-60/55 End To End Message Ping** template

group.

3. Select the **EXSPI-60/55 End To End Message Ping Schedule** template.

4. Press the **Modify** button and in the Command line box, delete the -l parameter.

## SET UP DIFFERENT CONDITIONS/ THRESHOLDS FOR DIFFERENT SERVER PAIRS USING OVO OBJECT FIELD & ALARMING

*(OVO High Level Expertise Recommended)*

Alarms can be set to occur with metric EXSPI-60 1002 (Ping). Because you may need to set different thresholds for multiple server pairs, the following examples are offered. The examples show the syntax to insert in the template Conditions, using the OVO object pattern fields so that you can set differing thresholds. Metric 1002 sends the "FromMailbox,ToMailbox" in the object pattern fields with the following definitions:

FromMailbox = **FromServer:FromMailbox**
ToMailbox = **[ToServer]:ToMailbox**
where **[ToServer]** is optional

| **Config Entry** | **Object** |
|---|---|
| EXCH1:MSXSPIEXCH2:25m:1m:1m | EXCH1:MSXSPIEXCH1,:MSXSPIEXCH2 |
| EXCH1:MAILBOXEXCH1: MAILOXEXCH3:2h:5m:2m | EXCH1:MAILBOXEXCH1,:MAILOXEXC H3 |
| EXCH2:MAILBOXEXCH2: MAILOXEXCH4:1h:20m:10m | EXCH2:MAILBOXEXCH2,:MAILOXEXC H4 |
| EXCH3:MSXSPIEXCH3:EXCH4.AM.HP.COM : MSXSPIEXCH4:25m:5m:5m | EXCH3:MSXSPIEXCH3,EXCH4.AM.HP.C OM: MSXSPIEXCH4 |

For example:

| ConditionName & Type | Condition Object Pattern | Threshold | Explanation |
|---|---|---|---|
| EXSPI-60 1002.1<br>+Message on Matched Condition | EXCH1:MSXSPIEXCH1,:<br>MSXSPIEXCH2 | 120 | Threshold condition for ping between System EXCH1 and mailbox MSXSPIEXCH2 on system EXCH2. Object pattern is case sensitive. |
| EXSPI-60 1002.2<br>+Message on MatchedCondition | EXCH1:MSXSPIEXCH1,:<br>MSXSPIEXCH3 | 240 | Threshold condition for ping between System EXCH1 and mailbox MSXSPIEXCH3 on system EXCH3. Object pattern is case sensitive. |
| EXSPI-60 1002.3<br>-Suppress Matched Condition | EXCH1:MSXSPIEXCH1,:<br>MSXSPIEXCH2<br>EXCH1:MSXSPIEXCH1,<br>:MSXSPIEXCH3 | | If the threshold was not exceeded for these two system pairs, you must suppress the message if either of these system pairs gets past 1002.1 or 1002.2. |
| EXSPI-60 1002.4<br>+Message on Matched Condition | | 60 | A blank object pattern to catch all remaining system pairs. |

## TASK 7: ASSIGN/DISTRIBUTE ADVANCED/ADD-ONS TEMPLATES

After completing the advanced configuration steps, you can assign and distribute templates from the EXSPI Advanced and Add-On template groups to the managed node(s) running MS Exchange server.

The EXSPI Advanced template groups contain two logfile templates which capture Exchange warning and information events. Because Exchange generates numerous warning and information events, you might want to assign these templates only for troubleshooting Exchange:

- Logfile EXSPI-60/55 Exchange Information
- Logfile EXSPI-60/55 Exchange Warnings

1. Open the OVO Node Bank and select the desired managed node(s) designated to run Exchange SPI.
2. Select **Actions>Agents>Assign Templates** from the menu bar.
3. In the Define Configuration window select **Add**.
4. In the Add Configuration window choose **Open Template Window...**.
5. In the Message Source Templates double-click **SPI for MS Exchange** group to display the subgroups.
6. Select templates from the EXSPI Advanced template group for the correct Exchange version.
7. Select **Get Template Selections** from the Add Configuration window and click **OK** from the Add Configuration window and click **OK** from the Define Configuration window.

Distribute templates that have been assigned/selected for distribution to the managed nodes:

8. Select **Actions: Agents>Install/Update SW & Config** from the menu bar.
9. In the **Install/Update OVO Software and Configuration** window check the **Templates** checkbox to select it.
10. Check the **Nodes in List** and the **Force Update** checkboxes.

11. If you did not select a node previously, choose **Get Map Selections** to list the target node(s).

12. Click **OK** to distribute templates to the managed node(s).

The following message appears in the Message Browser:

```
The following configuration information was successfully
distributed: Templates
```

You have now completed the advanced configuration installation process. The Exchange SPI is ready to use.

# How to Remove Exchange SPI

This process completely removes the Exchange SPI installation from the OVO management server, including all Exchange SPI templates. Any customized templates or copies of Exchange SPI default templates residing in other OVO template groups should also be removed. Follow these steps in order to ensure a proper removal.

## Removing Exchange SPI Software from the Management Server

**NOTE:** The **swremove** program removes the files from the file system only. The Exchange SPI templates are still in the OVO data repository and must be deleted manually. First, however, they (and the Exchange SPI software) must be deassigned from the managed nodes.

1. Open a terminal window and log on as `root`.

2. In the teminal window run swremove by entering:
   `/usr/sbin/swremove EXSPI`

## De-assigning Exchange SPI Templates from Managed Nodes

1. Open the OVO Node Bank.

2. To deassign the templates from the node, select **Actions>Agents>Assign Templates** from the menu bar.

3. In the Define Configuration window select all Exchange SPI templates or template groups, including any user-customized templates.

4. Click **Remove Templates**.

5. Click **OK.**

## REMOVING EXCHANGE SPI FROM MANAGED NODES

1. Select Actions: **Agents**>**Install/Update SW & Config** from the menu bar.

2. Check the following checkboxes to select these components for removal:

   - Templates
   - Actions
   - Monitors
   - Commands

3. Click the **Nodes in List Requiring Update** button.

4. If you did not select a node previously, click the **Get Map Selections** button to list the target node(s).

5. Click the **Force Update** button.

6. Click **OK**. The following message appears in the message browser:

```
The following configuration information was successfully
distributed:

Templates Actions Commands Monitors
```

The Exchange SPI templates and software have now been removed from the selected managed node(s). The Exchange SPI templates still reside in the OVO data repository and must be deleted manually. Continue with *Deleting Exchange SPI Templates* chapter 3 page 25.

# Deleting Exchange SPI Templates

You must delete Exchange SPI templates manually. These include the Message Source, Message Group, and Application Group templates. To speed the process, select a number of templates at one time by pressing the SHIFT key as you select the first and last template in a list.

1. To delete the Exchange SPI Message Source templates, select **Window: Message Source Templates** from the menu bar.

2. Open all Exchange SPI template groups and use SHIFT+click to select all templates for deletion.

3. Select **Delete from All** to delete the templates.

4. Click **Yes** to the message: `Do you really want to delete the template(s)?`

5. To delete the EXSPI messages group, from the menu bar select **Window>Message Group Bank**.

6. Select the **EXSPI** messages group.

7. From the menu bar select **Actions>Message>Delete**.

8. Click **Yes** to the message: `Do you really want to delete the message groups?`

9. To delete the Exchange SPI application groups and their contents, select **Window: Application Bank** from the menu bar.

10. Select all Exchange **EXSPI Admin** Applications and Graphs.

11. From the menu bar select **Action>Application>Delete**.

12. Click **Yes** to the message: `Do you really want to delete the application groups.`

4

# Using the Exchange SPI

# Introduction

Like all HP OpenView SMART Plug-Ins, the Exchange SPI is easy to use. This chapter describes some special usage features and functionality, including:

- Daily Tasks
- Exchange SPI template group requirements
- Changing the OpenView data collection agent setup
- Enabling Message Tracking
- Additional Monitoring Tools
- Command Line Parameters
- Customizing the Exchange SPI
    - Basic Customization procedures
    - Advanced Customization procedures
- Reinstalling Exchange SPI Templates

# Daily Tasks

A daily task list for monitoring with the Exchange SPI follows:

1. Use the OVO message browser to watch for warning and critical messages or multiple alarms. Read the associated instruction text.

2. Adjust alarm thresholds if too many alarms are being generated (see “Customize the Threshold” later in this chapter).

3. Use the OVO graphing and reporting applications to drill down for additional information, or to view history or trends.

4. Check the active Message Browser frequently. Note the message group a metric belongs to:

   - ***EXSPI.*** Messages generated by EX-SPI programs.They contain instruction text to help to diagnose/remedy problems.

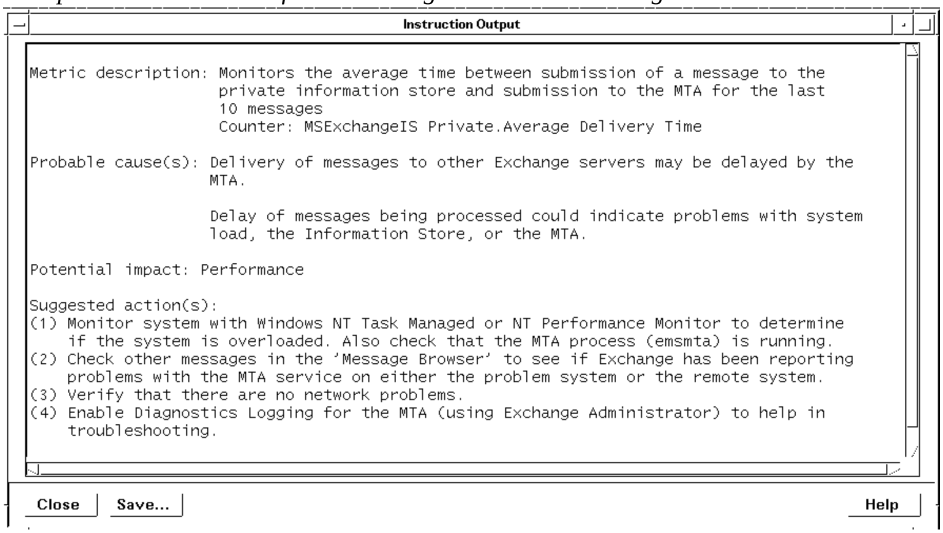
   - ***EX_Perf.*** Messages regarding performance.

   - ***EX_Fault.*** Messages regarding error conditions.

5. Click `Perform Action` (if available) from the message or message browser to automatically perform a pre-defined operator action. Click `Details` from the message or message browser to view details of the set action.

6. Click `Instructions` from the message browser or the message itself to read and follow suggested instructions to help diagnose/remedy problems (see example below).

*Sample Instruction Text from Exchange SPI Alarm Message*




7. Use MeasureWare Agent to export data if desired. Consult the *MeasureWare Agent User's Guide* for details.

# Exspi Template Group Requirements

NOTE: Important Microsoft Information on the Web: Before you deploy Exchange SPI templates, please refer to the Microsoft article “PRB: Performance Object Is Not Displayed in Performance Monitor” at this URL: **http://support.microsoft.com/support/kb/articles/Q248/9/93.ASP**. The article contains information on editing the Windows registry so that performance objects (tracked by Performance Monitor) are always enabled. A disabled performance object could cause an Exchange SPI template to fail. By following the instructions in the article, you can ensure that templates are able to collect Exchange performance data as expected.

Some templates in the SPI for Exchange template groups require that particular software components/services are installed on Exchange server systems before the deployed templates will work, and some require the existence of a domain admin account with special Exchange privileges. To create such an account, see *Creating a User Account with Proper Access Permissions* chapter 2 page 4.

Use the following tables to decide which templates you want to install. In the template prerequisites table you can see whether or not a template group/subgroup works with Exchange 5.5 and/or Exchange 2000, as well as any required configuration. Template Group Descriptions show you what type of data/functionality the template group offers.

## Table 1: EXSPI Template Group Prerequisites for Exchange 5.5

| EXCHANGE 5.5<br>Template Group/ Subgroup | Required Exchange Service | Required Manual Configuration |
|---|---|---|
| **EXSPI-55 Quick Start** | N/A | N/A |
| **EXSPI-55 Add-Ons**<br>EXSPI cc:Mail Connector | cc:Mail Connector | N/A |
| EXSPI Internet Mail Services | Internet Mail Service (IMS) | N/A |
| EXSPI Lotus Notes Connector | Lotus Notes Connector | N/A |
| EXSPI News Service | N/A | N/A |
| **EXSPI-55 Advanced**<br>EXSPI End to End Message Ping | | Create MSXSPI User account with correct permissions<br>Edit the MBOX Config Application to contain User Password<br>Create mailbox using MBOX Config application<br>Configure EXSPI End to End Message Ping template to set up server pairs<br>Modify the template to include user account and password |
| EXSPI Event Log Warnings & Information | | Use for troubleshooting |
| EXSPI Reporter Collection | | Create MSXSPI User account and password |

**Table 2: EXSPI Template Group Prerequisites for Exchange 2000**

| **EXCHANGE 2000**<br>**Template Group/ Subgroup** | **Required Exchange Service** | **Required Manual Configuration** |
|---|---|---|
| **EXSPI-60 Quick Start**<br>All templates | N/A | N/A |
| **EXSPI-60 Add-Ons**<br>EXSPI cc:Mail Connector | cc:Mail Connector | N/A |
| EXSPI Chat Service | Exchange Chat Service | N/A |
| EXSPI Conferencing Service | Exchange Conferencing Server | N/A |
| EXSPI MCU Server | MCU Server | N/A |
| EXSPI Instant Messaging | Exchange Instant Messaging Service | Some templates in this group must be modified to contain a domain admin user and password |
| EXSPI Lotus Notes Connector | Lotus Notes Connector | N/A |
| EXSPI NNTP | Network News Transfer Protocol (NNTP) | N/A |
| Transaction Log | | Some templates in this group must be modified to contain a domain admin user and password |

| **EXCHANGE 2000**<br>**Template Group/ Subgroup** | **Required Exchange Service** | **Required Manual Configuration** |
|---|---|---|
| **EXSPI-60 Advanced**<br>EXSPI End to End Message Ping | N/A | For each node where the template is to be deployed:<br>Create MSXSPI User account with correct permissions<br>Edit the MBOX Config application to contain User Password<br>Create mailbox using MBOX Config application<br>Configure EXSPI End to End Message Ping template to set up server pairs<br>Modify the template to include user account and password |
| EXSPI Event Log Warnings & Information | N/A | Use for troubleshooting |
| EXSPI Reporter Collection | N/A | Create MSXSPI User account and password |

# Changing the Data Collection Agent Setup

The HP OpenView Exchange SPI can detect whether or not you are using OpenView Performance Agent (also known as MeasureWare Agent). If you are, your new Exchange SPI installation will automatically use it as well. As a result, if you use PerfView, your new installation also supports that configuration.

If for any reason you decide that you want to use the new HP OpenView subagent included with OVO 7.0, you can configure managed nodes to do so. Note that this configuration does not support PerfView.

To override the use of OpenView Performance Agent, set up an empty file named nocoda.opt and store it on the managed node in a specific location. The location will vary according to the managed node operating system as shown below.

| Managed Node O/S | File Location |
|---|---|
| HP-UX and Solaris | /var/opt/OV/conf/dsi2ddf/nocoda.opt |
| Windows | \usr\ov\conf\dsi2ddf\nocoda.opt |

**To create the File:**

1. (If necessary) on the managed node according to the path shown in the preceding table, create the **dsi2ddf** directory.

2. Use a text editor to open a new file.

3. Save the file as **nocoda.opt** in the managed node’s **dis2ddf** directory

# Enabling Message Tracking

Set message tracking only on servers. All messages that are routed through a server are added to the message tracking logs. This information is collected by the EXSPI-60/55 Dc-TrackLog Data collection templates.You can record information about the sender, the message, and the recipient. If you need to log more detailed information, you can also record the subject line of the e-mail message.

### To enable message tracking on Exchange Server 2000:

1. Start System Manager: On the Start menu, point to **Programs > Microsoft Exchange > System Manager.**

2. In the console tree, double-click **Server**, right-click a server and select **Properties**.

3. On the **General** tab, check **Enable message tracking** to log information about the sender, the time the message was sent or received, the message size and priority, or the message recipients.

4. To record the subject of any message sent to, from, or through the server, check **Enable subject logging**.

5. Repeat steps 3 and 4 for each server.

### To enable message tracking on Exchange Server 5.5:

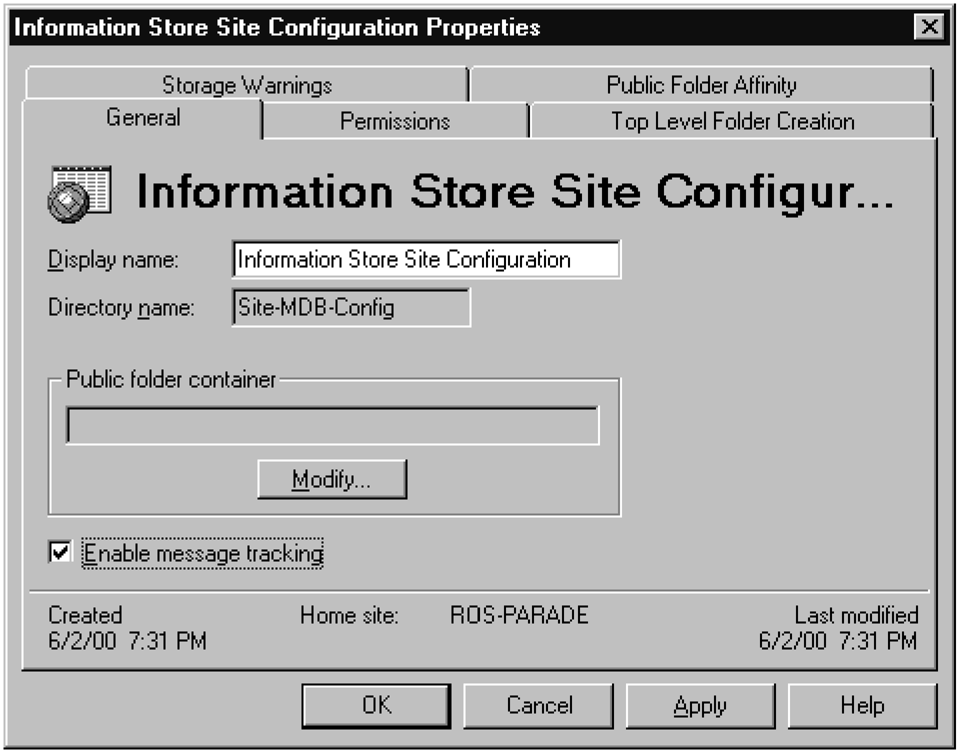
1. Select **Start** > **Programs** > **Microsoft Exchange** > **Microsoft Exchange Administrator**.

2. Expand the site level and Configuration to view selections beneath it.

3. In the details pane double-click **Information Store Site Configuration**.

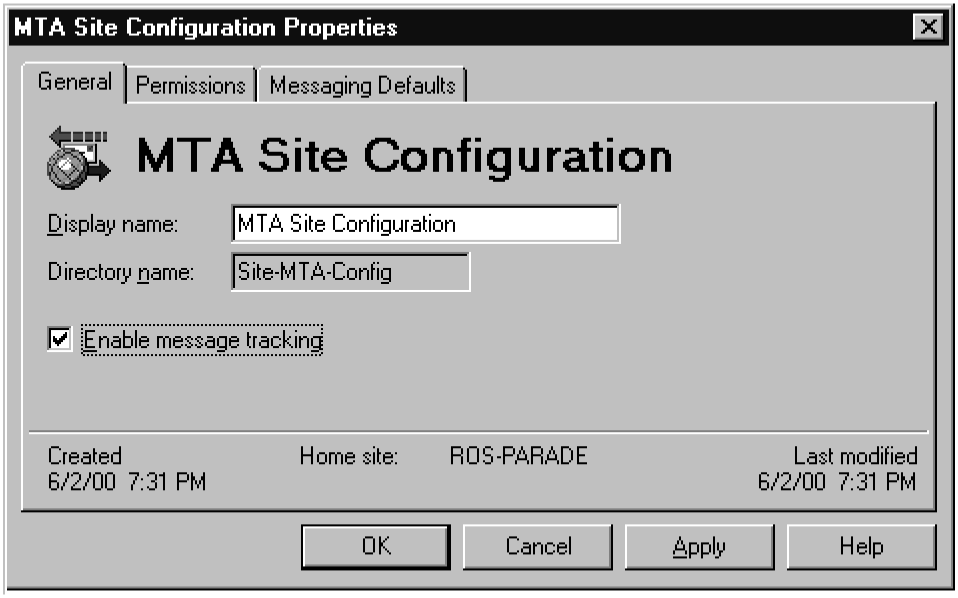
4. In the **Information Store Site Configuration Properties** dialog, check **Enable message tracking**, and select **OK**.

*Information Store Site Configuration dialog*




5. Repeat steps 3 and 4 for MTA Site Configuration.

*MTA Site Configuration dialog*




If the Internet Mail Service connector does not exist, skip the following steps.

6. In the left pane select **Connections**.

7. In the right pane select Internet Mail Service, check the Enable message tracking checkbox, and click **OK**.

# Additional Monitoring Tools

The Exchange SPI provides a number of predefined graphs that can be generated from the OVO Application Bank by selecting a graph from the group **EXSPI Graphs**.

OVO also provides Windows applications in the Application Bank group **Windows Tools** useful for performing maintenance and troubleshooting. Virtual Terminal (PC) is a particularly useful application which provides a “telnet” style login to Windows systems.

The Performance group also contains PerfView-related applications. Use “Start PerfView” to launch PerfView (the OVO agent must be installed and running on the Management Server). Consult the *OVO Administrator's Reference* for a detailed description of these applications.

# Command Line Parameters

The collector/analyzer executable **exspi_e2k.exe** can be used with the following command line parameters:

| **Parameter** | **Description** |
|---|---|
| **-m <metric range>** | **-m** (metric range) is used to specify the metric number or range of metric numbers. |
| **-t <tag>** | `-t` (tag) allows the collector/analyzer to use a different set of templates than those originally provided with the Exchange SPI when collecting metrics.<br>**NOTE:** Additional information about the tag feature is found at the end of the “Customizing Exchange SPI” section. |
| **-p -m <range> [-v]** | `-p` (print) executes specified metrics and prints their values to standard output, for example:<br>**<exspi_e2k.exe** or **exspi_e55.exe> -p -m 1-1001** |

| Parameter | Description |
|---|---|
| **-a** | `-a` directs the collector/analyzer to send the metric value to OVO for alarm generating |
| `-s` | `-s` executes the collector as the Domain Admin account (MSXSPI). Requires completion of the advanced configuration (see *Advanced Configuration* chapter 3 page 12). |
| **-l -m <metric range>**<br>**-x <extended_option>** | Data collection metrics start at 0500. Types:<br>**Value:** logs the actual value<br>**Delta:** logs the difference between current and previous<br>**Average:** logs the average over a specific interval (e.g. 1h)<br>where:<br>**-l** collector logs data to logfile instead of reporting it to OVO<br>**-x <extended_option>** is one of:<br>**logtype:** is either "value, delta, or avg"<br>**logfreq:** can only be "hourly" and is used only with "avg"<br>**runfreq:** tells the collector the interval in seconds. If the schedule interval of EXSPI is every 10 minutes, the runfreq option must be set to 10*60 = 600: -x runfreq=600. The runfreq option can only be used with "avg."<br>**mbox**: followed by "=<*mailbox_name*>" allows specification of certain mailboxes with certain metrics, specifically metrics:<br>611,612,622,623,630,631,632,640 and 641<br>Example of a command line using this option: `exspi -p -m 611 -x mbox=obrab` |

# Customizing Exchange SPI

## CHOOSING METRIC TO MONITOR

Before beginning customization, first decide which metrics can remain without changing the thresholds, (see “Exchange SPI Metric Specifications” later in this chapter or the *Exchange SPI Reference Manual*).

**NOTE** It is recommended that you make a copy of the original template group and use the copy for customization purposes

# Basic Customization

## CREATING CUSTOM GROUPINGS

Create custom template groups as follows:

1. Log onto OVO as the OVO Administrator.

2. Select **Window>Message Source Templates**.

3. In the Message Source Templates window select the desired template group and click the **Add...** button (if Add Logfile... is displayed, pull down the list and select Add Group) and select a name and description for this group.

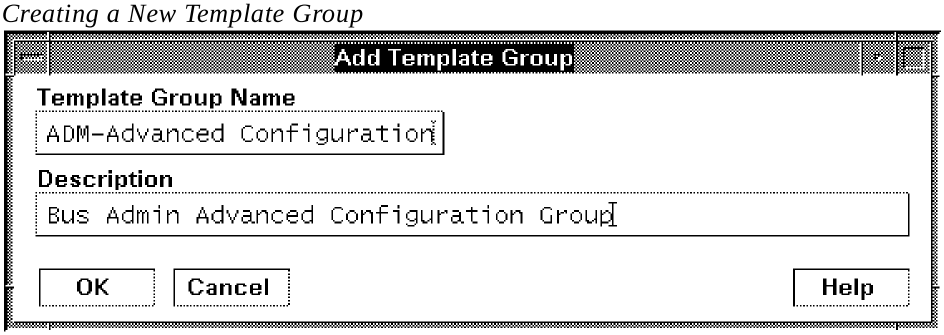
4. To copy templates to the new group:

   - In the Message Source Templates window, double-click to open the group containing the desired templates.

   - Select the templates to copy and choose **Edit>Copy from the Message Source Templates** menu to copy the templates.

   - Return to the newly created template group and choose **Edit>Paste** from the menu.

*Creating a New Template Group*



## MODIFYING MESSAGE GENERATION

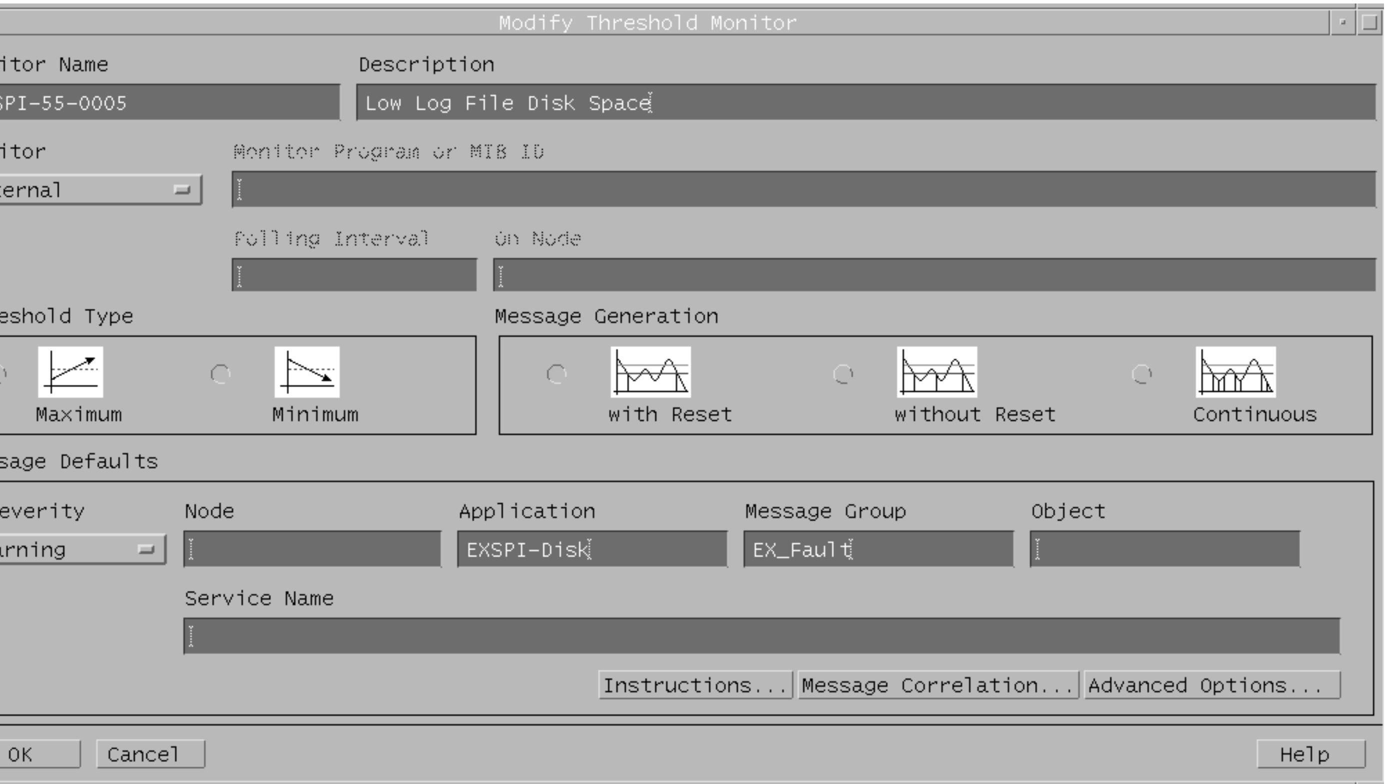
Alarms are generated `with Reset, without Reset` or `Continuously.` To change the `Metric Generation Type` (usually in conjunction with the `Threshold, Polling Interval` and `Reset` value) follow these steps:

1. Select the **Message Source Templates** window.

2. Double-click to open the template group containing the metric to modify.

3. Click the **Modify** button.

*Modifying Message Generation*




4. Select one of the Message Generation types:

   - ***with Reset:*** Alarms are generated after the monitoring threshold has been exceeded. No additional alarms are generated until metrics drop below a specified Reset threshold and subsequently exceed the monitoring threshold.

   - ***without Reset:*** Alarms are generated after the monitoring threshold has been exceeded. No additional alarms are generated until metrics drop below the threshold and subsequently exceed it.

   - ***Continuous:*** Alarms are generated continuously when metrics exceed the threshold.

## MODIFYING METRIC TEMPLATE CONDITIONS

Modify metric attributes as follows.

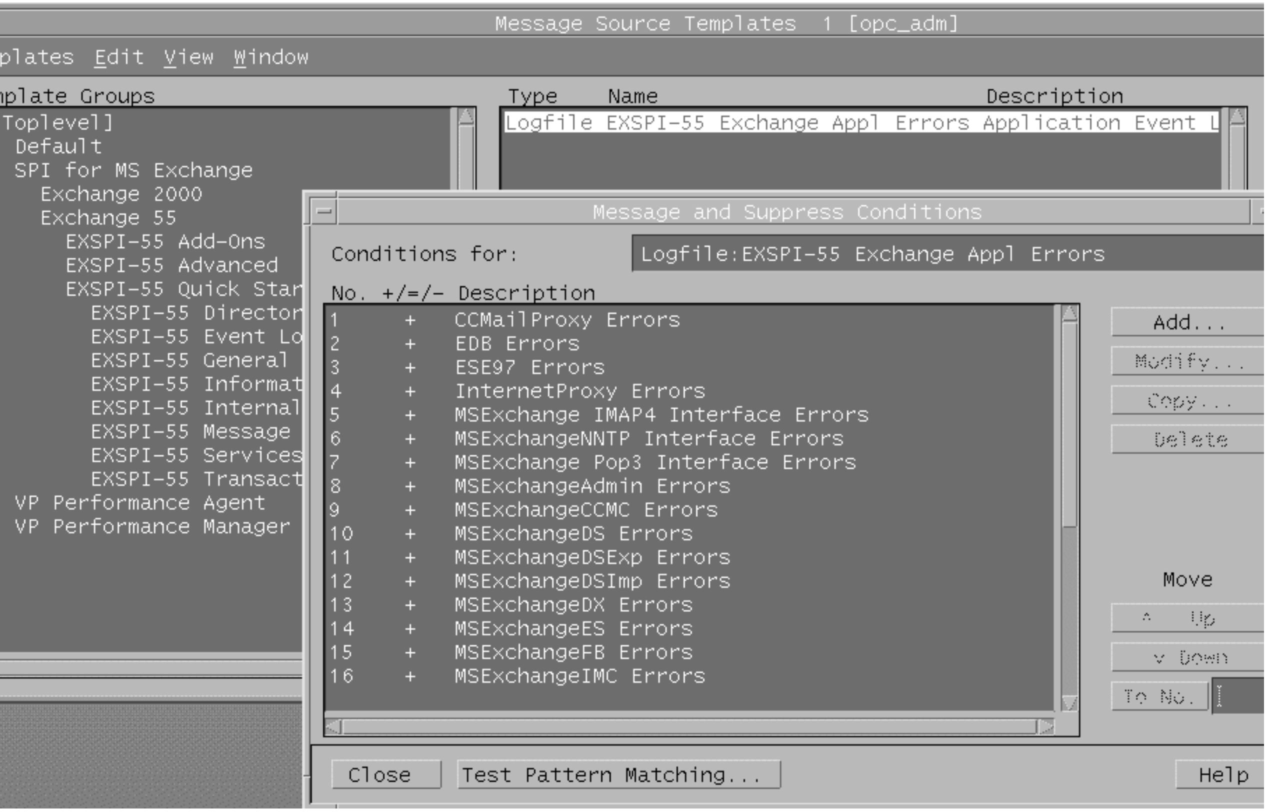
1. Select the **Message Source Templates** window.

2. Double-click the template group containing the metric to modify.

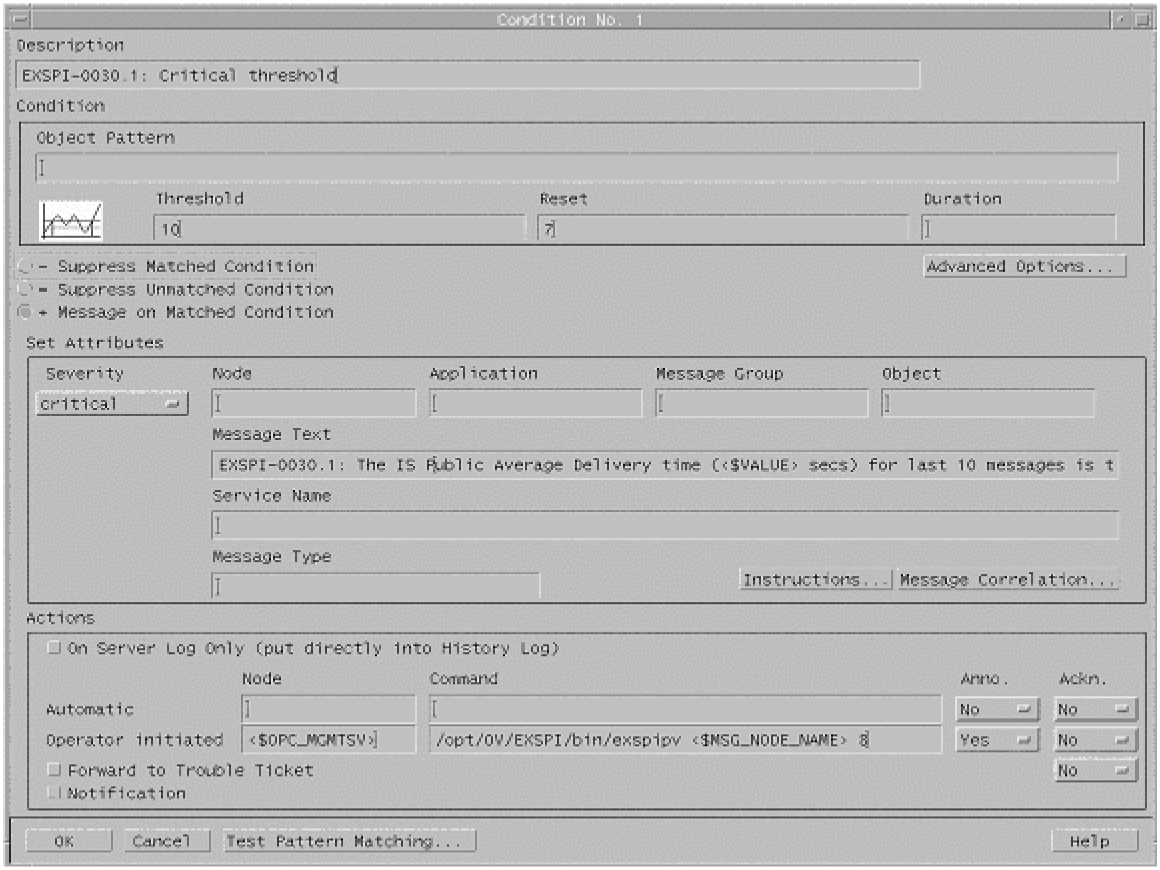
3. Double-click the desired metric

4. In the Message and Suppress Conditions window select the condition to modify and click the **Modify** button.

*The Message and Suppress Conditions Window*



*Condition Dialog*




The `Condition` window is displayed. The following attributes can be easily modified:

***Threshold.*** Set the desired threshold.

***Reset***. This is a limit under which the object's value must drop (or exceed for minimum thresholds) to return the alarm state of the object to normal. After an object's alarm state has returned to normal, a new message can be issued if the monitored parameter again exceeds (or drops below for minimum thresholds) the threshold value. Do not enter a value if you do not wish to impose a reset limit. Note that you can enter a reset value greater than the threshold value (or less for minimum threshold types), which has the same effect as if you don't specify a reset value.

***Duration.*** Most metrics are defined as `Message Generate` type `without Reset` and without a `Duration`. Please consult the *OVO Concepts Guide* or on-line Help prior to modifying this field.

***Severity.*** Click the `[Severity]` button and select the desired severity setting.

***Message Text***. Be careful not to modify any of the parameters in a message. Parameters are surrounded by `<>` brackets and begin with `$`.

***Actions.*** This field provides the ability to add custom programs. Two types of actions are available:

- ***Operator initiated:*** These actions are only performed upon the initiation of an operator.

- ***Automatic:*** These actions are performed automatically when the metric alarms.

**NOTE** Some metrics have an operator-initiated action which will display a graph if PerfView is installed on the management server.

# Customizing the Threshold

Customize the threshold as needed. To do so, copy the existing condition to use as the default, and modify the original condition to serve as the exception. Follow these steps:

1. Double-click the metric you want to customize (for example, EXSPI-60-0001).

1. In the Message and Suppress Conditions window select the desired condition and select the **Copy** button to make a copy of the condition.

2. Enter a name for the condition; for example, EXSPI-60-0001.3.

3. Click **OK** to close EXSPI-60-0001.3. This will be the default condition.

4. Select the original condition, EXSPI-60-0001.1.

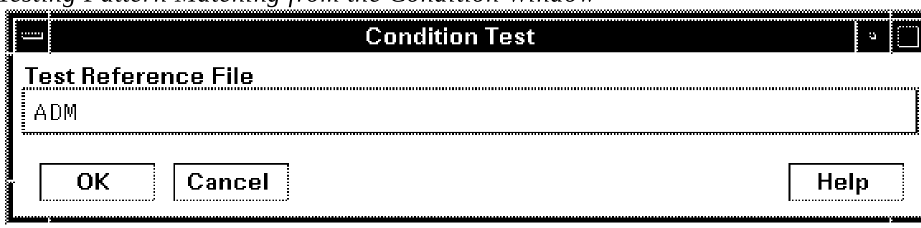
5. Click the **Modify** button to display the Condition window.

6. In the **Object Pattern** field, enter the desired characters to use for pattern matching (see the OVO on-line help or the *OVO Administrators Task Guide* for pattern matching syntax).

7. Click the **Test Pattern Matching…** button to test the pattern and verify pattern matching (you must set up a match file first).

8. Change the value in the value in the Threshold field.

*Testing Pattern Matching from the Condition Window*



# Customizing Schedules

Schedule templates define the schedule by which the collector/analyzer will gather metric information. To modify a schedule template, follow these steps:

1. Select **Window>Message Source Templates** and double-click the template group containing the template to modify.

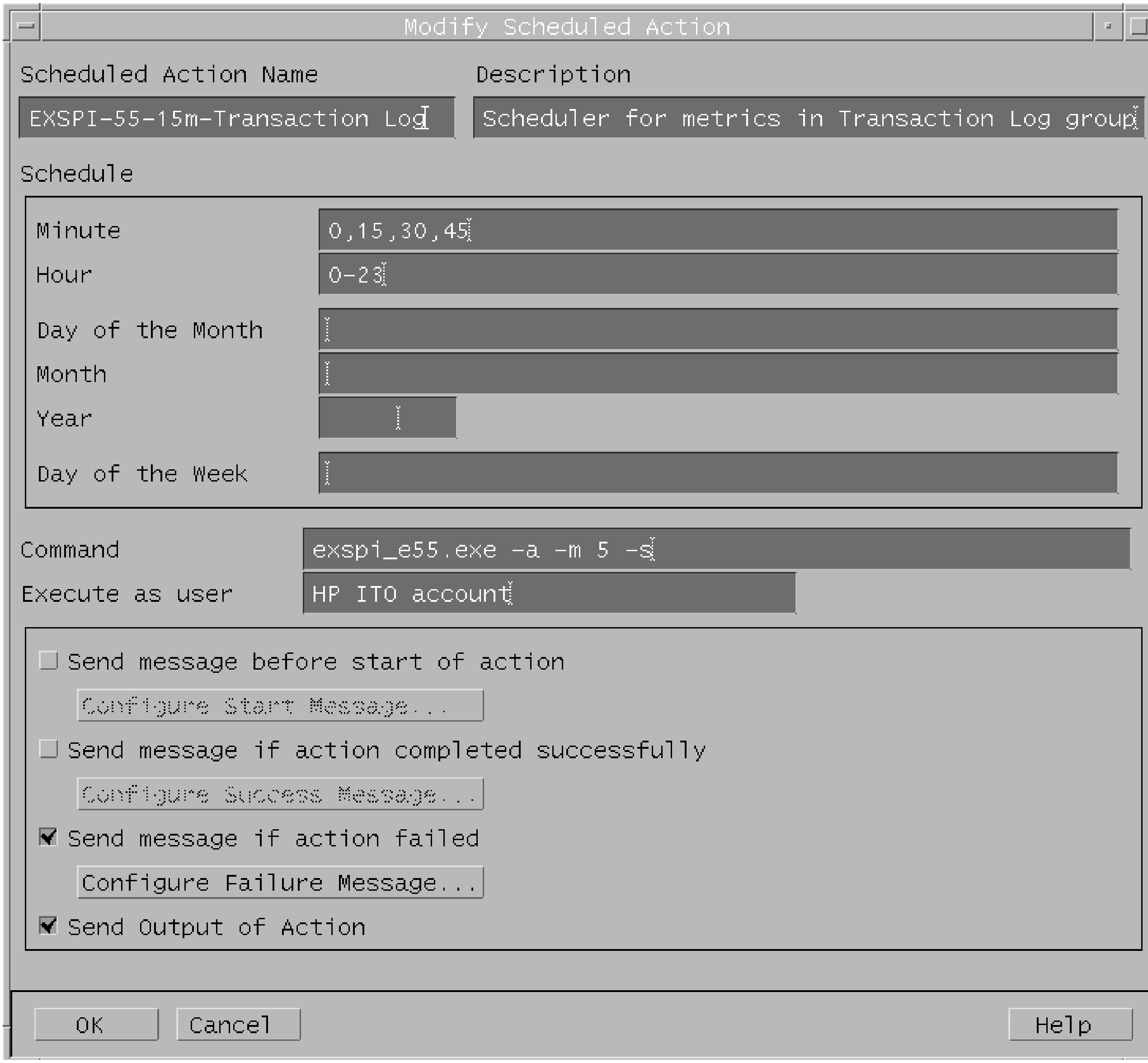
2. Double-click the desired template

3. In the **Modify Scheduled Actions** change any of the schedule information or other parameters. For more information on this, see *Enabling Message Tracking* chapter 4  page 10.

4. Click **OK** to close and save the changes.

5. Deploy the template to the desired managed node(s).

*Customizing a Schedule Template*



# The Tag Feature

When servers are dedicated to specific sites or business units, you may find it more effective if those servers do not all share the same set of Exchange SPI templates. In such cases, the tag feature is useful in allowing you to change existing templates and rename them. In this way you can associate template assignments with specific servers and the areas with which they are associated. For example, you might create a business administration group of templates and tag those templates with “ADM-” or a branch office group and tag those with “BR-.”

The tag feature allows you to create custom templates in a quick way. To summarize the steps, you:

- Make copies of existing monitor templates that you want to modify.
- (optional) Modify the monitor template settings.
- Save each modified template under the same name with a prefix.
- Enter each metric and **-** <*prefix tag*> after the collector/analyzer command in the **Program Monitor or MIB ID** box of the schedule template.

Using this method allows the collector/analyzer to recognize a set of templates different from those originally provided with the Exchange SPI. This method allows you to enlarge the single set of templates to adjust to differing conditions among the servers you use.

To use this feature, make copies of the original Exchange SPI templates. The names you give these new templates must contain a prefix with the original template name. To tell the collector/ analyzer to use this new template rather than the original template, specify the tag option on the schedule template command line.

New collector templates can also be created in this way, for example:

```
exspi_e2k -m 16 -t ADM-
```

In this case the new collector template is called "`ADM-EXSPI-15min`."

# Advanced Customization

## Changing the Windows User Account Name

The MSXSPI Windows user account used for accessing Exchange folder and mailbox information, is referenced in several applications. To change the account name, edit the **EXSPI Mbox Config** application and change the user name setting.

## Changing the Mailbox Name

For all schedule templates in the template group EXSPI-60 Data Collection (Adv), add `-x` <*mailbox_name*> to the command which is executed under the schedule. For example:

```
exspi_e2k -l-s -m 630,631,632 -x logtype=value -x
mbox=MSXSPI
```

The default mailbox `MSXSPI` <*hostname*> can be changed by supplying the mailbox name to EXSPI MBOX Config:

Use the OVO Customized Startup to start **EXSPI MBOX Config**, and add `-x mbox=<mailbox_name>` to the Application Parameter box.

**NOTE** Do not add the domain before the user name. The user must be in the domain where the Exchange Server is located, and cannot be a local user.

# Re-installing Exchange SPI Templates

To re-install all templates with original factory settings, run the following command:

```
/opt/OV/bin/OpC/opccfgupld -verbose -replace
/var/opt/OV/share/tmp/OpC_appl/EXSPI/exspiset
```

**CAUTION** Any customization of the original templates will be overwritten.

# Integrating Exchange SPI with Reporter

# Introduction

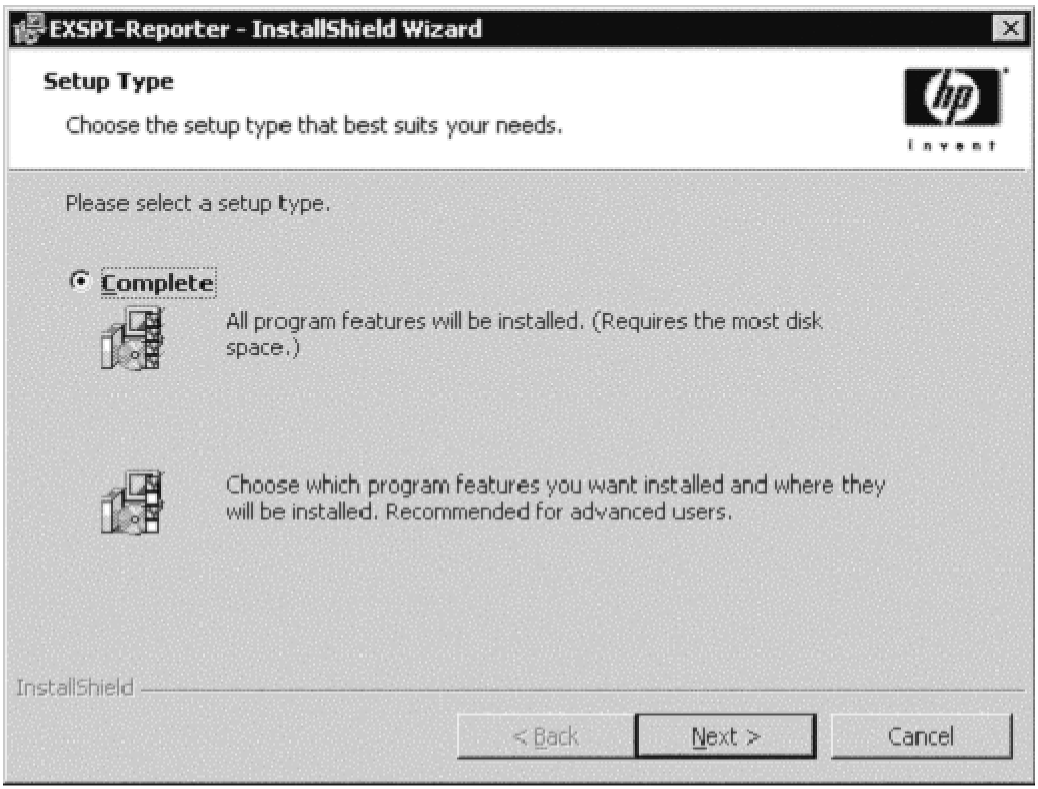
This chapter describes how to install and generate reports within Reporter from Exchange SPI data. It contains the following components:

- Installing Exchange SPI Reports
- Exchange SPI Reports template requirements
- Exchange SPI Report List
- Using Exchange SPI Reports and Graphs
    - Deploying the Quick Start data collection templates
    - Deploying Reporter Collection templates
    - Exchange SPI graphs
    - Deinstalling Exchange SPI Reporter templates

# Installing Exchange SPI Report Templates

To install Reporter reports on the system where Reporter is installed:

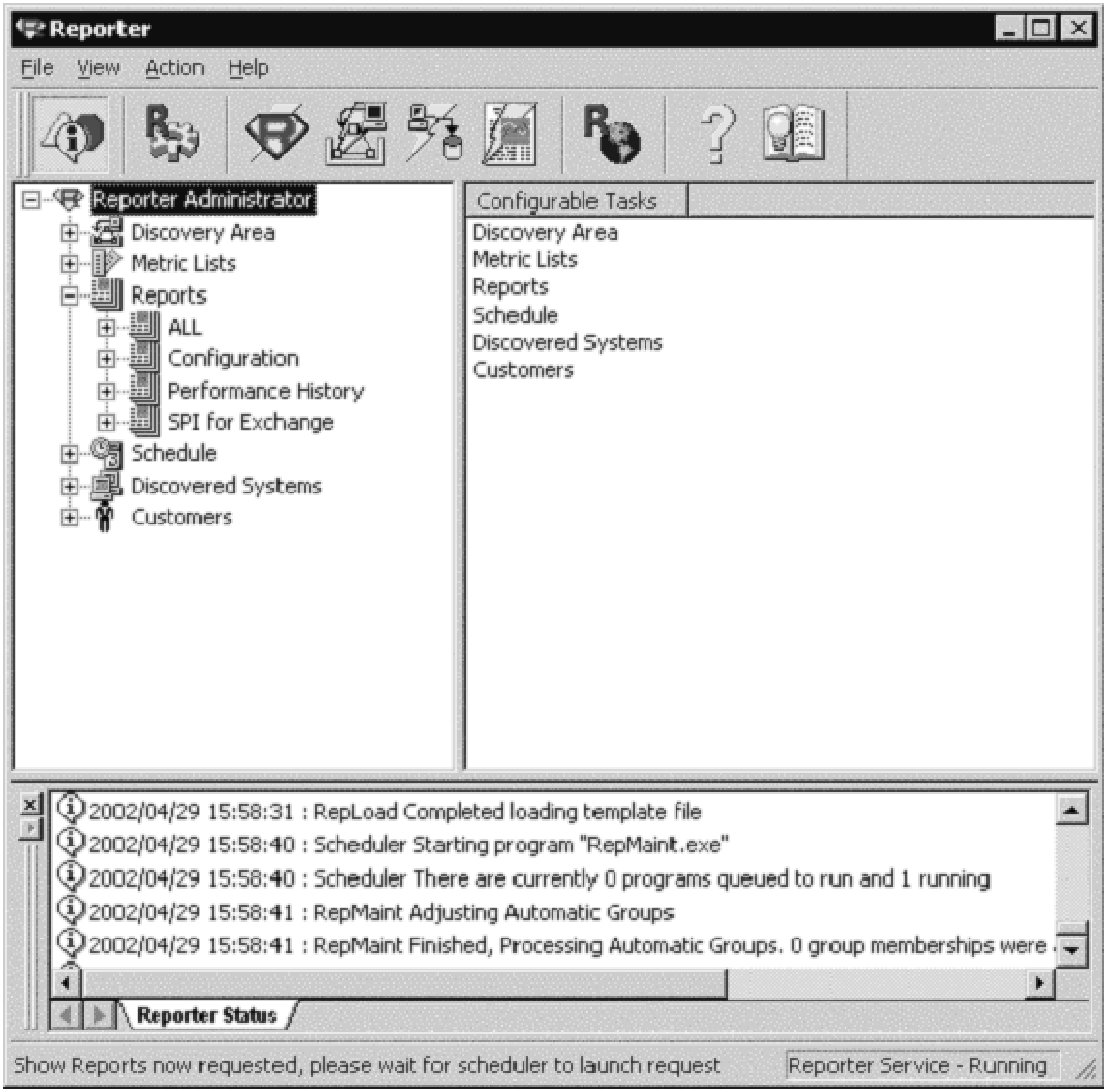
1. Double-click **EXSPI-Reporter.msi** on the HP OpenView Operations for Unix Application CD-ROM.




2. In the **Setup Type** dialog of the InstallShield Wizard, select the **Complete** setup type, and click **Next**.

3. EXSPI-Reporter is now installed, click **Finish** to exit the wizard.

4. Open Reporter to see the **SPI for Exchange** folder under **Reports**.




5. Open the SPI for Exchange group of reports, and see the list of groupings of Exchange reports. As you select each group, see in the details pane the individual reports available in that group.

# Report Requirements

## TEMPLATES TO DEPLOY FOR EXCHANGE SPI REPORTS

Exchange SPI reports display data collected from EXSPI templates deployed to Exchange servers.

In the table that follows, the location is relative to the folders SPI for Exchange \ Exchange 5.5 AND Exchange 2000. Some templates are specific to the version of Exchange, when this is the case the location is also specific to this version. Reports that are designated Exchange 2000 contain information relevant to Exchange 2000 only. All other reports are relevant to both versions of Exchange.

The specific templates required for OVO to generate particular reports are as follows:

| **Report Name** <br> **(SUMMARY For All Systems)** | **Template Name** | **Metric ID Logged** | **Location** |
|---|---|---|---|
| Exchange 2000 System Information Summary | Dc-Mailbox IS Sum. Data <br> Dc-Public IS Sum.Data <br> Dc-Exchange Info | 610-611, 614, 620-621, 623-624, 656 | EXSPI Advanced \EXSPI Reporter Collection |
| Exchange 2000 Top 100 Mailboxes | Dc-Mailbox Data | 630,632,633,634 815 | Exchange 2000 \EXSPI Advanced \EXSPI Reporter Collection |
| Exchange SLA Message Delivery | End to End Message Ping | 1002 | EXSPI Advanced \EXSPI End to End Message Ping |
| Exchange System Information Summary | Dc-Private/Mailbox IS Sum. Data <br> Dc-Public IS Sum. Data <br> Dc-Exchange Info | 610-611, 614, 620-621, 623,624, 656 | EXSPI Advanced \EXSPI Reporter Collection |

| **Report Name** **(SUMMARY For All Systems)** | **Template Name** | **Metric ID Logged** | **Location** |
|---|---|---|---|
| Exchange Top 100 Mailboxes | Dc-Mailbox Data | 630-632 | Exchange 5.5 \EXSPI Advanced \EXSPI Reporter Collection |
| Exchange Top 100 Public Folders | Dc-Public Folder Data | 640, 641 | EXSPI Advanced \EXSPI Reporter Collection |
| Exchange Messaging Trends for all Servers | Dc-MTA Message Volume | 530-535 | EXSPI Quick Start \EXSPI Message Transfer Agent |
| | Dc-IS Private MsgVol OR<br><br>Dc-IS Mailbox Msg Vol<br>Dc-IS Public Msg Vol | 540-543<br>550-552 | EXSPI Quick Start \EXSPI Information Store |
| | Dc-IMS Message Volume | 590-591 | Exchange 5.5 \EXSPI Add-Ons \EXSPI Internet Mail Services |
| | Dc-SMTP Message Volume | 670-675 | Exchange 2000 \EXSPI Add-Ons \EXSPI SMTP |

| **Report Name** **(DETAIL-shows data grouped by single systems)** | **Template Name** | **Metric ID Logged** | **Location** |
|---|---|---|---|
| Exchange 2000 Chat Trends | EXSPI-6.0 Dc-Chat Service Clients and Channels.data | 837-838 | Exchange 2000 \EXSPI Add-Ons \EXSPI Chat Service |
| Exchange 2000 Conferencing Trends | EXSPI-6.0 Dc-ConfTrends.data | 800, 810, 809, 808 | Exchange 2000 \EXSPI Add-Ons \EXSPI Conferencing Service |

| **Report Name**<br>**(DETAIL-shows data grouped by single systems)** | **Template Name** | **Metric ID Logged** | **Location** |
|---|---|---|---|
| Exchange 2000 MCU Trends | EXSPI-6.0 Dc-MCU | 811-814 | Exchange 2000 \EXSPI Add-Ons \EXSPI Conferencing Service |
| Exchange 2000 Instant Messaging Users growth | EXSPI-6.0 1d-Dc-Instant Messaging | 843 | Exchange 2000 \EXSPI Add-Ons \EXSPI Instant Messaging |
| Exchange 2000 Instant Messaging Availability and Usage Trends | EXSPI-6.0 1hr-Dc-Instant Messaging DC | 841, 845 | Exchange 2000 \EXSPI Add-Ons \EXSPI Instant Messaging |
| Exchange 2000 Inactive Mailboxes | EXSPI 6.0 Dc-Mailbox Data | 603,633,634, 815 | Exchange 2000 \EXSPI Advanced \EXSPI Reporter Collection |
| Exchange 2000 Mailbox Details | EXSPI 6.0 Dc-Mailbox Data | 630-632,634,815 | Exchange 2000 \EXSPI Advanced \EXSPI Reporter Collection |
| Exchange 2000 Mailbox Summary | EXSPI 6.0 Dc-Mailbox IS Sum. Data<br>EXSPI 6.0 Dc-Mailbox Data | 610-613, 624, 630-632, 815 | Exchange 2000 \EXSPI Advanced \EXSPI Reporter Collection |
| Exchange 2000 Mailbox Usage Trends | EXSPI-6.0 Dc-Mailbox IS Sum. Data | 610-613 | Exchange 2000 \EXSPI Advanced \EXSPI Reporter Collection |
| Exchange User Connections | Dc-User Connections | 520-521 | EXSPI Quick Start \EXSPI Services and Processes |
| Exchange Folder Summary | Dc-Public IS Sum. Data<br>Dc-Public Folder Data | 620-624, 640-641 | \EXSPI Advanced EXSPI Reporter Collection |

| **Report Name**<br>**(DETAIL-shows data grouped by single systems)** | **Template Name** | **Metric ID Logged** | **Location** |
|---|---|---|---|
| Exchange Folder Usage Trends | Dc-Public IS Sum. Data | 620-622 | \EXSPI Advanced EXSPI Reporter Collection |
| Exchange IMS Messaging Trends | EXSPI-5.5 Dc-IMS Message Volume | 590-593 | Exchange 5.5 \EXSPI Add-Ons \EXSPI Internet Mail Services |
| Exchange Mailbox Details | Dc-Mailbox Data | 630-632 | \EXSPI Advanced EXSPI Reporter Collection |
| Exchange Mailbox Summary | Dc-Private/Mailbox IS Sum. Data<br>Dc-Mailbox Data | 610-613,<br>630-632 | \EXSPI Advanced EXSPI Reporter Collection |
| Exchange Mailbox Usage Trends | Dc-Private/Mailbox IS Sum. Data | 610-612 | \EXSPI Advanced EXSPI Reporter Collection |
| Exchange Messaging Trends | Dc-MTA Message Volume | 530-535 | EXSPI Quick Start \EXSPI Message Transfer Agent |
| | Dc-IS Private Msg Vol<br>OR<br>Dc-IS Mailbox Msg Vol<br>Dc-IS Public Msg Vol | 540-543<br>550-552 | EXSPI Quick Start \EXSPI Information Store |
| | Dc-SMTP Message Volume | 670-675 | Exchange 2000 \EXSPI Quick Start \EXSPI General Data Collection |
| Exchange Top Destinations | Dc-TrackLog Data | 662 | EXSPI Advanced \EXSPI Reporter Collection |
| Exchange Top Recipients | Dc-TrackLog Data | 661 | EXSPI Advanced \EXSPI Reporter Collection |

| **Report Name** **(DETAIL-shows data grouped by single systems)** | **Template Name** | **Metric ID Logged** | **Location** |
|---|---|---|---|
| Exchange Top Senders | Dc-TrackLog Data | 660 | EXSPI Advanced \EXSPI Reporter Collection |
| Exchange Top Sources | Dc-TrackLog Data | 663 | EXSPI Advanced \EXSPI Reporter Collection |

# EXCHANGE 2000 Report List

## DETAIL REPORTS EXCHANGE 2000

Detail reports provide information by system. One report is generated with a section for each system. The content of each report is as follows:

- **Exchange 2000 Inactive Mailboxes**: This report lists all the mailboxes on the server that have not been accessed. The report also lists mailboxes that have not been accessed in 20, 40 and 60 or more days.
- **Exchange User Connections**: Provides a trend graph showing open and active user connections for the selected Exchange server.
- **Exchange Folder Summary**: Provides summary information about the public folders on the server.
- **Exchange 2000 Mailbox Details**: Provides detailed information about the mailboxes on the server including summary totals, size distribution, and top mail users.
- **Exchange 2000 Mailbox Summary**: Provides summary information about the mailboxes on the server including summary totals, size distribution, and top mail users.
- **Exchange Top Destinations**: Identifies the top e-mail destinations (local, other Exchange sites, internet, gateway) for e-mail being sent by an Exchange server.
- **Exchange Top Recipients**: Identifies the top recipients of e-mail for an Exchange server.
- **Exchange Top Senders**: Identifies the top senders of e-mail for an Exchange server. Only e-mail sent by users that have Exchange mailboxes is counted. E-mail sent by clients such as Netscape and UNIX that do not have a corresponding Exchange mailbox are not counted.

- **Exchange Top Sources**: Identifies the top e-mail sources (local, other Exchange sites, internet, gateway) for e-mail being received by an Exchange server.

- **Exchange Folder Usage Trends**: Contains graphs showing trends in database size, number of messages and average size of public folders. The trends are shown for the time period selected when the report is generated.

- **Exchange IMS Messaging Trends**: Provides trend graphs showing messaging volume for the Internet Mail Service.

- **Exchange 2000 Mailbox Usage Trends**: Contains graphs showing trends in database size, number of messages, and average size of mailboxes. The trends are associated per storage group and are shown for the time period selected when the report is generated.

- **Exchange Messaging Trends**: Provides trend graphs showing messaging volume for the Message Transfer Agent, Information Store and SMTP server message volume.

- **Exchange 2000 Chat Trends**: Provides averaged information on the number of client chat connections and channels for hours of the day over the time period indicated.

- **Exchange 2000 Conferencing Trends**: Provides averaged information on the number of conferences and active MCUs for hours of the day over the time period indicated.

- **Exchange 2000 MCU Trends**: Provides averaged information on the number of conferences and active MCU's for hours of the day over the time period indicated.

- **Exchange 2000 Instant Messaging Users growth**: Shows the number of users that are Instant Messaging enabled over the time period indicated.

- **Exchange 2000 Instant Messaging Availability and Usage Trends**: Shows instant messaging usage trends.

# SUMMARY REPORTS EXCHANGE 2000

Summary reports show data for ALL servers. The content of each report is as follows:

- **Exchange Messaging Trends for All Servers**: Provides trend graphs showing messaging volume for the Message Transfer Agent, the Information Store, the Internet Mail Service across all Exchange servers, and the SMTP server messaging volume.

- **Exchange Message Delivery SLA (Service Level Agreement)**: Provides a trend graph showing how message delivery, messages read, and directory read service levels are being met across all monitored connections.

- **Exchange 2000 System Information Summary**: Contains summary information about the OS and Exchange versions, mailboxes and public folders.

- **Exchange 2000 Top 100 Mailboxes**: Lists the top 100 mailboxes by disk space usage across all mailbox databases.

- **Exchange Top 100 Public Folders**: Lists the top 100 public folders by disk space usage.

# EXCHANGE 5.5 Report List

## DETAIL REPORTS EXCHANGE 5.5

Detail reports provide information by system. One report is generated with a section for each system. The content of each report is as follows:

- **Exchange User Connections**: Provides a trend graph showing open and active user connections for the selected Exchange server.
- **Exchange Folder Summary**: Provides summary information about the public folders on the server.
- **Exchange Mailbox Summary**: Provides summary information about the mailboxes on the server including summary totals, size distribution, and top mail users.
- **Exchange Top Destinations**: Identifies the top e-mail destinations (local, other Exchange sites, internet, gateway) for e-mail being sent by an Exchange server.
- **Exchange Top Recipients**: Identifies the top recipients of e-mail for an Exchange server.
- **Exchange Top Senders**: Identifies the top senders of e-mail for an Exchange server. Only e-mail sent by users that have Exchange mailboxes is counted. E-mail sent by clients such as Netscape and UNIX that do not have a corresponding Exchange mailbox are not counted.
- **Exchange Top Sources**: Identifies the top e-mail sources (local, other Exchange sites, internet, gateway) for e-mail being received by an Exchange server.
- **Exchange Folder Usage Trends**: Contains graphs showing trends in database size, number of messages and average size of public folders. The trends are shown for the time period selected when the report is

generated.

- **Exchange IMS Messaging Trends**: Provides trend graphs showing messaging volume for the Internet Mail Service.

- **Exchange Mailbox Usage Trends**: Contains graphs showing trends in database size, number of messages, and average size of mailboxes. The trends are shown for the time period selected when the report is generated.

- **Exchange Messaging Trends**: Provides trend graphs showing messaging volume for the Message Transfer Agent, Information Store and SMTP server message volume.

## SUMMARY REPORTS EXCHANGE 5.5

Summary reports show data for ALL servers. The content of each report is as follows:

- **Exchange Messaging Trends for All Servers**: Provides trend graphs showing messaging volume for the Message Transfer Agent, the Information Store, the Internet Mail Service across all Exchange servers, and the SMTP server messaging volume.

- **Exchange Message Delivery SLA (Service Level Agreement)**: Provides a trend graph showing how message delivery, messages read, and directory read service levels are being met across all monitored connections.

- **Exchange Top 100 Mailboxes**: Lists the top 100 mailboxes by disk space usage.

- **Exchange Top 100 Public Folders**: Lists the top 100 public folders by disk space usage.

# Using Exchange SPI Reports and Graphs

Exchange SPI report and graph generation require that you complete the following:

- Deploy the Quick Start template group for data collection templates.
- Configure and deploy Exchange SPI reporter collection templates.

**NOTE:** **Time Interval for Exchange SPI Reports or Graphs**

Exchange SPI reports and graphs will not be available until data has been gathered to the management server from the managed nodes. This occurs each night, so at least one day of activity is needed for the reports to populate. Where a report or graph type requires data from a Sat/Sun collection, those reports/graphs will require a weekend to pass.

# Deploying the Quick Start Template Group

In order to collect data for reports and graphs the General Data Collection templates in the Quick Start template group need to be deployed.

To deploy the templates:

1. Locate the General Data Collector templates in the Quick Start template group for the correct Exchange version.
2. Select all the templates in this group in the details pane.
3. Right click, select **All Tasks > Deploy on....**
4. Select the nodes the templates should be deployed on.
5. Confirm the selection with **OK**.

# Configure/Deploy Reporter Collection Templates

For any Exchange server system on which you would like to receive reports, you need to deploy Exchange SPI templates from the **EXSPI Advanced > EXSPI Reporter Collection** group.

To configure the Reporter Collection templates two steps are required:

1. Enable message tracking. This is a version specific procedure.

2. Deploy Reporter Collection templates.

## 1. Enable Message Tracking

Exchange provides a message-tracking facility that stores processed message information in a log file. Template EXSPI-60/55 Dc-TrackLog Data collection template reads the log file created by enabling message tracking. This template must be deployed to the appropriate managed nodes to gather the information. For procedures outlining how to enable message tracking on Exchange 5.5 and Exchange 2000 servers, see *Enabling Message Tracking* chapter 4 page 10.

## 2. Deploy Reporter Collection templates

1. In the OVO Manager console expand the **Template management** > **Template groups** folders to view template groups.

2. Open **SPI for Exchange** > **Exchange 5.5** or **Exchange 2000** > **EXSPI Advanced** to view the template groups in the EXSPI Advanced folder.

3. In the **EXSPI Advanced** folder double-click the Reporter Collection template sub-group.

4. In the details pane where all the templates are now listed, select the templates, right-click, and select **Deploy on....**

5. In the **Deploy templates on...** dialog, select all nodes by checking **Nodes**, or select individual nodes by clicking the adjacent check box.

# Exchange SPI Graphs

Exchange SPI comes with a set of preconfigured PerfView graphs. They are located on the OVO console tree in the **Operations Manager > Reports and Graphs > Graphs > SPI for Exchange** folder. These graphs require that OpenView PerfAgent (aka MW Agent) be running on the managed node, see *Exchange SPI Graphs* chapter 1 page 15.

Exchange SPI graphs show Exchange 5.5 and Exchange 2000 data and are organized in the following categories:

## INFORMATION STORE

**Users**: This graph shows information store user count metrics for the current day.

**Delivery**: This graph shows hourly metrics for the average delivery times of messages to Exchange Server private and public mailboxes.

**Transaction Log Disk Space**: This graph shows Transaction Log Disk Space usage on the Exchange Server.

## MESSAGING

**Queues**: This graph show Exchange Server queue lengths.

**Newsfeed Volume**: This graph shows Exchange Server newsfeed volume.

**MTA Volume**: This graph shows Exchange Server Message Transfer Agent volume.

**Internet Mail Volume**: This graph shows Exchange Server Internet Mail Connector volume.

**Internet Mail Queue**: This graph shows the Exchange Server Internet Mail Service queue count.

**SMTP Volume**: This graph show SMTP Volume on the Exchange Server.

**SMTP Queues**: This graph shows SMTP Server queues on the Exchange Server.

## MAILBOX DATABASE

**Private Mailbox Volume**: This graph shows Exchange Server Private Mailbox volume.

**Mailbox Usage**: This graph shows Exchange Server Mailbox usage.

## PUBLIC FOLDER DATABASE

**Public Folder Usage**: This graph shows Exchange Server Public Folder usage.

**Public Folder Database**: This graph shows Exchange Server Public Folder volume.

# Generating Graphs from an Exchange SPI DSI Logfile

PerfView graphs require an OVO agent to be running on the management server. You can generate PerfView graphs from the OVO Application Bank or by pressing Perform Actions in the OVO message details window or in the OVO message browser. The graph represents the metric data that generated the message as well as other metric data related to it.

In addition, data from any Exchange SPI server can be graphed using PerfView and data from Exchange SPI MeasureWare DSI logfiles.

Simple instructions for generating the graph follow. Additional information on using PerfView can be obtained from the *PerfView User Guide*.

1. Open a terminal window and log on.

2. In the terminal window, to verify that the `DISPLAY` environment variable is set to your terminal window, enter:

   ```
   echo $DISPLAY
   ```

   If the `DISPLAY` environment variable is not set correctly, set it to your terminal window.

3. To start PerfView, type:

   ```
   pv
   ```

   The main PerfView window is displayed.

**NOTE** Since values are logged hourly to MeasureWare, use the PerfView `Graph:` **Settings->Points Every** to set the time setting to **1h** or **3h**.

4. Select **Data Sources>Manage.**

5. In the PerfView Systems window highlight the desired system from the list and click **Open**.

   The Data Sources window is displayed listing all known source files. If the desired data source is not listed, press **Select** and enter the data source name.

6. Select the desired source file from the list and click **Open**.

   Perfview connects to the data source and displays it in the main window.

7. Select **Graphs>Create New Graph**.

8. In the Select Metrics window highlight the data source file.

   A list of metrics is displayed to use for graphing.

9. Highlight the desired metrics from the list to use for graphing.

   The selected metrics are displayed in the Metrics to Be Graphed portion of the Select Metrics window.

10. Click **OK** when finished selecting metrics.

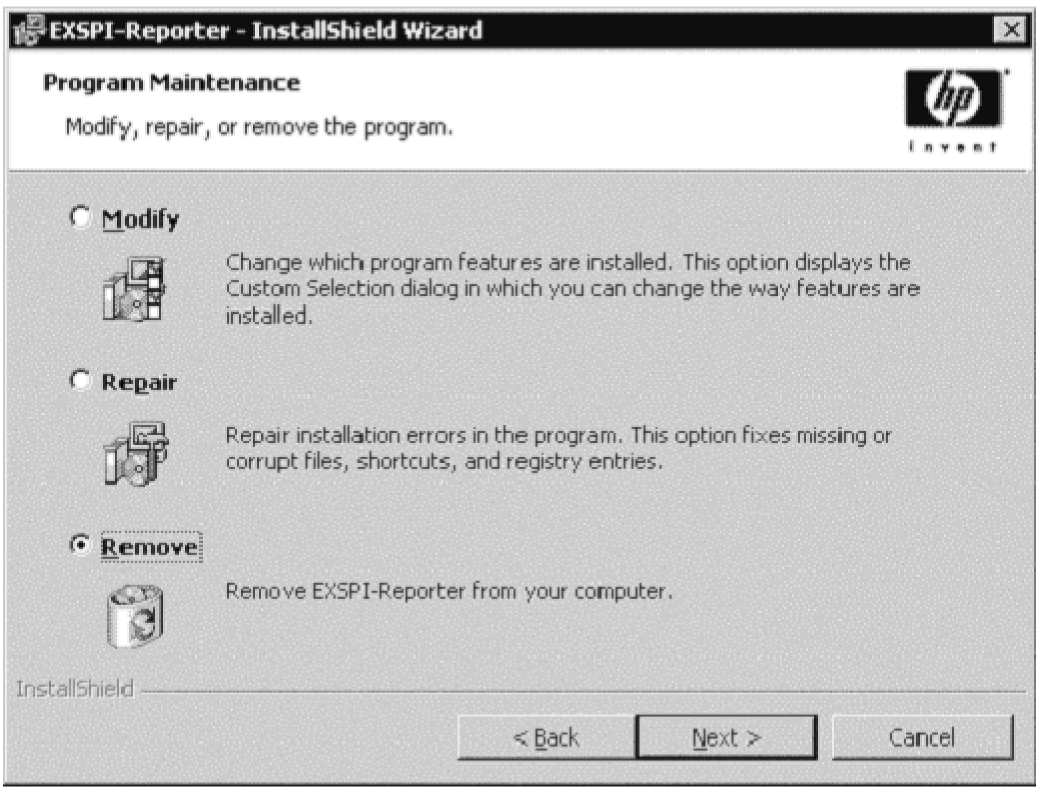
11. Click **Draw** to generate the graph.

12. You can use the **Settings** menu on the PerfView Graph window to change settings for the graph, the **Show** menu to drill down to examine points on the graph, and the **File** menu to save, print, or export the graph. You can also correlate operating system metrics with Exchange SPI metrics.

# Deinstalling Exchange SPI Report Templates

Remove the Exchange SPI reports with the InstallShield Wizard:

1. Open the EXSPI-Reporter InstallShieldWizard.
2. Click **Next** on the Welcome wizard screen.
3. Select **Remove**, then click **Next**.
4. Confirm the next screen by clicking **Remove**.




5. The InstallShield Wizard has deinstalled EXSPI-Reporter. Click **Finish**.

# 6

# Troubleshooting

# Introduction

This chapter offers troubleshooting suggestions for Exchange SPI. It includes the following sections:

- Verifying Software Installation on the Management Server
- The Exchange SPI Error Log
- Turning on Tracing
- Common Errors
- Verifying the MSXSPI account has the right privileges
- Verifying MeasureWare Integration
- Installing Old DSI Log Files
- Advanced Configuration Template Failures

# Verifying Exchange SPI Installation on the Management Server

**NOTE**: This utility is not available for Sun Solaris.

1. To check the integrity of Exchange SPI files on the OVO management server, run the following command: **/usr/sbin/swverify EXSPI**

   This command produces output similar to the following:

```
swverify.agent_auto_exit = false
swverify.agent_timeout_minutes = 10000
swverify.allow_incompatible = false
swverify.allow_multiple_versions = false
swverify.autoremove_job = false
swverify.autoselect_dependencies = true
swverify.check_contents = true
swverify.check_permissions = true
swverify.check_requisites = true
swverify.check_scripts = true
swverify.check_volatile = false
swverify.control_lang = C
swverify.enforce_dependencies = true
swverify.follow_controller = false
swverify.log_msgid = 0
swverify.logdetail = false
swverify.logfile = /var/adm/sw/swverify.log
swverify.loglevel = 1
swverify.mount_all_filesystems = true
swverify.rpc_binding_info = {
ncacn_ip_tcp:[2121]
ncadg_ip_udp:[2121]
}
swverify.rpc_timeout = 5
swverify.select_local = true
swverify.target_directory = /var/spool/sw
swverify.verbose = 1
swverify.software = EXSPI
swverify.targets = /
```

# The Exchange SPI Error Log

Errors are forwarded to the browser and logged to:

```
\usr\OV\exspi\log\exspierror
```

For example:

```
04/01/02 08:43:57 ERROR exspi(488) [colamain.cpp:333]:
EXSPI-60-40:
Exchange Server Software not installed on this system
(Check: SOFTWARE\Microsoft\Exchange\Setup). Unable to
perform collection!
```

# Turning on Tracing

If a problem occurs and you are asked to turn on tracing by the EX-SPI support team, follow these steps:

1. Open or create the following file:

   `\usr\OV\exspi\defaults`

2. If `TRACE OFF` is a statement in the file, change it to `TRACE ON`, otherwise add the words `TRACE ON` to the end of the file. The next execution of **exspi_e2k.exe** or **exspi_e55.exe** will read this file, and log trace statements to:

   `\usr\OV\exspi\log\trace`

**NOTE** The trace file will grow very large. It is advisable to leave tracing enabled only long enough to recreate the problem or in order to comply with HP support instructions.

# Common Errors

1. When re-installing or upgrading Exchange Server, Exchange Setup program shows errors.

   **Symptom:** Exchange Server re-install or upgrade (e.g., new Service Pack), the Exchange Setup generates error messages about DLLs that can't be overwritten.

   **Solution:** Stop OVO (`opcagt -stop`) and MeasureWare (`mwacmd stop`), then retry the operation.

2. Schedule template fails with message:
   `EXSPI xxxxx Metric Collection failed`.

   **Symptom:** The scheduled command failed with an exit code other than 0.

   **Solution:** This error sometimes occur if the system is rebooted just before the collector/analyzer program was executed.

   However, if this is not the case do the following: To find out more information about the failure, modify the failing schedule template, check the **Send Output of Action** check box and re-distribute templates again.

   The browser message should now contain an annotation with more information about the failure. Also, check the `exspierror` for more information.

# Verifying MSXSPI account has right privileges

In order to verify that you have created the MSXSPI account with the right amount of privileges to run advanced metrics such as 5, 841, or 630, do the following:

1. Log into your Exchange 2000 server as MSXSPI user (in the correct NT domain).

2. Open a DOS command prompt window.

3. `cd` to the directory where exspi collector is located (typically in `c:\usr\OV\bin\OpC\monitor`)

4. Run the following series of commands:

```
exspi_e2k.exe  -m 5   -p
exspi_e2k.exe  -m 841   -p
exspi_e2k.exe  -m 630   -p
```

5. These will print the results to the screen.

6. If these executed properly and the correct results printed on the screen, your MSXSPI account has the right permissions.

# Verifying MeasureWare Integration

To verify MeasureWare integration check the following:

1. Is the MeasureWare Agent installed on the Exchange server managed node?

2. Is the MeasureWare agent up and running (`mwacmd` status or MeasureWare Agent application in RPM Tools Windows group)? There should be TWO `rep_server` programs running. If not, re-start MeasureWare Agent.

3. Verify MeasureWare Agent configuration.

   - Verify that `perflbd.mwc` (e.g., in `\rpmtools\data`) contains `EXSPI` data source.

   - If not, re-run MW setup: First run, `Disable Data Logging`, wait for MW to re-start, then run `Enable Data Logging`.

   - Verify that DSI logfiles were created in`\usr\exspi\dsi\log\exspi_log.EXSPI_*`

   - Check the timestamps of those files; they are updated when the data collectors run.

4. Verify `exspi_e2k.exe` or `exspi_e55.exe` data forwarding to MeasureWare.

   - The collector/analyzer `exspi_e2k.exe` or `exspi_e55.exe` specified in the schedule templates writes MeasureWare data to `\usr\exspi\dsi\*.dat` only if the keyword `MW ON` is present in the `\usr\exspi\defaults` file (note, the defaults file has no file extension.). Check the defaults file for the above keyword. If not present, run **EXSPI Add DataSource**.

   - Check whether `*.dat` files are present in `\usr\exspi\dsi`.

- Check timestamps of `*.dat` files.

# Advanced Configuration Template Failures

**Symptom:** The following data collectors fail and a critical message is shown in the OVO browser:

- EXSPI-60/55 Dc-Private IS Sum. Data
- EXSPI-60/55 Dc-Public IS Sum. Data
- EXSPI-60/55 Dc-Mailbox Data
- EXSPI-60/55 Dc-Public Folder Data

**Solution:** These collectors access Exchange directly and require MSXSPI user and **MSXSPI<*hostname*> mailbo**x.

Verify MSXSPI user, MSXSPI<hostname> mailbox, MSXSPI rights in Exchange and MeasureWare:

1. Verify MSXSPI user setup.
   - Use Windows User Manager to verify MSXSPI account. The user must exist in the same domain as the Exchange Server is part of. **Note:** there must be no local MSXSPI user.
   - MSXSPI user must be part of Domain Admin group.
2. Verify MSXSPI rights in Exchange.

   The MSXSPI user must have "Receive As" and "Send As" Exchange Admin permissions. See *Creating a User Account with Proper Access Permissions* chapter 2 page 4.
3. Verify MSXSPI<*hostname*> mailbox.

Use **Exchange Admin** to verify that a MSXSPI<*host_name*> mailbox exists and click on **Recipient**s. In the right pane, a MSXSPI<*host_name*> user must show up for each server which belongs to the site.

4. Verify MeasureWare Agent integration as described in *Verifying MeasureWare Integration* chapter 6 page 8.

# A

# File Names

# Introduction

This chapter lists the Exchange SPI file names, along with their descriptions, owners, groups, and permissions. Exchange SPI files are grouped as follows:

- Management server files
- Management server/managed node files
- Managed node files
- Logging and trace files

# Management Server Files

## Templates for opccfgupld (OVO Upload Facility)

All files listed in this table can be found on the management server in the following directories (the location of these files varies by platform):

```
/var/opt/OV/share/tmp/OpC_appl/EXSPI/exspiset/C/
```

**Table 1: Management Server Files**

| File | Description |
|---|---|
| `exspiset.idx` | OVO upload control file. This file defines what is being uploaded into OVO: message groups, monitor templates, logfile templates, applications and template groups. |
| `TEMPLATES/LOGFILE/logfile.dat` | Definition file for logfile encapsulation. |
| `TEMPLATES/MONITOR/monitor.dat` | Definition file for OVO templates: collector/analyzer program, external monitor for each metric and file system monitor. Contains all details for monitoring all metrics. |
| `TEMPLATES/SCHEDULE/schedule.dat` | Definition file for Exchange SPI schedule templates. |
| `TEMPLATES/TEMPLGROUP/templgrp.dat` | Definition file for OVO template group structure. |
| `TEMPLATES/MSGGROUPS/msggrps.dat` | Definition file for OVO message group structure. |
| `TEMPLATES/INTERFACE/msgi.dat` | Definition file for Exchange SPI specific error message. |

## Miscellaneous Management Server Files

### Table 2: Miscellaneous Other Management Server Files

| File | Description |
|---|---|
| /etc/opt/OV/share/conf /OpC/mgmt_sv/ reports/exspi_lc.sql | Report that lists all nodes that have Exchange SPI templates assigned (for license check). |
| /opt/OV/EXSPI/bin/exspipv | Script to run PerfView as metric operator actions and bring up graphs. |
| /opt/OV/EXSPI/bin /exspircfg.sh | Script to configure the MSXSPI mailbox of the selected node. |

# Management Server/Managed Node Files

| File | Description |
|---|---|
| /opt/OV/EXSPI/bin /exspircfg.sh | Script to configure the MSXSPI mailbox of the selected node. |

When you run **swinstall**, the following monitor and command files are installed on the Management Server. They are also installed on managed nodes when you distribute monitors, commands and actions from the Management Server to the managed nodes.

## MONITOR FILES

**On Management Server:**

`/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/intel/nt/monitor/`

**On Managed Node:**

`\usr\OV\bin\OpC\monitor`

**Table 3: Monitor Files**

| File | Description |
|---|---|
| `exspi_e2k.exe` | Exchange 2000 SPI Collector/Analyzer program. |
| `exspi_e55.exe` | Exchange 5.5 SPI Collector/Analyzer program. |
| `OVAMTLog2k.dll` | Tracking.Log access library for Exchange 2000 |
| `OVAMTLog55.dll` | Tracking.Log access library for Exchange 5.5 |
| `OVAMDa.dll` | LDAP access library |
| `hpudm.txt` | Internal data file |

**NOTE:** All files in Table 3: Monitor Files, are in compressed ".Z" format to improve distribution performance.

## COMMAND FILES

Command files are located in the following directories:

**Management Server**:

```
/var/opt/OV/share/databases/OpC/mgd_node/customer/ms/
intel/nt/cmds
```

**Managed Node**:

```
\usr\OV\bin\OpC\intel\cmds
```

All files in this table are in compressed ".Z" format to improve distribution performance.

**Table 4: Command Files**

| File | Description |
|---|---|
| `exspicol.bat` | Turns data collection on selected node on/off (for maintenance):<br>-v ON<br>-v OFF |
| `exspimwd.bat` | Turns data forwarding to MeasureWare on/off (collector/analyzer will only forward data to MeasureWare if set to on:<br>-v ON<br>-v OFF |
| `exspimwc.exe` | Configures MeasureWare data collection. |
| `exspidsc.bat` | MeasureWare configuration program |
| `exspienc.exe` | For configuring managed node; part of the advanced configuration. |

| File | Description |
|---|---|
| exspi_e2k_cfg.vbs | For configuring an Exchange 2000 Server mailbox . |
| exspiDDF.bat | For turning on data collection. |
| m0660.spec<br>m0661.spec<br>m0662.spec<br>m0663.spec<br>m1002.spec<br>multi.spec<br>single.spec<br>detail.spec | Data log specification |
| local.cfg | Created in the managed node configuration of the advanced configuration. |

# Windows Managed Node Files

## MONITOR TEMPLATES

When templates are distributed from the management server to the Windows managed nodes, the monitor templates are encrypted and stored in the following directory:

```
\usr\OV\conf\OpC\<hostname>\
```

# Logging and Trace Files

Logging and trace files are located in the following directory on the managed node:

```
\usr\OV\exspi\log
```

**Table 5: Logging and Trace Files**

| File | Description |
|---|---|
| `trace` | When TRACE ON is set in `\usr\OV\exspi\defaults`, tracing and debug information is written to `\usr\OV\exspi\log`. This file can get very large. |
| `exspierror` | Error information when the Exchange SPI collector/analyzer encounters an error condition. Messages written to this file are also sent to the OVO message browser. |

# B

# Components

This appendix covers the Exchange SPI program components and contains the following topics:

- Component Interaction
- Exchange 2000 Templates
- Exchange 5.5 Templates
- Exchange SPI Message Groups
- Exchange SPI Applications

# Component Interaction

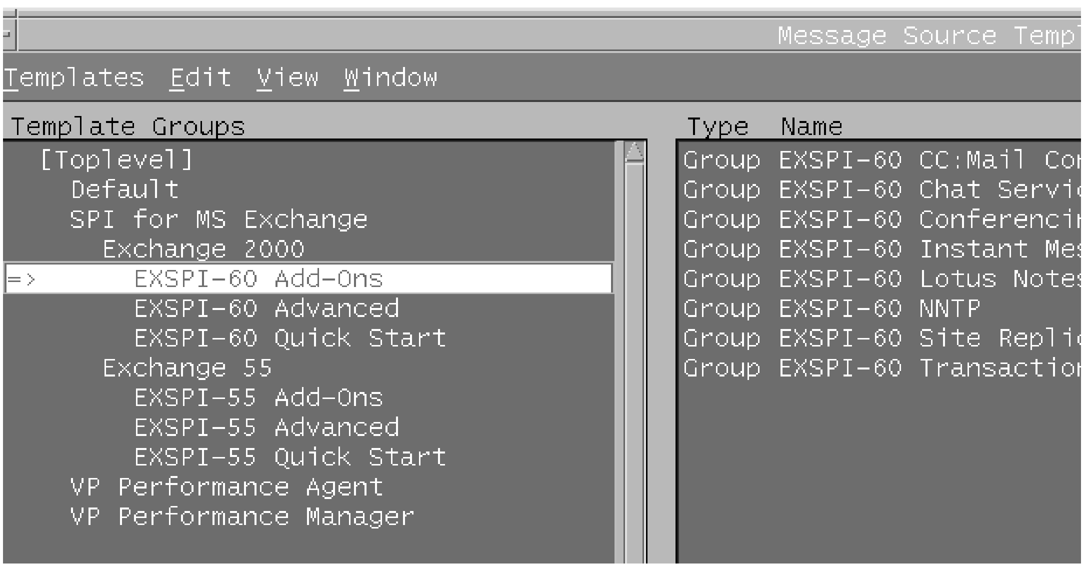
The Exchange SPI consists of the following logical components:

- ***Monitor and schedule templates:*** Monitor templates define conditions for each metric and schedule templates execute metrics per schedule.
- ***Collector/analyzer programs:*** Collect the metrics specified in the templates at predefined intervals, compares them to permissible levels, and forwards them to OVO and MeasureWare. OVO checks the threshold values and triggers alarms.
- ***Windows Event log:*** Compares generated logfiles against predefined logfile templates, and writes error messages to the OVO Management Server as needed.
- ***Graphs and reports:*** Can be generated using HP PerfView and HP ServiceReporter.
- ***Data Logging:*** Exchange SPI applications are available for configuring data sources, and enabling and disabling data logging.
- ***Persistent store:*** Saves metric specific values and reports between invocations of the Collector/Analyzer.

# Exchange SPI Templates

Installing the Exchange SPI adds the **SPI for MS Exchange** template folder to the OVO console tree. Double click **SPI for MS Exchange** to display the **Exchange 2000** and **Exchange 5.5** folders beneath. Double click to open either folder, and see the EXSPI Quick Start, Add-Ons and Advanced template groups for that version of Exchange.Selecting a template group in the console tree will display the templates or template sub-groups within that group, in the details pane on the right.

*Section of Message Source Templates dialog*




For a complete listing of templates with detailed template by template specifications, see the *HP OpenView Smart Plug-in for Microsoft Exchange Server Reference Manual*.

# Exchange 2000 Templates

**Table 1: EXSPI-60 Quick Start**

| Exchange 2000: Quick Start Subgroups: | Templates | Descriptions |
|---|---|---|
| EXSPI-60 Event Log Errors | | Templates in this group monitor Exchange error messages written to the Windows Event log file and when detected, forward them to the OVO console |
| | EXSPI-60-Exchange Application Errors | 60-Exchange System Errors |
| EXSPI-60 General Data Collection | | Templates in this group create data stores and write data to data stores |
| | EXSPI-60-Log Data (log single instance data to OV Performance Agent) | |
| EXSPI-60 Information Store | | Templates in this group collect data on the volume of messages processed by both the Private and Public Information Store during the last logging interval |
| | EXSPI-60-0030 | IS Public Average Delivery Time |
| | EXSPI-60-0031 | IS Public Average Local Delivery Time |
| | EXSPI-60-0032 | IS Public Replication Queue Size |
| | EXSPI-60-0033 | IS Public Receive Queue Size |
| | EXSPI-60-0034 | IS Public Send Queue Size |
| | EXSPI-60-0040 | IS Mailbox Average Delivery Time |
| | EXSPI-60-0041 | IS Mailbox Average Local Delivery Time |
| | EXSPI-60-0042 | IS Mailbox Receive Queue Size |
| | EXSPI-60-0043 | IS Mailbox Send Queue Size |
| | EXSPI-60-0100 | IS User Connection Count Low |
| | EXSPI-60-05m-IS | 5m Scheduler for metrics in Information Store group |
| | EXSPI-60-15m-IS | 15m Scheduler for metrics in Information Store group |

| Exchange 2000: Quick Start Subgroups: | Templates | Descriptions |
|---|---|---|
| | EXSPI-60-DC-IS Msg Delivery Time | Collect data on the average msg delivery times in core procs |
| | EXSPI-60-DC-IS Mailbox Msg Vol | Collect data on the vol. of messages processed by Private IS |
| | EXSPI-60-DC-IS Public Msg Vol | Collect data on the vol. of messages processed by Public IS |
| EXSPI-60 Internal Errors | | Templates in this group collect information on errors occurring within the Exchange SPI and contains instruction text for fixing common problems |
| | EXSPI-60-Messages | |
| EXSPI-60 Message Transfer Agent | | Templates in this group collect data on the length of message queues and volume of messages (number and kilobytes) processed by the Message Transfer Agent. Also templates in this group collect data on failed, delayed, and rejected inbound/outbound associations and messages during the last logging interval |
| | EXSPI-60-0010 | MTA Message Delay |
| | EXSPI-60-0011 | MTA Work Queue Length |
| | EXSPI-60-0012 | MTA Failed Conversions |
| | EXSPI-60-0013 | MTA Connection Message Delay |
| | EXSPI-60-0014 | MTA Connection Queue Lengths |
| | EXSPI-60-0015 | MTA Failed Outbound Associations |
| | EXSPI-60-0016 | MTA Rejected Inbound Associations |
| | EXSPI-60-0017 | MTA Rejected Inbound Messages |
| | EXSPI-60-05m-MTA | 5m Scheduler for metrics in MTA group |
| | EXSPI-60-1h-MTA | 1h Scheduler for metrics in MTA group |
| | EXSPI-60-DC-MTA & IS Queue Len. | Collect data on the length of message queues in core procs |
| | EXSPI-60-DC-MTA Message Volume | Collect data on the vol. of messages processed by MTA |

| Exchange 2000: Quick Start Subgroups: | Templates | Descriptions |
|---|---|---|
| EXSPI-60 SMTP | | Templates in this group monitor the SMTP queue length, Non-Delivery Reports (NDRs), and refused connections |
| | EXSPI-60-0050 | SMTP Categorizer Queue Length |
| | EXSPI-60-0051 | SMTP Local Queue Length |
| | EXSPI-60-0052 | SMTP Local Retry Queue Length |
| | EXSPI-60-0053 | SMTP Messages Pending Routing |
| | EXSPI-60-0054 | SMTP Remote Queue Length |
| | EXSPI-60-0055 | SMTP Remote Retry Queue Length |
| | EXSPI-60-0056 | SMTP NDR Percentage |
| | EXSPI-60-0057 | SMTP Outbound Connections Refused |
| | EXSPI-60-1h-SMTP | 1h Scheduler for metrics in SMTP group |
| | EXSPI-60-5m-SMTP | 5m Scheduler for metrics in SMTP group |
| | EXSPI-60-DcSMTP Message Queues | Populate Node database with queue metrics for graph. |
| | EXSPI-60-DC-SMTP Message Volume | Collect data on the volume of SMTP messages processed. |
| EXSPI-60 Services and Processes | | Templates in this group monitor Windows Services for Exchange by checking to see that Exchange services configured with Automatic startup are running. |
| | EXSPI-60-0001 | Process Monitor |
| | EXSPI-60-0002 | Inactive Process Monitor |
| | EXSPI-60-05m-Serv. & Processes | 5m Scheduler for metrics in Services and Processes group |
| | EXSPI-60-1001 | Process Monitor |
| | EXSPI-60-10m-Serv. & Processes | 10m Scheduler for metrics in Services and Processes group |
| | EXSPI-60-DC-User Connections | Collect data on the number of users |

**Table 2: EXSPI-60 Add-Ons**

| Exchange 2000: Add-Ons Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-60 CC:Mail Connector | | Templates in this group monitor the number of messages awaiting delivery to Exchange from Lotus cc:Mail, the rate at which Non-Delivery Reports (NDRs) are being sent from Lotus cc:Mail to Exchange and vice versa |
| | EXSPI-60-0090 | cc:Mail MTS-IN Queue Length |
| | EXSPI-60-0091 | cc:Mail MTS-OUT Queue Length |
| | EXSPI-60-0092 | Exchange NDRs to cc:Mail |
| | EXSPI-60-0093 | cc:Mail NDRs to Exchange |
| | EXSPI-60-1h-ccMail Connector | 1h Scheduler for metrics in cc:Mail Connector group |
| | EXSPI-60-5m-ccMail Connector | 5m Scheduler for metrics in cc:Mail Connector group |
| EXSPI-60 Chat Service | | Templates in this group monitor numbers of clients logged onto the chat community, and notes authentications, failures and disconnections related to client timeouts, DNS lookup requests and DNS lookup failures |
| | EXSPI-60-0830 | Microsoft Exchange Chat Service.Active DNS logon threads |
| | EXSPI-60-0831 | Microsoft Exchange Chat Service.Client Timeout Related Disconnects |
| | EXSPI-60-0833 | Microsoft Exchange Chat Service.Anonymous Clients |
| | EXSPI-60-0834 | Microsoft Exchange Chat Service.Authenticated Clients |
| | EXSPI-60-0835 | Microsoft Exchange Chat Service.Authentication Failures |
| | EXSPI-60-0836 | Microsoft Exchange Chat Service.Server operations queued |
| | EXSPI-60-15m-Chat | 15m Scheduler for Chat Metrics |
| | EXSPI-60-Dc-Chat Data Collection | Collects data about Exchange Chat Service clients and channels. |

| Exchange 2000: Add-Ons Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-Conferencing Service/Conference Server | | Microsoft Exchange 2000 provides customers with the ability to schedule and participate in online data and video conferencing. Exchange SPI monitors and reports on the Conferencing Management Service, Data Conferencing Service, Multipoint Control Units (MCU) Server, Video Conferencing Service, and Conferencing Bridge Service |
| | EXSPI-60-0800 | MSExchangeCONF.Active Conferences |
| | EXSPI-60-0801 | MSExchangeDcsMgr.DCOM Calls To MCUs |
| | EXSPI-60-0802 | MSExchangeDcsMgr.Average Load Per MCU |
| | EXSPI-60-10m-Conf | 10m Scheduler for active conferencing |
| | EXSPI-60-DC-ConfTrends | Collect data on trends in conferencing |
| EXSPI-Conferencing Bridge | | Exchange SPI monitors and reports on the Conferencing Management Service, Data Conferencing Service, Multipoint Control Units (MCU) Server, Video Conferencing Service, and Conferencing Bridge Service |
| | EXSPI-60-0805 | MSExchangeIpconf.Failed User Join Attempts |
| | EXSPI-60-0806 | MSExchangeIpconf.Video Conferences in Progress |
| | EXSPI-60-0807 | MSExchangeH323.Incomplete Calls |
| | EXSPI-60-10m-ConfBridge | 10m Scheduler for failed user join attempts and video conferences in progress |
| EXSPI-MCU Server | | Templates in this group monitor and collect data on the MCU service |
| | EXSPI-60-0803 | MSExchangeT120.Active Connections |
| | EXSPI-60-0804 | MSExchangeT120.T120 MCU Load |
| | EXSPI-60-10m-MCU | 10m Scheduler for MCU conferencing trends |

| Exchange 2000: Add-Ons Subgroups | Templates | Descriptions |
|---|---|---|
| | EXSPI-60-DC-MCU | Collect data on MCU conferencing trends |
| EXSPI-Instant Messaging | | Templates in this group monitor numbers of current users online, current subscriptions for each virtual service instance, and message processing time |
| | EXSPI-60-0841 | MSExchangeIM Virtual Servers.Current Users Online |
| | EXSPI-60-0842 | MSExchangeIM Virtual Servers.Current Subscriptions |
| | EXSPI-60-0845 | MSExchangeIM.Failed Requests/sec |
| | EXSPI-60-0846 | MSExchangeIM.Rejected Requests/sec |
| | EXSPI-60-1d-Instant Messaging DC | Reporting Collection for Instant Messaging |
| | EXSPI-60-Instant Messaging DC | Alarming metrics for Instant Messaging |
| EXSPI-60 Lotus Notes Connector | | Templates in this group monitor the number of messages awaiting delivery to Exchange from Lotus Notes, the rate at which Non-Delivery Reports (NDRs) are being sent from Lotus Notes to Exchange and vice versa |
| | EXSPI-60-0094 | Lotus Notes Inbound Queued Messages Length |
| | EXSPI-60-0095 | Lotus Notes Outbound Queued Messages Length |
| | EXSPI-60-0096 | Exchange NDRs sent to Lotus Notes |
| | EXSPI-60-0097 | Lotus Notes NDRs sent to Microsoft Exchange |
| | EXSPI-60-1h-Lotus Notes Connect | 1h Scheduler for metrics in Lotus Notes Connector group |
| | EXSPI-60-5m-Lotus Notes Connect | 5m Scheduler for metrics in Lotus Notes Connector group |
| EXSPI-60 NNTP | | Templates in this group monitor the failed newsfeed connections |
| | EXSPI-60-0058 | Newsfeed Outbound Connections Failed |
| | EXSPI-60-1h-NNTP | 1h Scheduler for metrics in NNTP group |

| Exchange 2000: Add-Ons Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-60 Site Replication Service | | Templates in this group monitor site replication to verify that synchronization updates are being processed efficiently. |
| | EXSPI-60-0110 | DS Pending Synchronizations |
| | EXSPI-60-0111 | DS Remaining Updates |
| | EXSPI-60-05m-DS | 5m Scheduler for metrics in Directory Service group |
| EXSPI-60 Transaction Log | | Templates in this group monitor the size in MB of the Exchange transaction logfiles as well as the disk space used by the files. |
| | EXSPI-60-0005 | Low Log File Disk Space |
| | EXSPI-60-0006 | Transaction Log File Disc Space |
| | EXSPI-60-15m-Transaction Log | 15m Scheduler for metrics in Transaction Log group |
| | EXSPI-60-1d-Transaction Log | 1d Scheduler for metrics in Transaction Log group |

**Table 3: EXSPI-60 Advanced**

| Exchange 2000: Advanced Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-60 End To End Message Ping | | Templates in this group monitor e-mail service responsiveness by sending an e-mail message from one Exchange server to another |
| | EXSPI-60-1002 | MSExchange End To End Message Ping Monitor |
| | EXSPI-60-End to End Message Ping | 30 m Scheduler for metric in End To End Message Ping group |
| EXSPI-60 Event Log Warnings and Information | | Templates in this group collect all Exchange-related warning and information messages from the Windows Event Log |
| | EXSPI-60-Exchange Application Information | Application Event Log - Notify All Information |
| | EXSPI-60-Exchange Application Warnings | Application Event Log - Notify All Warnings |
| | EXSPI-60-Exchange System Information | Application Event Log - Notify All Information |
| | EXSPI-60-Exchange System Warnings | Application Event Log - Notify All Warnings |
| EXSPI-60 Reporter Collection | | Templates in this group enable data collections for OVO reports |
| | EXSPI-60-DC-Exchange Info | Collect data on Exchange Parameters |
| | EXSPI-60-DC-Mailbox Data | Collect data about all mailboxes on the system |
| | EXSPI-60-DC-Mailbox IS Sum. Data | Collect summary data about Mailbox Information Store |
| | EXSPI-60-DC-Public Folder Data | Collect data about all public folders on the system |
| | EXSPI-60-DC-Public IS Sum. Data | Collect summary data about Public Info. Store (Folders) |
| | EXSPI-60-DC-TrackLog Data | Collect Tracking.Log data |

# Exchange 5.5 Templates

### Table 4: EXSPI-55 Quick Start

| Exchange 5.5: Quick Start Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-55 Directory Service | | Templates in this group monitor directory replication to verify that synchronization updates are being processed efficiently. |
| | EXSPI-55-0110 | MSExchangeDS.Remaining Replication Synchronizations |
| | EXSPI-55-0111 | MSExchangeDS.Remaining Replication Updates |
| | EXSPI-55-05m-DS | 5m Scheduler for metrics in Directory Service group |
| EXSPI-55-Event Log Errors | | Templates in this group monitor Exchange error messages written to the Windows Event log file and when detected, forwards them to the OVO console |
| | EXSPI-55-Exchange Errors | |
| EXSPI-55 General Data Collection | | Templates in this group create data stores and writes data to data stores |
| | EXSPI-55-Dc-SMTP Message Volume | Collect data on the volume of SMTP messages processed. |
| | EXSPI-55-Measurement Data Collector | Forward single instance data to Measurement Data Collector |
| EXSPI-55 Information Store | | Templates in this group collect data on the volume of messages processed by both the Private and Public Information Store during the last logging interval |
| | EXSPI-55-0030 | IS Public Average Delivery Time |
| | EXSPI-55-0031 | IS Public Average Local Delivery Time |
| | EXSPI-55-0032 | IS Public Replication Queue Size |
| | EXSPI-55-0033 | IS Public Receive Queue Size |
| | EXSPI-55-0034 | IS Public Send Queue Size |
| | EXSPI-55-0040 | IS Mailbox Average Delivery Time |
| | EXSPI-55-0041 | IS Mailbox Average Local Delivery Time |

| Exchange 5.5: Quick Start Subgroups | Templates | Descriptions |
|---|---|---|
| | EXSPI-55-0042 | IS Mailbox Receive Queue Size |
| | EXSPI-55-0043 | IS Mailbox Send Queue Size |
| | EXSPI-55-0100 | IS User Connection Count Low |
| | EXSPI-55-05m-IS | 5m Scheduler for metrics in Information Store group |
| | EXSPI-55-15m-IS | 15m Scheduler for metrics in Information Store group |
| | EXSPI-55-DC-IS Msg Delivery Time | Collect data on the average msg delivery times in core processes |
| | EXSPI-55-DC-IS Private Msg Vol | Collect data on the vol. of messages processed by Private IS |
| | EXSPI-55-DC-IS Public Msg Vol | Collect data on the vol. of messages processed by Public IS |
| EXSPI-55 Internal Errors | | Templates in this group collect information on errors occurring within the Exchange SPI and contains instruction text for fixing common problems |
| | EXSPI-55-Messages | |
| EXSPI-55 Message Transfer Agent | | Templates in this group collect data on the length of message queues and volume of messages (number and kilobytes) processed by the Message Transfer Agent. Also collects data on failed, delayed, and rejected inbound/outbound associations and messages during the last logging interval |
| | EXSPI-55-0010 | MTA Message Delay |
| | EXSPI-55-0011 | MTA Work Queue Length |
| | EXSPI-55-0012 | MTA Failed Conversions |
| | EXSPI-55-0013 | MTA Connection Message Delay |
| | EXSPI-55-0014 | MTA Connection Queue Lengths |
| | EXSPI-55-0015 | MTA Failed Outbound Associations |
| | EXSPI-55-0016 | MTA Rejected Inbound Associations |
| | EXSPI-55-0017 | MTA Rejected Inbound Messages |

| Exchange 5.5: Quick Start Subgroups | Templates | Descriptions |
|---|---|---|
| | EXSPI-55-05m-MTA | 5m Scheduler for metrics in MTA group |
| | EXSPI-55-1h-MTA | 1h Scheduler for metrics in MTA group |
| | EXSPI-55-DC-MTA & IS Queue Len. | Collect data on the length of message queues in core processes |
| | EXSPI-55-DC-MTA Message Volume | Collect data on the vol. of messages processed by MTA |
| EXSPI-55 Services and Processes | | Templates in this group monitor Windows Services for Exchange by checking to see that Exchange services configured with Automatic startup are running. |
| | EXSPI-55-0001 | Process Monitor |
| | EXSPI-55-0002 | Inactive Process Monitor |
| | EXSPI-55-05m-Serv. & Processes | 5m Scheduler for metrics in Services and Processes group |
| | EXSPI-55-1001 | Process Monitor |
| | EXSPI-55-10m-Serv. & Processes | 10m Scheduler for metrics in Services and Processes group |
| | EXSPI-55-DC-User Connections | Collect data on the number of users |
| EXSPI-55 Transaction Log | | Templates in this group monitor the size in MB of the Exchange transaction logfiles as well as the disk space used by the files. |
| | EXSPI-55-0005 | |
| | EXSPI-55-0006 | |
| | EXSPI-55-15m-Transaction Log | 15m Scheduler for metrics in Transaction Log group |
| | EXSPI-55-1d-Transaction Log | 1day Scheduler for metrics in Transaction Log group |

**Table 5: EXSPI-55 Add-Ons**

| Exchange 5.5: Add-Ons Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-55 CC:Mail Connector | | Templates in this group monitor the number of messages awaiting delivery to Exchange from Lotus cc:Mail, the rate at which Non-Delivery Reports (NDRs) are being sent from Lotus cc:Mail to Exchange and vice versa |
| | EXSPI-55-0090 | cc:Mail MTS-IN Queue Length |
| | EXSPI-55-0091 | cc:Mail MTS-OUT Queue Length |
| | EXSPI-55-0092 | Exchange NDRs to cc:Mail |
| | EXSPI-55-0093 | cc:Mail NDRs to Exchange |
| | EXSPI-55-1h-ccMail Connector | 1h Scheduler for metrics in cc:Mail Connector group |
| | EXSPI-55-5m-ccMail Connector | 5m Scheduler for metrics in cc:Mail Connector group |
| EXSPI-55 Internet Mail Service | | Templates in this group monitor the rate at which SMTP connections to other hosts are failing or are being rejected for the Internet Mail Service, the number of messages queued to be converted to Internet Mail format as well as the number awaiting final delivery, the rate at which non-delivery reports are being generated for inbound mail and outbound mail |
| | EXSPI-55-0060 | MSExchangeIMC.Connections Total Failed MSExchangeIMC.Connections Total Outbound |
| | EXSPI-55-0061 | MSExchangeIMC.Connections Total Rejected MSExchangeIMC.Connections Total Inbound |
| | EXSPI-55-0062 | MSExchangeIMC.Queued MTS-IN |
| | EXSPI-55-0063 | MSExchangeIMC.Queued MTS-OUT |
| | EXSPI-55-0064 | MSExchangeIMC.Queued Inbound |
| | EXSPI-55-0065 | MSExchangeIMC.Queued Outbound |
| | EXSPI-55-0066 | MSExchangeIMC.NDRs Total Inbound MSExchangeIMC.Inbound Messages Total |

| Exchange 5.5: Add-Ons Subgroups | Templates | Descriptions |
|---|---|---|
| | EXSPI-55-0067 | MSExchangeIMC.NDRs Total Outbound MSExchangeIMC.Outbound Messages TotalMSExchangeIMC.Outbound Messages Total |
| | EXSPI-55-1h-Internet Mail Services | 1h Scheduler for metrics in Internet Mail Services group |
| | EXSPI-55-5m-Internet Mail Services | 5 min. Scheduler for metrics in Internet Mail Services group |
| | EXSPI-55-DC-IMS Message Volume | Collect data on the vol. of messages processed by the IMS |
| | EXSPI-55-DC-IMS Queue Length | Collect data on the vol. of messages processed by the IMS |
| EXSPI-55 Lotus Notes Connector | | Templates in this group monitor the number of messages awaiting delivery, and Non-Delivery Reports (NDRs) being sent to Exchange from Lotus Notes and vice versa |
| | EXSPI-55-0094 | Lotus Notes Inbound Queued Messages Length |
| | EXSPI-55-0095 | Lotus Notes Outbound Queued Messages Length |
| | EXSPI-55-0096 | Exchange NDRs sent to Lotus Notes |
| | EXSPI-55-0097 | Lotus Notes NDRs sent to Microsoft Exchange |
| | EXSPI-55-1h-Lotus Notes Connect | 1h Scheduler for metrics in Lotus Notes Connector group |
| | EXSPI-55-5m-Lotus Notes Connect | 5m Scheduler for metrics in Lotus Notes Connector group |
| EXSPI-55 News Service | | Templates in this group monitor the rate inbound and outbound newsfeed messages are being rejected because of duplicates or errors |
| | EXSPI-55-0080 | |
| | EXSPI-55-0081 | |
| | EXSPI-55-1h-News Service | 1h Scheduler for News Service metrics |
| | EXSPI-55-DC-News Message Volume | Collect data on the vol. of news messages processed by IS |

**Table 6: EXSPI-55 Advanced**

| Exchange 5.5: Advanced Subgroups | Templates | Descriptions |
|---|---|---|
| EXSPI-55 End To End Message Ping | | Templates in this group monitor e-mail service responsiveness by sending an e-mail message from one Exchange server to another |
| | EXSPI-55-1002 | MSExchange End To End Message Ping Monitor |
| | EXSPI-55-End to End Message Ping | 30 m Scheduler for metric in End To End Message Ping group |
| | EXSPI-55 Ping Config | |
| EXSPI-55 Event Log Warnings and Information | | Templates in this group collect all Exchange-related warning and information messages from the Windows Event Log |
| | EXSPI-55-Exchange Warnings | Application Event Log - Notify All Warnings |
| | EXSPI-55-Exchange Information | Application Event Log - Notify All Information |
| EXSPI-55 Reporter Collection | | Templates in this group enable data collections for OVO reports |
| | EXSPI-55-DC-Exchange Info | Collect data on Exchange Parameters |
| | EXSPI-55-DC-Mailbox Data | Collect data about all mailboxes on the system |
| | EXSPI-55-DC-Private IS Sum. Data | Collect summary data about Mailbox Information Store |
| | EXSPI-55-DC-Public Folder Data | Collect data about all public folders on the system |
| | EXSPI-55-DC-Public IS Sum. Data | Collect summary data about Public Info. Store (Folders) |
| | EXSPI-55-DC-TrackLog Data | Collect Tracking.Log data |

# Exchange SPI Message Groups

The Exchange SPI adds the following message group to the OVO Message Group Bank:

- ***EXSPI***: Messages generated by Exchange SPI programs containing instruction text to help diagnose/remedy problems.

All messages generated by Exchange SPI fall into one of the following message groups in the OVO Message Group Bank:

- ***EX_Perf***: Messages regarding performance.
- ***EX_Fault***: Messages regarding error conditions.

# Exchange SPI Applications

The Exchange SPI adds the following applications to the OVO Application Bank:

***EXSPI Admin.*** Contains configuration and troubleshooting applications requiring "root" permission, so it is recommended that the group be assigned to the OVO Administrator. This group contains the following applications:

- ***EXSPI Add DataSource:*** Exchange SPI application to configure data sources and start the logging of data.
- ***Disable Data Logging:*** Stops Exchange SPI from logging data.
- ***Enable Data Logging:*** Starts Exchange SPI data logging. This is normally used after Disable Data Logging, to restart data logging.
- ***EXSPI MBOX Config:*** Configures Exchange mailbox on selected node for access by the Exchange SPI.
- ***EXSPI Graphs:*** Contains graphs that can be generated from selected metric monitors.
- ***EXSPI Node Config:*** Configures the Domain Admin account (MSXSPI) on the managed node. This account is for templates deployed in the Advanced Configuration section.
- ***EXSPI Ping Config*:** Configures the Advanced Configuration Template: End To End Message Ping.

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