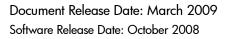# HP Operations Smart Plug-in for Microsoft® Exchange Server

For HP Operations Manager for UNIX®

Software Version: 12.00

Reference Guide

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Contents

1 Exchange 2007 Templates

The Microsoft Exchange SPI presents a collection of scheduled action, monitor, and LogFile templates. These templates help you monitor the health and performance of every Exchange 2007 role. This guide lists the monitoring and collection details of every template that you can use to monitor your Exchange 2007 environment. You can deploy and use Microsoft Exchange SPI templates to automate administering a Microsoft Exchange Server 2007 node.

Templates for Microsoft Exchange Server 2007 are classified into the following sub-groups:

Availability: This group captures the availability status of Exchange services and sends application errors to HPOM. This group contains the following templates—EXSPI-8X Application Errors, EXSPI-8X Exchange Application Info, EXSPI-8X Exchange Application Warning, EXSPI-8X Get Exchange 2007 Availability.

EXSPI Cluster (EX2007): This group includes the EXSPI-8X Exchange Cluster Discovery AppLog template, which helps the SPI reflect the correct states of the managed nodes in the service tree.

EXSPI Client Access Server: This group contains templates that primarily monitor the connectivity and performance of the Client Access server role of Exchange Server 2007. The Client Access Server template group is further classified into the following sub-groups:

- IMAP4
- MAPI
- Outlook
- POP3
- Information Worker
- Outlook Webaccess

EXSPI ExBPA Integration: This group contains the tools that monitor and collect information from the Microsoft Exchange Best Practice Analyzer and forward the collected information to the HPOM management server.

EXSPI Hub Transport Server: This group contains templates to monitor the Hub Transport server role of Exchange Server 2007.

EXSPI Edge Transport Server: This group contains templates to monitor the Edge Transport server role of Exchange Server 2007.

EXSPI Mailbox Server: This group contains templates to monitor the Mailbox server role of Exchange Server 2007. The Mailbox Server template group is further classified into the following sub-groups:

- Availability
- High Availability
- Mailbox
- MAPI
- Outlook Performance

- Performance
- Public Folder

EXSPI Unified Messaging Server: This group contains templates that monitor the Unified Messaging server role of Exchange Server 2007.

2 Monitoring Exchange Availability

The Availability (EX2007) group captures the availability status of Exchange services and sends application errors to HPOM. This group contains the following templates:

EXSPI-8X Get Exchange 2007 Availability

The template monitors the availability of the services that are necessary for Microsoft Exchange Server 2007 to run smoothly. This template logs data into the data store based on the availability of the necessary services and the Exchange 2007 Availability report is generated with the help of this data.

The following services are monitored by the template:

- MSExchangeADTopology
- ADAM_MSExchange
- EdgeCredentialSvc
- MSExchangeEdgeSync
- MSExchangeFDS
- MSExchangeAntispamUpdate
- MSExchangeIMAP4
- MSExchangeIS
- MSExchangeMailSubmission
- MSExchangeMailboxAssistants
- MSExchangeMonitoring
- MSExchangePOP3
- MSExchangeRepl
- MSExchangeSearch
- MSExchangeServiceHost
- MSS
- MSExchangeSA
- MSExchangeTransport
- MSExchangeTransportLogSearch
- MSExchangeUM
- MSFTESQL-Exchange

Schedule: Once in every 5 minutes

Template Type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > Availability (2007)

EXSPI-8X Exchange 2007 Application Error

The template collects several Exchange Event Log errors from managed nodes and forwards the errors to the management server.

Schedule: Once in every 30 minutes

Template Type: Logfile

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > Availability (2007)

EXSPI-8X Exchange 2007 Application Info

The template collects information from several Exchange Event Logs from managed nodes and forwards the collected details to the management server.

Schedule: Once in every 30 minutes

Template Type: Logfile

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > Availability (2007)

EXSPI-8X Exchange 2007 Application Warning

The template collects several Exchange Event Log warning messages from managed nodes and forwards the warnings to the management server.

Schedule: Once in every 30 minutes

Template Type: Logfile

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > Availability (2007)

3 Monitoring Client Access Servers

The EXSPI Client Access (EX2007) group includes the templates that help you monitor and manage the Exchange 2007 nodes with the Client Access Server role. The templates in this group help you monitor the details related to the POP3 performance, active synchronization, and so on.

The group consists of the following subgroups:

- **EXSPI CAS Availability**—This group includes the EXSPI-8X Monitor Client Access Server Services template, which monitors states of the services that are necessary for a smooth functioning of the Client Access Server.

- **ActiveSync**—With the help of the Microsoft Exchange SPI, you can monitor the state of Exchange ActiveSync. The templates included in the ActiveSync group help you monitor the state of exchange ActiveSync by monitoring the `MSExchange ActiveSync` event log. Templates that are included in this group are:

  — EXSPI-8X-ActiveSync-Errs

  — EXSPI-8X-ActiveSync-Warn

  — EXSPI-8X-ActiveSync-Info

- **AutoDiscover**—This group contains the templates that monitor the `MSExchange Autodiscover` event log. This group includes:

  — EXSPI-8X Autodiscover-Err

  — EXSPI-8X Autodiscover-Warn

- **File Distribution Service**—This group contains templates that monitor the performance of the file distribution service on a Client Access Server. This group includes:

  — EXSPI-8X -CAS-FDS-CollectMetrics

  — EXSPI-8X-DownloadTasksCompleted-OAB

  — EXSPI-8X-5DownloadTaskQueued-OAB

  — EXSPI-8X-7225

  — EXSPI-8X-7226

- **EXSPI IMAP4 (EX2007)**—This group contains templates to monitor several conditions and settings of the IMAP4 communication. This group includes:

  — EXSPI-8X Get-IMAP4 Settings

  — EXSPI-8X IMAP4FailedConnRate

  — EXSPI-8X IMAP4RejectedConnRate

  — EXSPI-8X-7923

  — EXSPI-8X-7924

  — EXSPI-8X Dc- IMAP4 Performance

  — EXSPI-8X_Monitor_Check_IMAP4_Max Cnn_Single_IP

- — EXSPI-8X_Monitor_Check_IMAP4_Max_Cnn_User
- — EXSPI-8X_Monitor_Check_IMAP4_Max_Connections
- — EXSPI-8X- IMAP4 Connections
- — EXSPI-8X-IMAP4

- **EXSPI POP3 (EX2007):** This group contains the templates that monitor the performance, availability, and settings of POP3-based communications on a Client Access server. This group includes:
  - — EXSPI-8X Get POP3 Settings
  - — EXSPI-8X Dc-POP3 Performance
  - — EXSPI-8X-POP3
  - — EXSPI-8X_POP3_Connections
  - — EXSPI-8X_Monitor_Check_POP3_Max_Cnn_User
  - — EXSPI-8X_Monitor_Check_POP3_Max_Cnn_Single_IP
  - — EXSPI-8X_Monitor_Check_POP3_Max_Connections
  - — EXSPI-8X POP3FailedConn Rate
  - — EXSPI-8X-7922
  - — EXSPI-8X POP3RejectedConn Rate
  - — EXSPI-8X-7921

- **Information Worker:** This group includes the EXSPI-8X-InformationWorker template.

- **Outlook WebAccess:** This group includes the EXSPI-8X CAS-Evt-MSExchange OWA template.

- **EXSPI Outlook Anywhere (EX2007):** This group includes the following templates:
  - — EXSPI-8X Check Outlook Anywhere Enabled
  - — EXSPI-8X Check Outlook Anywhere Not Enabled

To monitor the Client Access Servers, follow these steps:

1. Identify the Exchange 2007 nodes with the Client Access server role that you want to monitor.
2. Verify the schedules of the scheduled-action templates. If required, modify the schedule.
3. Deploy the scheduled-action templates on the identified nodes.
4. Review the polling intervals of the monitor templates in this group. Change the polling interval settings if required.
5. Deploy the monitor templates on the identified nodes.
6. Similarly, deploy the Logfile templates.

▶ Deploy the templates under the EXSPI Client Access (EX2007) group only on the nodes with the Client Access Server role.

EXSPI-8X Monitor Client Access Server Services

The EXSPI-8X Monitor Client Access Server Services template collects the states of the services necessary to run a Client Access server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI CAS Availability

Default schedule: Every 5 minutes

Monitoring Details

The EXSPI-8X Monitor Client Access Server Services template monitors the states of the following services on the Client Access node:

- MSExchangeADTopology
- MSExchangeFDS
- MSExchangeServiceHost
- MSExchangeServiceHost
- MSExchangeImap4
- MSExchangePOP3

The template generates appropriate alert messages if one of these services are stopped or disabled.

EXSPI-8X-ActiveSync-Errs

The EXSPI-8X-ActiveSync-Errs template monitors the event source `MSExchange ActiveSync` on the Client Access Server. If an error is logged into the `MSExchange ActiveSync` source, the EXSPI-8X-ActiveSync-Errs template sends a notification to the HPOM message browser.

The template looks for the following errors:

Event ID	Event Type
1027	Exchange ActiveSync has run out of available connections.
1016	ActiveSync has encountered repeated failures while accessing data on the Mailbox server.
1038	The account does not have correct permissions to modify Exchange ActiveSync.
1015	Exchange ActiveSync encountered a transient error when it tried to access Active Directory information.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > ActiveSync

Polling interval: Every 30 minutes

EXSPI-8X-ActiveSync-Warn

The EXSPI-8X-ActiveSync-Warn template monitors event source `MSExchange ActiveSync` on the Client Access Server. If a warning event is logged into the `MSExchange ActiveSync` source, the EXSPI-8X-ActiveSync-Warn template sends a warning notification to the HPOM message browser.

The template looks for the following warnings:

Event ID	Event Type
1012	The configuration value for the maximum number of folders to monitor for changes is invalid.
1032	The connection to mailbox on Mailbox Server failed.
1023	The mailbox server is offline.
1018	Context Indexing is enabled on the Mailbox server.
1008	An exception was caused by an outdated or corrupt Exchange ActiveSync device partnership.
1033	The setting in the `Web.Config` file is invalid.
1011	The configuration value for minimum heartbeat interval is too low.
1036	The Client Access server can proxy the Exchange ActiveSync Client request to Exchange Server.
1034	The Access server that issued a proxy request to another Client Access server timed out.
1009	The configuration value for the minimum heartbeat interval is set higher than the maximum heartbeat.
1035	The proxy request has failed due to an invalid SSL certificate.
1022	The connection between the Client Access server and Mailbox server has failed.
1010	The configuration value for the maximum heartbeat interval is set higher than the maximum allowed value.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > ActiveSync

Polling interval: Every 30 minutes

EXSPI-8X-ActiveSync-Info

The EXSPI-8X-ActiveSync-Info template monitors event source `MSExchange ActiveSync` on the Client Access Server. If the event **1014** is logged into the `MSExchange ActiveSync` source, the EXSPI-8X-ActiveSync-Info template sends a notification to the HPOM message browser. this template checks if Exchange ActiveSync has been unloaded.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > ActiveSync

EXSPI-8X Autodiscover-Err

The EXSPI-8X Autodiscover-Err template monitors the `MSExchange Autodiscover` event source on the Client Access Server. If an error is logged into the `MSExchange Autodiscover` source, the EXSPI-8X Autodiscover-Err template sends a notification to the HPOM message browser.

The template looks for the following errors:

Event ID	Event Type
2	The Exchange AutoDiscover service was unable to process anonymous requests from an Autodiscover client.
101	The Autodiscover service is unable to process any valid requests.
1	An unhandled exception occurred in Exchange Autodiscover.
1106	Providers could not be loaded for the Microsoft Exchange Autodiscover service.

Template type: LogFile

Templategroup:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > AutoDiscover

Polling interval: Every 30 minutes

EXSPI-8X Autodiscover-Warn

The EXSPI-8X Autodiscover-Warn template monitors the `MSExchange Autodiscover` event source on the Client Access Server. If a warning event is logged into the `MSExchange Autodiscover` source, the EXSPI-8X Autodiscover-Warn template sends a warning notification to the HPOM message browser.

The template looks for the following events:

Event ID	Event Type
1201	Client request is successfully processed by the Exchange Autodiscover service.
1108	The Exchange Autodiscover service failed to load the assembly.
1109	The loader that Autodiscover is using may not be valid.
1110	The Autodiscover provider is unable to load the assembly because the assembly or DLL could be in an invalid format.
1111	Autodiscover is unable to load an assembly because it does not have appropriate access permissions.

Event ID	Event Type
1112	Autodiscover is unable to find an assembly or DLL that it is trying to reference.
1105	The provider specified in the client request and response schema could not be found.
1113	An invalid attribute was registered by the provider DLL with the Autodiscover service on the Client Access server.

Templatetype: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > AutoDiscover

Polling interval: Every 30 minutes

EXSPI-8X -CAS-FDS-CollectMetrics

The template collects data from the following counters of the `MSExchangeFDS:OAB` performance monitor object:

- Download Tasks Completed
- Download Task Queued

Collection Details

The EXSPI-8X -CAS-FDS-CollectMetrics template stores the values of these counters into the `EX2007_FDSOAB` table into the data store. The counter values are mapped into the following columns:

Metric Name	Column Name
Download Tasks Completed	TASKS_COMPLETED
Download Task Queued	TASK_QUEUED

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > File Distribution Service

Schedule: Every 15 minutes

EXSPI-8X-DownloadTasksCompleted-OAB

The EXSPI-8X-DownloadTasksCompleted-OAB template gathers data from the `Download Tasks Completed` counter of the `MSExchangeFDS:OAB` performance monitor object and forwards the gathered data to the EXSPI-8X-7226 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > File Distribution Service

Schedule: Every hour

EXSPI-8X-7226

Deploy this template with the EXSPI-8X-DownloadTasksCompleted-OAB template.

The EXSPI-8X-7226 template monitors the number of the offline address book completed download tasks. If the template does not find any completed download tasks, the Microsoft Exchange SPI sends an alert message of severity Critical to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > File Distribution Service

EXSPI-8X-5DownloadTaskQueued-OAB

The EXSPI-8X-5DownloadTaskQueued-OAB template gathers data from the `Download Task Queued` counter of the `MSExchangeFDS:OAB` performance monitor object and forwards the gathered data to the EXSPI-8X-7225 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > File Distribution Service

Schedule: Every hour

EXSPI-8X-7225

Deploy this template with the EXSPI-8X-5DownloadTaskQueued-OAB template.

The EXSPI-8X-7225 template monitors the number of the offline address book queued download tasks. If the number of the queued download tasks exceeds 10, the Microsoft Exchange SPI sends an alert message of severity Critical to the message browser. If the value exceeds 5, the SPI sends an alert message of severity Warning to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > File Distribution Service

EXSPI-8X Get-IMAP4 Settings

This template monitors the following IMAP4 settings of a Client Access server with the help of the `Get-ImapSettings` cmdlet:

- Maximum IMAP4 connections
- Maximum IMAP4 connections per user

- Maximum IMAP4 connections from single IP

Template type: Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI IMAP4 (EX2007)

Schedule: Every hour

EXSPI-8X IMAP4FailedConnRate

The EXSPI-8X IMAP4FailedConnRate template gathers data from the `Connections Failed` and `Total Connections` counters of the `MSExchangeIMAP4` performance monitor object and forwards the data to the EXSPI-8X-7924 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Schedule: Every 15 minutes

EXSPI-8X-7924

Deploy this template with the EXSPI-8X IMAP4FailedConnRate template.

The EXSPI-8X-7924 template monitors the rate of failed IMAP4 connections. If the rate exceeds 10, the Microsoft Exchange SPI sends an alert message of severity Critical to the message browser. If the rate exceeds 5, the SPI sends an alert message of severity Warning to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

EXSPI-8X IMAP4RejectedConnRate

The EXSPI-8X IMAP4RejectedConnRate template gathers data from the `Connections Rejected` and `Total Connections` counters of the `MSExchangeIMAP4` performance monitor object and forwards data to the EXSPI-8X-7923 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Schedule: Every 15 minutes

EXSPI-8X-7923

► Deploy this template with the EXSPI-8X IMAP4RejectedConnRate template.

The EXSPI-8X-7923 template monitors the rate of rejected IMAP4 connections. If the rate exceeds 10, the Microsoft Exchange SPI sends an alert message of severity Critical to the message browser. If the rate exceeds 5, the SPI sends an alert message of severity Warning to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

EXSPI-8X Dc- IMAP4 Performance

The EXSPI-8X Dc- IMAP4 Performance template collects the values of the following counters of the `MSExchangeIMAP4` performance monitor object:

Counter	Data Type
Total Connections	System.Int32
Connections Failed	System.Int32
Connections Rejected	System.Int32

Collection Details

The Microsoft Exchange SPI stores the metric values collected by the EXSPI-8X Dc- IMAP4 Performance template in the `EX2007_IMAP4PERF` table into the data store. The EXSPI-8X Dc-IMAP4 Performance template logs the metric values into the following columns of the table:

Metric Name	Column Name
Total Connections	IMAP4CON
Connections Failed	IMAP4FAILEDCON
Connections Rejected	IMAP4REJECTEDCON

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Schedule: Every hour

EXSPI-8X_Monitor_Check_IMAP4_Max Cnn_Single_IP

The EXSPI-8X_Monitor_Check_IMAP4_Max Cnn_Single_IP template monitors the number of IMAP4 connections used by a single IP.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Default threshold: 10

Polling interval: Once every hour

EXSPI-8X_Monitor_Check_IMAP4_Max_Cnn_User

The EXSPI-8X_Monitor_Check_IMAP4_Max_Cnn_User template monitors the number of IMAP4 connections used for every user.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Default threshold: 10

Polling interval: Once every hour

EXSPI-8X_Monitor_Check_IMAP4_Max_Connections

The EXSPI-8X_Monitor_Check_IMAP4_Max_Connections template monitors the number of maximum IMAP4 connections for every user.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Default threshold: 2000

Polling interval: Once every hour

EXSPI-8X- IMAP4 Connections

The EXSPI-8X- IMAP4 Connections template monitors the `Current Connections` counter of the `MSExchangeIMAP4` performance monitor object. If the value of the counter (which is the IMAP4 connection count) exceeds the threshold value, the SPI sends an alert to the message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Default threshold: 200

Polling interval: 15 minutes

EXSPI-8X-IMAP4

The EXSPI-8X-IMAP4 monitors the `MSExchangeIMAP4` event log. If the following events are logged into the source `MSExchangeIMAP4`, the SPI sends alert messages to the message browser:

Event ID	Event Type
2004	An unexpected exception occurred when a command was processed in the user's mailbox.
2101	The folders that have the same name have been found in a mailbox.
2006	An exception occurred while converting message from MAPI to MIME format.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) >EXSPI IMAP4 (EX2007)

Polling interval: 15 minutes

EXSPI-8X Get POP3 Settings

The EXSPI-8X Get POP3 Settings template runs the `Get-PopSettings` cmdlet on a Client Access server to collect the POP3 settings for the Client Access server. It collects the following settings of a Client Access server:

- Maximum POP3 connections
- Maximum POP3 connections per user
- Maximum POP3 connections from single IP

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Schedule: Every hour on weekdays

EXSPI-8X Dc-POP3 Performance

The EXSPI-8X Dc-POP3 Performance template collects the following counters of the `MSExchangePOP3` performance monitor object:

Counter	Data Type
RETR Total	System.Int32
Connections Total	System.Int32
Connections Failed	System.Int32
Connections Rejected	System.Int32
DELE Total	System.Int32

Collection Details

The EXSPI-8X Dc-POP3 Performance template stores the collected data into the following columns of the `EX2007_POP3PERF` table:

Metric	Column Name
RETR Total	POP3RETR
Connections Total	POP3CONN
Connections Failed	POP3FAILEDCON
Connections Rejected	POP3REJECTEDCON
DELE Total	POP3DELE

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Schedule: Every hour

EXSPI-8X-POP3

The EXSPI-8X-POP3 template monitors the `MSExchangePOP3` event log on the Client Access Server. If specific events are logged into the `MSExchangePOP3` log, the EXSPI-8X-POP3 template sends a notification to the HPOM message browser.

The template looks for the following errors:

Event ID	Event Type
2004	An unexpected exception occurred when a command was processed in the user's mailbox.
2012	The POP3 service has disabled protocol logging on the Client Access server where the `MSExchangePOP3` service runs.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Polling interval: Every 30 minutes

EXSPI-8X_POP3_Connections

The EXSPI-8X_POP3_Connections template monitors the number of users connected to a Client Access server through the POP3 protocol. It monitors the `Connections Current` counter of the `MSExchangePOP3` performance monitor object. The template sends a Warning message to the message browser when the value of the counter (which is the POP3 connection count) exceeds the threshold value.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Default threshold: 200

Polling interval: Every 15 minutes

EXSPI-8X_Monitor_Check_POP3_Max_Cnn_User

The EXSPI-8X_Monitor_Check_POP3_Max_Cnn_User template monitors the number of POP3 connection used by a single user. The template sends a Warning message to the message browser when the number exceeds the threshold value.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Default threshold: 10

EXSPI-8X_Monitor_Check_POP3_Max_Cnn_Single_IP

The EXSPI-8X_Monitor_Check_POP3_Max_Cnn_Single_IP template monitors the number of POP3 connection used by a single IP. The template sends a Warning message to the message browser when the number exceeds the threshold value.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Default threshold: 10

EXSPI-8X_Monitor_Check_POP3_Max_Connections

The EXSPI-8X_Monitor_Check_POP3_Max_Connections template monitors the maximum number of POP3 connection. The template sends a Critical message to the message browser when the number exceeds the threshold value.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Default threshold: 2000

EXSPI-8X POP3FailedConn Rate

The EXSPI-8X POP3FailedConnRate template gathers the percentage rate of the number of failed POP3 connections and forwards the data to the EXSPI-8X-7922 template. The template gathers data from the following counters of the `MSExchangePOP3` performance monitor object:

- `Connections Failed`
- `Total Connections`

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Schedule: Every 15 minutes

EXSPI-8X-7922

Deploy this template with the EXSPI-8X POP3FailedConnRate template.

The template sends alert messages to the message browser when the rate of failed POP3 connections exceeds the threshold values.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Default threshold:

- Critical: 10
- Warning: 5

EXSPI-8X POP3RejectedConn Rate

The EXSPI-8X POP3RejectedConnRate template gathers the percentage rate of the number of rejected POP3 connections and forwards the data to the EXSPI-8X-7921 template. The template gathers data from the following counters of the `MSExchangePOP3` performance monitor object:

- `Connections Rejected`
- `Total Connections`

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Schedule: Every 15 minutes

EXSPI-8X-7921

Deploy this template with the EXSPI-8X POP3RejectedConnRate template.

The template sends alert messages to the message browser when the rate of rejected POP3 connections exceeds the threshold values.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI POP3 (EX2007)

Default threshold:

- Critical: 10

- Warning: 5

EXSPI-8X-InformationWorker

The EXSPI-8X-InformationWorker template monitors the `MSExchange Availability` event source on the Client Access Server. If specific events are logged into the `MSExchange Availability` source, the EXSPI-8X-InformationWorker template sends a notification to the HPOM message browser.

The template looks for the following events:

Event ID	Event Type
4016	The Exchange Availability service did not log on as a network service.
4014	The Availability service could not contact the AD Directory Service to obtain the local server object.
4010	A proxy Web request failed one or more security checks at the Web service layer.
4001	The Autodiscover service could not discover Availability service running on a remote AD Directory Service forest.
4005	The configuration information for the current forest could not be found in Active Directory.
4006	One of the global services did not start.
4012	A cross-forest proxy request could not be initiated due to invalid credentials.
4011	The configuration for forest was not found in Active Directory.
4018	An exception occurred while attempting to locate a Client Access server to handle a request for e-mail address.
4015	The Availability service could not find the local security descriptor.
4017	No Client Access server was found to handle a request for e-mail address.
4003	The availability service could not successfully retrieve Schedule+ Free Busy data for one or more legacy Exchange mailboxes.
4002	The availability service could not successfully send a proxy Web request.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > Information Worker

Polling interval: Every 30 minutes

EXSPI-8X Check Outlook Anywhere Enabled

The EXSPI-8X Check Outlook Anywhere Enabled template checks if Outlook Anywhere is enabled.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI Outlook Anywhere (EX2007)

Schedule: Every hour

EXSPI-8X Check Outlook Anywhere Not Enabled

The EXSPI-8X Check Outlook Anywhere Not Enabled template checks if Outlook Anywhere is not enabled.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > EXSPI Outlook Anywhere (EX2007)

Schedule: Every hour on weekdays

EXSPI-8X CAS-Evt-MSExchange OWA

The EXSPI-8X CAS-Evt-MSExchange OWA template monitors the `MSExchange OWA` event source on the Client Access Server. If specific events are logged into the `MSExchange OWA` source, the EXSPI-8X CAS-Evt-MSExchange OWA template sends a notification to the HPOM message browser.

The template looks for the following events:

- Event ID 1
- Event ID 30

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) >EXSPI Client Access (EX2007) > Outlook Webaccess

Polling interval: Every 30 minutes

4 Monitoring Hub Transport Servers

The EXSPI Hub Transport Server group includes the templates that help you monitor and manage the Exchange 2007 nodes with the Hub Transport Server role. The templates in this group help you monitor the details related to the tracking log settings, SMTP performance, submission queue length, poison queue length, and so on.

The group consists of the following subgroups:

- **EXSPI HTServer Availability**—This group includes the EXSPI-8X Monitor Hub Transport Server Services template, which monitors states of the services that are necessary for a smooth functioning of the Hub Transport Server. This group also includes the following templates to monitor several event logs on the Hub Transport Server:

  — EXSPI-8X MSExchange Store Driver Events

  — EXSPI-8X MSExchange Messaging Policies Events

  — EXSPI-8X MSExchange EdgeSync Events

- **EXSPI SMTP (EX2007)**—With the help of the Microsoft Exchange SPI, you can monitor the performance of the SMTP communication. Templates that are included in this group are:

  — EXSPI-8X SMTP Performance for Inbound Connections

  — EXSPI-8X SMTP Performance for Outbound Connections

In addition, this group offers the following templates:

- EXSPI-8X Get Queue Data
- EXSPI-8X Get Configuration of the Transport Agent
- EXSPI-8X Check Tracking Log Settings
- EXSPI-8X Dc-Get Top Destination Details
- EXSPI-8X Dc-Get Top Recipient Details
- EXSPI-8X Dc-Get Top Sender Details
- EXSPI-8X Dc-Get Top Source Details
- EXSPI-8X DC MSExchangeTransport Queues
- EXSPI-8X DC MSExchangeTransport DSN
- EXSPI-8X Sch-Hub-Active Mailbox Delivery Queue Length
- EXSPI-8X-722111
- EXSPI-8X Sch-Hub-Active Non-Smtp Delivery Queue Length
- EXSPI-8X-722108
- EXSPI-8X Sch-Hub-Active Remote Delivery Queue Length
- EXSPI-8X-722107
- EXSPI-8X Sch-Hub-Aggregate Delivery Queue Length (All Queues)

- EXSPI-8X-722104

- EXSPI-8X Th-Delay DSNs

- EXSPI-8X-7236

- EXSPI-8X Th-FailureDSNsTotal

- EXSPI-8X-7235

- EXSPI-8X Sch-Hub-Poison Queue Length

- EXSPI-8X-722101

- EXSPI-8X Sch-Hub-Largest Delivery Queue Length

- EXSPI-8X-722110

- EXSPI-8X Sch-Hub-Retry Mailbox Delivery Queue Length

- EXSPI-8X-722106

- EXSPI-8X Sch-Hub-Retry Non-Smtp Delivery Queue Length

- EXSPI-8X-722103

- EXSPI-8X Sch-Hub-Retry Remote Delivery Queue Length

- EXSPI-8X-722109

- EXSPI-8X Sch-Hub-Submission Queue Length

- EXSPI-8X-722102

- EXSPI-8X Sch-Hub-Unreachable Queue Length

- EXSPI-8X-722105

To monitor the Hub Transport Servers, follow these steps:

1   Identify the Exchange 2007 nodes with the hub transport server role that you want to monitor.

2   Verify the schedules of the scheduled-action templates. If required, modify the schedule.

3   Deploy the scheduled-action templates on the identified nodes.

4   Review the polling intervals of the monitor templates in this group. Change the polling interval settings if required.

5   Deploy the monitor templates on the identified nodes.

6   Deploy the Logfile templates on the identified nodes.

▶   Deploy the templates under the **EXSPI Hub Transport Server** group only on the nodes with the Hub Transport Server role.

EXSPI-8X Monitor Hub Transport Server Services

The EXSPI-8X Monitor Hub Transport Server Services template collects the states of the services necessary to run a Hub Transport server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server > EXSPI HTServer Availability

Default schedule: Every 5

Monitoring Details

The EXSPI-8X Monitor Hub Transport Server Services template monitors the states of the following services on the Hub Transport node:

- MSExchangeTransport
- MSExchangeEdgeSync
- MSExchangeADTopology
- MSExchangeTransportLogSearch
- MSExchangeAntispamUpdate

The template generates appropriate alert messages if one of these services are stopped or disabled.

EXSPI-8X MSExchange Store Driver Events

The EXSPI-8X MSExchange Store Driver Events template monitors the event log `MSExchange Store Driver` on the Hub Transport Server. If any events are logged into the `MSExchange Store Driver` log, the EXSPI-8X MSExchange Store Driver Events template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server > EXSPI HTServer Availability

Polling interval: Every 30 minutes

EXSPI-8X MSExchange Messaging Policies Events

The EXSPI-8X MSExchange Messaging Policies Events template monitors the event log `MSExchange Messaging Policies` on the Hub Transport Server. If any events are logged into the `MSExchange Messaging Policies` log, the EXSPI-8X MSExchange Messaging Policies Events template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server > EXSPI HTServer Availability

Polling interval: Every 30 minutes

EXSPI-8X MSExchange EdgeSync Events

The EXSPI-8X MSExchange EdgeSync Events template monitors the event log `MSExchange EdgeSync` on the Hub Transport Server. If any events are logged into the `MSExchange EdgeSync` log, the EXSPI-8X MSExchange EdgeSync Events template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server > EXSPI HTServer Availability

Polling interval: Every 30 minutes

EXSPI-8X SMTP Performance for Inbound Connections

The template collects the following counters of the `MSExchangeTransport SmtpReceive` performance monitor object:

Counter Name	Data Type
MessagesReceivedTotal	System.Int32
MessageBytesReceivedTotal	System.Int32
ConnectionsCurrent	System.Int32
ConnectionsTotal	System.Int32
BytesReceivedTotal	System.Int32

Collection Details

The EXSPI-8X SMTP Performance for Inbound Connections template stores the values of these counters into the `EX2007_SMTPRECV` table into the data store. The counter values are mapped into the following columns:

Metric Name	Column Name
MessagesReceivedTotal	SMTPMSGRECV
MessageBytesReceivedTotal	SMTPMSGBYTERECV
ConnectionsCurrent	SMTPCONNCURR
ConnectionsTotal	SMTPCONNTOT
BytesReceivedTotal	SMTPBYTESRECV

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server > EXSPI SMTP (EX2007)

Schedule: Every hour

EXSPI-8X SMTP Performance for Outbound Connections

The template collects the following counters of the `MSExchangeTransport SmtpSend` performance monitor object:

Counter Name	Data Type
MessagesSentTotal	System.Int32
MessageBytesSentTotal	System.Int32
ConnectionsCurrent	System.Int32
ConnectionsTotal	System.Int32
BytesSentTotal	System.Int32

Collection Details

The EXSPI-8X SMTP Performance for Outbound Connections template stores the values of these counters into the `EX2007_SMTPSEND` table into the data store. The counter values are mapped into the following columns:

Metric Name	Column Name
MessagesSentTotal	SMTPMSGSEND
MessageBytesSentTotal	SMTPMSGBYTESEND
ConnectionsCurrent	SMTPCONNCURR
ConnectionsTotal	SMTPCONNTOT
BytesSentTotal	SMTPBYTESSEND

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server > EXSPI SMTP (EX2007)

Schedule: Every hour

EXSPI-8X Get Queue Data

The EXSPI-8X Get Queue Data template collects information related to the queue from the Hub Transport servers.

Collection Details

The EXSPI-8X Get Queue Data template stores the collected data into the `EX2007_QINFO` table into the data store. The details are mapped into the following columns:

Metric Name	Column Name
MessagesCount	QINFO_MSGCNT
NextHopDomain	QINFO_NHCNNT
Identity	QINFO_ID

Metric Name	Column Name
NextHopConnector	QINFO_NHDOMAIN
DeliveryType	QINFO_DLVTYPE
LastError	QINFO_LSTERR

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every hour

EXSPI-8X Get Configuration of the Transport Agent

The EXSPI-8X Get Configuration of the Transport Agent template collects information related to transport agents from the Hub Transport servers.

Collection Details

The EXSPI-8X Get Configuration of the Transport Agent template stores the collected data into the EX2007_AGCFG table into the data store. The details are mapped into the following columns:

Metric Name	Column Name
Priority	AGCFG_PRI
Enabled	AGCFG_EN
Identity	AGCFG_ID

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every hour

EXSPI-8X Check Tracking Log Settings

The EXSPI-8X Check Tracking Log Settings template collects the names of Hub Transport servers where message tracking logs and message subject tracking logs are enabled and displays those names in the message browser.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every hour

EXSPI-8X Dc-Get Top Destination Details

The EXSPI-8X Dc-Get Top Destination Details template collects the information related to the message destinations from the Hub Transport servers.

Collection Details

The EXSPI-8X Dc-Get Top Destination Details template stores the collected data into the `EX2007_DEST` table into the data store. The details are mapped into the following columns:

Metric Name	Column Name
DestinationKey	DEST_KEY
isInternal	IS_INTERNAL
nMsgCount	NUM_MSGS_DR
ServerName	SERVER_NAME
DestinationDomainName	DOMAIN_NAME
AdSiteName	ADSITE_NAME
TotalBytes	NUM_BYTES_DR
DestinationAddr	DEST_ADDR

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Once every week

▶ It is recommended not to change the default schedule of this template; if you must change the default schedule of one week, set the schedule to "Once every day."

EXSPI-8X Dc-Get Top Recipient Details

The EXSPI-8X Dc-Get Top Recipient Details template collects the information related to the message recipients from the Hub Transport servers.

Collection Details

The EXSPI-8X Dc-Get Top Recipient Details template stores the collected data into the `EX2007_RECP` table into the data store. The details are mapped into the following columns:

Metric Name	Column Name
RecipientEmailAddr	EMAIL_ADDR
RecipientStorageGroup	SG_NAME
nMsgCount	NUM_MSGS_RR
RecipientServerName	SERVER_NAME
RecipientStoreName	STORE_NAME
RecipientAdSite	ADSITE_NAME
TotalBytes	NUM_BYTES_RR
RecipientMbox	MBOX_NAME

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Once every week

▶ It is recommended not to change the default schedule of this template; if you must change the default schedule of one week, set the schedule to "Once every day."

EXSPI-8X Dc-Get Top Sender Details

The EXSPI-8X Dc-Get Top Sender Details template collects the information related to the message senders from the Hub Transport servers.

Collection Details

The EXSPI-8X Dc-Get Top Sender Details template stores the collected data into the `EX2007_SENDER` table into the data store. The details are mapped into the following columns:

Metric Name	Column Name
SenderEmailAddr	EMAIL_ADDR
ServerName	SERVER_NAME
SenderStorageGroup	SG_NAME
nMsgCount	NUM_MSGS_SR
SenderStoreName	STORE_NAME
SenderAdSite	ADSITE_NAME
TotalBytes	NUM_BYTES_SR
SenderMbox	MBOX_NAME

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Once every week

▶ It is recommended not to change the default schedule of this template; if you must change the default schedule of one week, set the schedule to "Once every day."

EXSPI-8X Dc-Get Top Source Details

The EXSPI-8X Dc-Get Top Source Details template collects the information related to the message sources from the Hub Transport servers.

Collection Details

The EXSPI-8X Dc-Get Top Source Details template stores the collected data into the `EX2007_SOURCE` table into the data store. The details are mapped into the following columns:

Metric Name	Column Name
SourceAddr	SOURCE_ADDR
isInternal	IS_INTERNAL
ServerName	SERVER_NAME

Metric Name	Column Name
SourceKey	SOURCE_KEY
SourceDomainName	DOMAIN_NAME
nMsgCount	NUM_MSGS_SRC
AdSiteName	ADSITE_NAME
TotalBytes	NUM_BYTES_SRC

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Once every week

> It is recommended not to change the default schedule of this template; if you must change the default schedule of one week, set the schedule to "Once every day."

EXSPI-8X DC MSExchangeTransport Queues

The template collects the following counters of the `MSExchangeTransport Queues` performance monitor object:

Counter Name	Data Type
Poison Queue Length	System.Int32
Active Non-Smtp Delivery Queue Length	System.Int32
Largest Delivery Queue Length	System.Int32
Active Remote Delivery Queue Length	System.Int32
Retry Mailbox Delivery Queue Length	System.Int32
Submission Queue Length	System.Int32
Aggregate Delivery Queue Length (All Queues)	System.Int32
Active Mailbox Delivery Queue Length	System.Int32
Unreachable Queue Length	System.Int32
Retry Non-Smtp Delivery Queue Length	System.Int32
Retry Remote Delivery Queue Length	System.Int32

Collection Details

The template stores the values of these counters into the `EX2007_TRANSQ` table into the data store. The counter values are mapped into the following columns:

Metric Name	Column Name
Poison Queue Length	POISON_Q_LENGTH
Active Non-Smtp Delivery Queue Length	ACTIVE_NonSMTP_DQLEN
Largest Delivery Queue Length	LARGEST_DQ_LEN
Active Remote Delivery Queue Length	ACTIVE_REM_DQ_LEN
Retry Mailbox Delivery Queue Length	RETRY_MD_Q_LEN
Submission Queue Length	SUB_Q_LENGTH
Aggregate Delivery Queue Length (All Queues)	AGGDEL_ALLQ_LEN
Active Mailbox Delivery Queue Length	ACTIVE_MDQ_LENGTH
Unreachable Queue Length	UNREACH_Q_LENGTH
Retry Non-Smtp Delivery Queue Length	RETRY_NONSMTP_QLEN
Retry Remote Delivery Queue Length	RETRY_REM_DQ_LEN

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X DC MSExchangeTransport DSN

The template collects the following counters of the `MSExchangeTransport DSN` performance monitor object:

Counter Name	Data Type
Failure DSNs Total	System.Int32
Delay DSNs	System.Int32

Collection Details

The template stores the values of these counters into the `EX2007_HUBTRANSDSN` table into the data store. The counter values are mapped into the following columns:

Metric Name	Column Name
Failure DSNs Total	FAIL_DSNs_TOTAL
Delay DSNs	DELAY_DSNs

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X Sch-Hub-Active Mailbox Delivery Queue Length

The template collects the value of the `Active Mailbox Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722111

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Active Mailbox Delivery Queue Length template.

The EXSPI-8X-722111 template monitors the value of the `Active Mailbox Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Active Non-Smtp Delivery Queue Length

The template collects the value of the `Active Non-Smtp Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722108

Always deploy this template with the EXSPI-8X Sch-Hub-Active Non-Smtp Delivery Queue Length template.

The EXSPI-8X-722108 template monitors the value of the `Active Non-Smtp Delivery Queue` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Active Remote Delivery Queue Length

The template gathers the value of the `Active Remote Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722107 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722107

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Active Remote Delivery Queue Length template.

The EXSPI-8X-722107 template monitors the value of the `Active Remote Delivery Queue` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Aggregate Delivery Queue Length (All Queues)

The template gathers the value of the `Aggregate Delivery Queue Length (All Queues)` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722104 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722104

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Aggregate Delivery Queue Length (All Queues) template.

The EXSPI-8X-722104 template monitors the value of the `Aggregate Delivery Queue Length (All Queues)` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 5000
- Warning: 3000

EXSPI-8X Th-Delay DSNs

The template gathers the value of the `Delay DSNs` counter of the `MSExchangeTransport DSNs` performance monitor object and sends the gathered data to the EXSPI-8X-7236 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-7236

▶ Always deploy this template with the EXSPI-8X Hub Th-Delay DSNs template.

The EXSPI-8X-7236 template monitors the value of the `Delay DSNs` counter of the `MSExchangeTransport DSNs` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 20
- Warning: 10

EXSPI-8X Th-FailureDSNsTotal

The template gathers the value of the `Failure DSNs Total` counter of the `MSExchangeTransport DSNs` performance monitor object and sends the gathered data to the EXSPI-8X-7235 template.

Template type: Scheduled Action

Schedule: Every 5 minutes

EXSPI-8X-7235

▶ Always deploy this template with the EXSPI-8X Hub Th-FailureDSNsTotal template.

The EXSPI-8X-7235 template monitors the value of the `Failure DSNs Total` counter of the `MSExchangeTransport DSNs` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 40
- Warning: 30

EXSPI-8X Sch-Hub-Poison Queue Length

The template gathers the value of the `Poison Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722101 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722101

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Poison Queue Length template.

The EXSPI-8X-722101 template monitors the value of the `Poison Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 5
- Warning: 1

EXSPI-8X Sch-Hub-Largest Delivery Queue Length

The template gathers the value of the `Largest Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722110 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722110

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Largest Delivery Queue Length template.

The EXSPI-8X-722110 template monitors the value of the `Largest Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Retry Mailbox Delivery Queue Length

The template gathers the value of the `Retry Mailbox Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722106 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722106

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Retry Mailbox Delivery Queue Length template.

The EXSPI-8X-722106 template monitors the value of the `Retry Mailbox Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Retry Non-Smtp Delivery Queue Length

The template gathers the value of the `Retry Non-Smtp Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722103 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722103

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Retry Non-Smtp Delivery Queue Length template.

The EXSPI-8X-722103 template monitors the value of the `Retry Non-Smtp Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Retry Remote Delivery Queue Length

The template gathers the value of the `Retry Remote Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722109 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722109

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Retry Remote Delivery Queue Length template.

The EXSPI-8X-722109 template monitors the value of the `Retry Remote Delivery Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Submission Queue Length

The template gathers the value of the `Submission Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722102 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722102

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Submission Queue Length template.

The EXSPI-8X-722102 template monitors the value of the `Submission Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

EXSPI-8X Sch-Hub-Unreachable Queue Length

The template gathers the value of the `Unreachable Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object and sends the gathered data to the EXSPI-8X-722105 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Schedule: Every 5 minutes

EXSPI-8X-722105

▶ Always deploy this template with the EXSPI-8X Sch-Hub-Unreachable Queue Length template.

The EXSPI-8X-722105 template monitors the value of the `Unreachable Queue Length` counter of the `MSExchangeTransport Queues` performance monitor object.

The template sends a notifications to the message browser when the counter value exceeds the threshold.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Hub Transport Server

Default threshold:

- Critical: 250
- Warning: 200

5 Monitoring Mailbox Servers

The EXSPI Mailbox Server group includes the templates that help you monitor and manage the Exchange 2007 nodes with the mailbox server role. The templates in this group help you monitor the details related to the mailbox performance, replication activity, MAPI connectivity, Information Store and Outlook client latency, and so on.

The group consists of the following subgroups:

- **EXSPI MBServer Availability**—This group includes the EXSPI-8X Monitor Mailbox Server Services template, which monitors states of the services that are necessary for a smooth functioning of the Mailbox Server. Additionally, this group includes three templates that monitor several event log sources on the Mailbox node: EXSPI-8X Forward MSExchangeSA Errors, EXSPI-8X Forward MSExchangeAL Errors, and EXSPI-8X MSExchange MailSubmission Events.

- **EXSPI High Availability**—With the help of the Microsoft Exchange SPI, you can monitor the state of high availability of mailbox servers. The templates included in the High Availability group help you monitor the performance of the following high availability features of Microsoft Exchange Server 2007:

    – Local Continuous Replication (LCR)

    – Cluster Continuous Replication (CCR)

    – Standby Continuous Replication (SCR)

  You must deploy all the templates that belong to the High Availability group on the nodes that host the Storage Groups for the replication activity. Templates that are included in this group are:

  — EXSPI-8X Dc Replication Summary

  — EXSPI-8X_ReplicationReplayQueueLength

  — EXSPI-8X_ReplicationCopyQueueLength

  — EXSPI-8X Replication Warnings in Application Event Log

  — EXSPI-8X Replication Errors in Application Event Log

- **Assistants**—This group includes the EXSPI-8X-MailboxServer-Assistants template.

- **Mail Submission**—This group includes the EXSPI-8X-Mailbox-MailSubmission template.

- **EXSPI Mailbox (EX2007)**—This group contains the templates that monitor performance related to message delivery and special settings of the Mailbox servers. This group includes:

  — EXSPI-8X Get Mailbox Details

  — EXSPI-8X Get Mailbox IS Sum Data

  — EXSPI-8X Dc-IS Mailbox Performance

- — EXSPI-8X IS Mailbox Receive Queue Length

- — EXSPI-8X Check Circular Logging Enabled

- — EXSPI-8X Check If Circular Logging Disabled

- — EXSPI-8X MailBoxItemCount

- — EXSPI-8X IS Mailbox Average Delivery Time

- **EXSPI MAPI (EX2007)**—This group contains templates that monitor the performance of MAPI-based communications on a Mailbox server. This group includes:

  - — EXSPI-8X Test Mapi Connectivity

  - — EXSPI-8X Information Store RPC Requests

  - — EXSPI-8X Information Store RPC Operations

  - — EXSPI-8X Information Store RPC Average Latency

- **EXSPI Outlook 2003 (EX2007)**—This group contains templates to monitor Outlook performance on a Mailbox server. This group includes:

  - — EXSPI-8X ISClientRPCFailRate

  - — EXSPI-8X-7925

  - — EXSPI-8X-OutlookClientLatency10

  - — EXSPI-8X-OutlookClientLatency5

  - — EXSPI-8X-OutlookClientLatency2

  - — EXSPI-8X Dc-Outlook Client

- **EXSPI Performance (EX2007)**—This group contains templates that monitor the health and performance of the Information Store. This group includes:

  - — EXSPI-8X Dc-Information Store Performance

  - — EXSPI-8X Information Store Db Cache Size

  - — EXSPI-8X Information Store Db Log Record Stall per sec

  - — EXSPI-8X Information Store VM 16MB Blocks

  - — EXSPI-8X Information Store VM Largest Block

  - — EXSPI-8X Information Store VM Large Block Bytes

  - — EXSPI-8X Information Store Additional Heaps

  - — EXSPI-8X Information Store Heap Memory Errors

  - — EXSPI-8X Information Store Db Log Threads Waiting

  - — EXSPI-8X Information Store Memory Errors

  - — EXSPI-8X Information Store Db Log Writes per sec

  - — EXSPI-8X Information Store User Count

- **EXSPI Public Folder (EX2007)**—This group contains templates that monitor the performance of public folders. This group includes:

  - — EXSPI-8X Get Public Folder Details

  - — EXSPI-8X Get Public IS Sum Data

  - — EXSPI-8X Dc-IS Public Folder Performance

— EXSPI-8X Public Folder Average Delivery Time

— EXSPI-8X PublicFolderItemCount

— EXSPI-8X IS Public Receive Queue Length

— EXSPI-8X IS Public Replication Queue Length

To monitor the Mailbox Servers, follow these steps:

1   Identify the Exchange 2007 nodes with the Mailbox server role that you want to monitor.

2   Verify the schedules of the scheduled-action templates. If required, modify the schedule.

3   Deploy the scheduled-action templates on the identified nodes.

4   Review the polling intervals and thresholds of the monitor templates in this group. Change these settings if required.

5   Deploy the monitor templates on the identified nodes.

6   Similarly, deploy the logfile templates.

▶   Deploy the templates under the EXSPI Mailbox Server group only on the nodes with the Mailbox Server role.

EXSPI-8X Monitor Mailbox Server Services

The EXSPI-8X Monitor Mailbox Server Services template collects the states of the services necessary to run a mailbox server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MBServer Availability

Default schedule: Every 5 minutes

Monitoring Details

The EXSPI-8X Monitor Mailbox Server Services template monitors the states of the following services on the mailbox node:

• MSExchangeADTopology

• MSExchangeIS

• MSExchangeMailboxAssistants

• MSExchangeServiceHost

• MSExchangeSA

• MSExchangeTransportLogSearch

• MSExchangeMailSubmission

• MSExchangeRepl

• MSExchangeSearch

• MSFTESQL-Exchange

The template generates appropriate alert messages if one of these services stops running.

EXSPI-8X Forward MSExchangeSA Errors

The EXSPI-8X Forward MSExchangeSA Errors template monitors the event source `MSExchangeSA` on the mailbox server. If an error is logged into the `MSExchangeSA` source, the EXSPI-8X Forward MSExchangeSA Errors template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MBServer Availability

Polling interval: Every 30 minutes

EXSPI-8X Forward MSExchangeAL Errors

The EXSPI-8X Forward MSExchangeAL Errors template monitors the event source `MSExchangeAL` on the mailbox server. If an event is logged into the `MSExchangeAL` source, the EXSPI-8X Forward MSExchangeAL Errors template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MBServer Availability

Polling interval: Every 30 minutes

EXSPI-8X MSExchange MailSubmission Events

The EXSPI-8X MSExchange MailSubmission Events template monitors the source `MSExchangeMailSubmission` on the mailbox server. If an event is logged into the `MSExchangeMailSubmission` source, the EXSPI-8X MSExchange MailSubmission Events template sends a notification to the HPOM message browser with the event ID.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MBServer Availability

Polling interval: Every 30 minutes

EXSPI-8X Dc Replication Summary

The EXSPI-8X Dc Replication Summary template collects the status of replication in the monitored Exchange 2007 environment and stores the collected data into the data store.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI High Availability > Replication Monitoring

Schedule: Every hour

Collection Details

The EXSPI-8X Dc Replication Summary template monitors the values of the following metrics (metrics collected from the `Get-Replicationage` cmdlet) from the Mailbox servers that participate in Exchange data replication:

Metric Name	Data Type	Description
SummaryCopyStatus	System.String	• The Microsoft Exchange SPI sends an alert of the severity Major when this metric value is `Disabled`. • The Microsoft Exchange SPI sends an alert of the severity Critical when this metric value is `Failed` or `stopped`.
Failed	System.Boolean	The Microsoft Exchange SPI sends an alert of the severity Critical when this metric value is `True`.
Suspend	System.Boolean	The Microsoft Exchange SPI sends an alert of the severity Critical when this metric value is `True`.
Seeding	System.Boolean	The Microsoft Exchange SPI sends an alert of the severity Normal when this metric value is `True`.
ReplicatedInspectedAge	System.Int32	The Microsoft Exchange SPI sends an alert of the severity Normal when this metric value is greater than one.
ReplicatedAvailableAge	System.Int32	The Microsoft Exchange SPI sends an alert of the severity Normal when this metric value is greater than one.

The Microsoft Exchange SPI stores the metric values collected by the EXSPI-8X Dc Replication Summary template in the `EX2007_REPLSUMM` table into the data store. The Microsoft Exchange SPI logs the following metrics that are collected by the EXSPI-8X Dc Replication Summary template in the following columns of the `EX2007_REPLSUMM` table:

Metric Name	Column Name
LastLogInspected	REPL_LSTLOGINS
LatestIncrementalBackupTime	REPL_LSTIBSKPTIME
CopyQueueLength	REPL_CPQLEN
LastInspectedLogTime	REPL_LSTINSLOGTIME
CCRTargetNode	REPL_TARGET

Metric Name	Column Name
Identity	REPL_IDENTITY
LastLogCopied	REPL_LSTLOGCP
LastReplayedLogTime	REPL_LSTRPLLOGTIME
LatestFullBackupTime	REPL_LSTBCKPTIME
LastLogGenerated	REPL_LSTLOGGEN
LastLogReplayed	REPL_LSTLOGRPL
StorageGroupName	REPL_SGNAME
SummaryCopyStatus	REPL_STATUS
Replay QueueLength	REPL_QLEN

EXSPI-8X_ReplicationReplayQueueLength

The EXSPI-8X_ReplicationReplayQueueLength template monitors the value of the Replay QueueLength metric. In the event of threshold violation, the EXSPI-8X_ReplicationReplayQueueLength template sends an alert message of severity Major to the message browser.

Template type: Monitoring

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007)> EXSPI Mailbox Server > EXSPI High Availability> Replication Monitoring

Default threshold: 20

Polling interval: Every hour

EXSPI-8X_ReplicationCopyQueueLength

The EXSPI-8X_ReplicationCopyQueueLength template monitors the value of the Copy QueueLength metric. In the event of threshold violation, the EXSPI-8X_ReplicationCopyQueueLength template sends an alert message of severity Major to the message browser.

Template type: Monitoring

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007)> EXSPI Mailbox Server > EXSPI High Availability> Replication Monitoring

Default threshold: 5

Polling interval: Every hour

EXSPI-8X Replication Warnings in Application Event Log

The EXSPI-8X Replication Warnings in Application Event Log template monitors the `MSExchangeRepl` event source on the mailbox server. If a warning event is logged into the `MSExchangeRepl` event source, the EXSPI-8X Replication Warnings in Application Event Log template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI High Availability> Replication Monitoring

Polling interval: Every 30 minutes

EXSPI-8X Replication Errors in Application Event Log

The EXSPI-8X Replication Errors in Application Event Log template monitors the `MSExchangeRepl` event source on the mailbox server. If an error is logged into the `MSExchangeRepl` event source, the EXSPI-8X Replication Errors in Application Event Log template sends a notification to the HPOM message browser.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI High Availability> Replication Monitoring

Polling interval: Every 30 minutes

EXSPI-8X-MailboxServer-Assistants

The EXSPI-8X-MailboxServer-Assistants template monitors the `MSExchangeMailboxAssistants` event source on the mailbox server. The EXSPI-8X-MailboxServer-Assistants template sends a notification to the HPOM message browser if an event with the ID 10008, 10009, 9015, 9023, or 9035 is logged into the `MSExchangeMailboxAssistants` event source.

Event ID	Description
10009	The managed folder mailbox assistant has processed all the mailboxes on the server.
10008	The retention template folder in the mailbox will be applied.
9015	The database, which is specified in the event description, does not contain a system mailbox.
9023	The time-based Microsoft Exchange Assistants did not start to process the mailboxes during a specified time span.
9035	All the mailboxes for a given database were not processed by the time-based Exchange Assistants within a specified time span.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > Assistants

Polling interval: Every 30 minutes

EXSPI-8X-Mailbox-MailSubmission

The EXSPI-8X-Mailbox-MailSubmission template monitors the `MSExchangeMailSubmission` event source on the mailbox server. The EXSPI-8X-Mailbox-MailSubmission template sends a notification to the HPOM message browser if an event with the ID 1002, 1003, 1004, 1005, 1007, 1008, 1009, or 1010 is logged into the `MSExchangeMailSubmission` event source.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > Mail Submission

Polling interval: Every 30 minutes

EXSPI-8X Test Mapi Connectivity

The EXSPI-8X Test Mapi Connectivity template collects metrics with the help of the `Test-MAPIConnectivity` cmdlet. You can test the MAPI connectivity latency and error by deploying this template. The default MAPI connectivity latency is set to 10. If the MAPI connectivity latency exceeds this threshold or if an error occurs during this test, the template sends an alert message to the HPOM message browser. You can change this MAPI connectivity latency threshold with the PowerShell collection configuration utility.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MAPI (EX2007)

Schedule: Every 15 minutes

To set a new threshold for MAPI connectivity latency, perform the following tasks:

Task 1: Change the threshold value

1 Go to the PowerShell collection configuration utility.

2 In the left pane, expand **Collection Components > OpCMsg Calls**.

3 In the left pane, click **TestMapiLatency**.

4 In the right pane, click **Delete** to delete the existing rule to compare the actual latency with the threshold 10.

5 Select **TestMapiConnectivity** from the MetricSetRef drop-down box.

6 Select **Latency** from the MetricRef drop-down box.

7 Select **GreaterThanOrEQ** from the Select Arithmetic Operator drop-down box.

8 Set the threshold value in the Value to compare box.

9 Click **Add**.

10 Click **Apply Changes**.

11 Click **File > Save**.

Task 2: Identify nodes

1 Identify the nodes on which you want to run the test.

2   Transfer the `spimetadata.xml` file on the identified nodes.

Deploy the EXSPI-8X Test Mapi Connectivity template on the identified nodes and check if the latency is within the set threshold.

EXSPI-8X Information Store RPC Requests

The EXSPI-8X Information Store RPC Requests template monitors the `RPC Requests` counter of the `MSExchangeIS` performance object. If the number of Information Store RPC requests exceeds the threshold value, the template sends alert messages to the HPOM message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MAPI (EX2007)

Default threshold:

- **30:** The template sends a Critical message to the message browser when this threshold is exceeded.

- **20:** The template sends a Warning message to the message browser when this threshold is exceeded

Polling interval: Every 5 minutes

EXSPI-8X Information Store RPC Operations

The EXSPI-8X Information Store RPC Operations template monitors the `RPC Operations/ sec` counter of the `MSExchangeIS` performance object. If the number of Information Store RPC operations per second exceeds the threshold value, the template sends alert messages to the HPOM message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MAPI (EX2007)

Default threshold:

- **3:** The template sends a Critical message to the message browser when this threshold is exceeded.

- **1:** The template sends a Warning message to the message browser when this threshold is exceeded

Polling interval: Every 5 minutes

EXSPI-8X Information Store RPC Average Latency

The EXSPI-8X Information Store RPC Average Latency template monitors the `RPC Average Latency` counter of the `MSExchangeIS` performance object. If the number of Information Store RPC average latency exceeds the threshold value, the template sends alert messages to the HPOM message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI MAPI (EX2007)

Default threshold:

- **50:** The template sends a Critical message to the message browser when this threshold is exceeded.

- **40:** The template sends a Warning message to the message browser when this threshold is exceeded

Polling interval: Every 5 minutes

EXSPI-8X Get Mailbox Details

The EXSPI-8X Get Mailbox Details template monitors the total item size of the mailbox and sends appropriate alert messages in the event of threshold violation. Along with monitoring the total item size of the mailbox, the EXSPI-8X Get Mailbox Details template collects the values of several metrics returned by the GetMailboxStatistics cmdlet and stores the values into the data store.

Collection Details

The Microsoft Exchange SPI stores the metric values collected by the EXSPI-8X Get Mailbox Details template in the EX2007_MBDETAIL table into the data store. The EXSPI-8X Get Mailbox Details template logs the metric values into the following columns in the EX2007_MBDETAIL table:

Metric Name	Column Name
DisplayName	MB_NAME
StorageLimitStatus	MB_STGLIMIT
TotalDeletedItemSize	MB_DELSIZE
ItemCount	MB_MSGCOUNT
DatabaseName	MB_DBNAME
StorageGroupName	MB_SGNAME
LastLogonTime	MB_LASTACCESS
TotalItemSize	MB_MBSIZE
DisconnectedDate	MB_DISCONNECT
DeletedItemCount	MB_DELCOUNT
Identity	MB_IDENTITY
ServerName	MB_SVRNAME

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Schedule: Once every week

EXSPI-8X Get Mailbox IS Sum Data

The EXSPI-8X Get Mailbox IS Sum Data template collects the values of several metrics returned by the GetMailboxStoreSummary cmdlet and stores the values into the data store.

Collection Details

The Microsoft Exchange SPI stores the metric values collected by the EXSPI-8X Get Mailbox IS Sum Data template in the `EX2007_MBSUMMARY` table into the data store. The EXSPI-8X Get Mailbox IS Sum Data template logs the metric values into the following columns in the `EX2007_MBSUMMARY` table:

Metric Name	Column Name
EDBFileSize	EDBSIZE
Identity	INSTANCEKEY
MessageCount	MAILBOX_MSGCNT
ServerName	SERVER_NAME
EDBDriveFree	EDBFREE
UserCount	MAILBOX_USRCNT
EDBDriveTotal	EDBTOTAL
DatabaseName	DATABASE_NAME
EDBPath	EDBPATH
StorageGroupName	STORAGEGROUP_NAME

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Schedule: Once every week

EXSPI-8X Check Circular Logging Enabled

The EXSPI-8X Check Circular Logging Enabled template monitors if the circular logging not enabled on the Mailbox servers. When the circular logging is enabled, the Microsoft Exchange SPI sends an alert message to the message browser.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Schedule: Once every hour

EXSPI-8X Check If Circular Logging Disabled

The EXSPI-8X Check If Circular Logging Disabled template monitors if the circular logging not enabled on the Mailbox servers. When the circular logging is disabled, the Microsoft Exchange SPI sends an alert message to the message browser.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Schedule: Once every hour

EXSPI-8X Dc-IS Mailbox Performance

The EXSPI-8X Dc-IS Mailbox Performance template monitors the counters of the MSExchangeIS Mailbox performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Default schedule: Every 15 minutes

Collection Details

The template collects the following counters of the MSExchangeIS Mailbox performance monitor object:

Counter Name	Data Type
Receive Queue Size	System.Int32
Average Delivery Time	System.Int32
Local deliveries	System.Int32
Messages Delivered	System.Int32
Messages Sent	System.Int32
Messages Submitted	System.Int32
Message Recipients Delivered	System.Int32
Active Client Logons	System.Int32
Client Logons	System.Int32
Peak Client Logons	System.Int32
Single Instance Ratio	System.Int32
Total Count of Recoverable Items	System.Int32
Total Size of Recoverable Items	System.Int32

The Microsoft Exchange SPI creates the EX2007_MBPERF table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Receive Queue Size	MBRECEIVEQ
Average Delivery Time	MBDELIVERYTIME
Local deliveries	MBLOCALDELIVER
Messages Delivered	MBDELIVER
Messages Sent	MBSENT
Messages Submitted	MBSUBMITTED
Message Recipients Delivered	MBRECIPIENT
Active Client Logons	MBACTIVELOGON
Client Logons	MBLOGON

Metric Name	Column Name
Peak Client Logons	MBLOGONPEAK
Single Instance Ratio	MBSIRATIO
Total Count of Recoverable Items	MBRECOVERITEMS
Total Size of Recoverable Items	MBRECOVERSIZE

EXSPI-8X IS Mailbox Receive Queue Length

The EXSPI-8X IS Mailbox Receive Queue Length template monitors the value of the Receive Queue Size counter of the MSExchangeIS Mailbox performance monitor object.

If the receive queue length exceeds the threshold, it sends alert messages to the message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Default Threshold:

- **200:** Sends a Critical message.
- **100:** Sends a Warning message.

Polling interval: Every 2 minutes

EXSPI-8X MailBoxItemCount

The EXSPI-8X MailBoxItemCount template monitors item counts of Mailbox servers. If the count exceeds the threshold, the template sends an alert message to the message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Default Threshold: 100

Polling interval: Every 2 minutes

EXSPI-8X IS Mailbox Average Delivery Time

The EXSPI-8X IS Mailbox Average Delivery Time template collects information from the Average Delivery Time performance counter of the MSExchangeIS Mailbox performance object. If the average delivery time exceeds 5000 milliseconds, it sends a warning to the message browser. If the average delivery time exceeds 10000 milliseconds, it sends a critical alert message to the message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Mailbox (2007)

Default Threshold: 10000

Polling interval: Every 5 minutes

EXSPI-8X ISClientRPCFailRate

It gathers data from the following performance counters of the MSExchangeIS performance monitor object:

- Client: RPCs attempted
- Client: RPCs Failed

The template sends the data to the EXSPI-8X-7925 template.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Outlook 2003 (EX2007)

Schedule: Every 10 minutes

EXSPI-8X-7925

Deploy this template with the EXSPI-8X ISClientRPCFailRate template.

The template sends alerts to the message browser if the percentage rate of RPC failure exceeds the threshold.

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Outlook 2003 (EX2007)

Default Threshold:

- 10: Critical
- 5: Warning

EXSPI-8X-OutlookClientLatency10

The EXSPI-8X-OutlookClientLatency10 template monitors the number of successful RPCs with the latency value greater than 10. It monitors the following performance counters of the MSExchangeIS performance monitor object:

Client: Latency > 10 sec RPCs

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Outlook 2003 (EX2007)

Default Threshold:

10: Major

Polling interval: Every 10 minutes

EXSPI-8X-OutlookClientLatency5

The EXSPI-8X-OutlookClientLatency5 template monitors the number of successful RPCs with the latency value greater than 5. It monitors the following performance counters of the MSExchangeIS performance monitor object:

Client: Latency > 5 sec RPCs

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Outlook 2003 (EX2007)

Default Threshold:

100: Minor

Polling interval: Every 10 minutes

EXSPI-8X-OutlookClientLatency2

The EXSPI-8X-OutlookClientLatency2 template monitors the number of successful RPCs with the latency value greater than 2. It monitors the following performance counters of the MSExchangeIS performance monitor object:

Client: Latency > 2 sec RPCs

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Outlook 2003 (EX2007)

Default Threshold:

250: Warning

Polling interval: Every 10 minutes

EXSPI-8X Dc-Outlook Client

The EXSPI-8X Dc-Outlook Client template collects different counters of the MSExchangeIS Mailbox performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Outlook 2003 (EX2007)

Default schedule: Every 5 minutes

Collection Details

The template collects the following counters of the MSExchangeIS performance monitor object:

Counter Name	Data Type
Client: Latency > 10 sec RPCs	System.Int32
Client: Latency > 5 sec RPCs	System.Int32
Client: Latency > 2 sec RPCs	System.Int32
Client: RPCs attempted	System.Int32
Client: RPCs succeeded	System.Int32
Client: RPCs Failed	System.Int32
Client: RPCs Failed: Server Unavailable	System.Int32
Client: RPCs Failed: Server Too Busy	System.Int32
Client: RPCs Failed: Call Cancelled	System.Int32
Client: RPCs Failed: Call Failed	System.Int32
Client: RPCs Failed: Access Denied	System.Int32
Client: RPCs Failed: All other errors	System.Int32

The Microsoft Exchange SPI creates the EX2007_ISCLIENT table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Client: Latency > 10 sec RPCs	ISCLATENCY10
Client: Latency > 5 sec RPCs	ISCLATENCY5
Client: Latency > 2 sec RPCs	ISCLATENCY2
Client: RPCs attempted	ISCRPCATTEMPT
Client: RPCs succeeded	ISCRPCSUCCEED
Client: RPCs Failed	ISCRPCFAIL
Client: RPCs Failed: Server Unavailable	ISCRPCFUNAV
Client: RPCs Failed: Server Too Busy	ISCRPCFBUSY
Client: RPCs Failed: Call Cancelled	ISCRPCFCANCEL
Client: RPCs Failed: Call Failed	ISCRPCFCALLFAIL
Client: RPCs Failed: Access Denied	ISCRPCFACCESSDENY
Client: RPCs Failed: All other errors	ISCRPCFOTHER

EXSPI-8X Dc-Information Store Performance

The EXSPI-8X Dc-Information Store Performance template collects the values of the counters of the `MSExchangeIS` performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default schedule: Every 15 minutes

Collection Details

The template collects the following counters of the MSExchangeIS performance monitor object:

Counter Name	Data Type
User Count	System.Int32
Active User Count	System.Int32
Anonymous User Count	System.Int32
Active Anonymous User Count	System.Int32
Connection Count	System.Int32
Active Connection Count	System.Int32
VM Total Large Free Block Bytes	System.Int32
VM Largest Block Size	System.Int32
VM Total 16MB Free Blocks	System.Int32
RPC Requests	System.Int32
RPC Operations/sec	System.Int32

The Microsoft Exchange SPI creates the `EX2007_ISPERF` table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
User Count	ISUSERCNT
Active User Count	ISACTIVEUSERCNT
Anonymous User Count	ISANONUSERCNT
Active Anonymous User Count	ISACTIVEANONUSERCNT
Connection Count	ISCONNECTCNT
Active Connection Count	ISACTIVECONNECTCNT
VM Total Large Free Block Bytes	ISVMLARGEFREEBB
VM Largest Block Size	ISVMLARGESTBLOCK
VM Total 16MB Free Blocks	ISVM16MBFREE
RPC Requests	RPCREQUESTS
RPC Operations/sec	RPCOPERATIONSPERSEC

EXSPI-8X Information Store Db Cache Size

The EXSPI-8X Information Store Db Cache Size template generates alarm when the database cache size exceeds the threshold value. It monitors the `Database Cache Size` counter of the Database performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold: 1.2e+009

Polling interval: Every 5 minutes

EXSPI-8X Information Store Db Log Record Stall per sec

The EXSPI-8X Information Store Db Log Record Stall per sec template generates alarm when the database log record stalls per second exceeds the threshold value. It monitors the `Log Record Stalls/sec` counter of the `MSExchange Database ==> Instances` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

- **20:** The template sends an alert message of severity Critical.
- **15:** The template sends an alert message of severity Warning.

Polling interval: Every 2 minutes

EXSPI-8X Information Store VM 16MB Blocks

The EXSPI-8X Information Store VM 16MB Blocks template generates alert messages when the number of available 16 MB or larger VM blocks in the Information Store process falls below the threshold value. It monitors the VM Total 16MB Free Blocks counter of the MSExchangeIS performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

- **1:** The template sends an alert message of severity Critical.
- **3:** The template sends an alert message of severity Warning.

Polling interval: Every 5 minutes

EXSPI-8X Information Store VM Largest Block

The EXSPI-8X Information Store VM Largest Block template generates alarm when the size of the largest VM block falls below the threshold. It monitors the `VM Largest Block Size` counter of the `MSExchangeIS` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

- **1.6e+007:** The template sends an alert message of severity Critical.
- **3.2e+007:** The template sends an alert message of severity Major.
- **6.4e+007:** The template sends an alert message of severity Warning.

Polling interval: Every 10 minutes

EXSPI-8X Information Store VM Large Block Bytes

The EXSPI-8X Information Store VM Large Block Bytes template generates alarm when the total size of free large VM blocks falls below the threshold. It monitors the `VM Total Large Free Block Bytes` counter of the `MSExchangeIS` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

- **5.2e+007:** The template sends an alert message of severity Critical.
- **6.2e+007:** The template sends an alert message of severity Warning.

Polling interval: Every 10 minutes

EXSPI-8X Information Store Additional Heaps

The EXSPI-8X Information Store Additional Heaps template generates alarm when the number of additional heaps of Exchange memory exceeds the threshold value. It monitors the Exchmem: Number of Additional Heaps counter of the MSExchangeIS performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

3: The template sends an alert message of severity Critical.

Polling interval: Every 15 minutes

EXSPI-8X Information Store Heap Memory Errors

The EXSPI-8X Information Store Heap Memory Errors template generates alarm when the number of Information Store heap memory errors exceeds the threshold. It monitors the `Exchmem: Number of heaps with memory errors` performance of the MSExchangeIS performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

3: Critical

Polling interval: Every 15 minutes

EXSPI-8X Information Store Db Log Threads Waiting

The EXSPI-8X Information Store Db Log Threads Waiting template generates alarm when the Information Store threads waiting to write to log exceeds the threshold value. It monitors the `Log Threads Waiting` counter of the `MSExchange Database ==> Instances` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

3: The template sends an alert message of severity Critical.

Polling interval: Every 2 minutes

EXSPI-8X Information Store Memory Errors

The EXSPI-8X Information Store Memory Errors template generates alarm when the number of memory errors exceeds the threshold value. It monitors the `Exchmem: Number of Memory errors` counter of the `MSExchangeIS` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

3: The template sends an alert message of severity Critical.

Polling interval: Every 15 minutes

EXSPI-8X Information Store Db Log Writes per sec

The EXSPI-8X Information Store Db Log Writes per sec template generates alarm when the number of times the transaction log buffers are written exceeds the threshold. It monitors the `Log Writes/sec` counter of the `MSExchange  Database ==> Instances` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

500: The template sends an alert message of severity Warning.

Polling interval: Every 5 minutes

EXSPI-8X Information Store User Count

The EXSPI-8X Information Store User Count template generates alarm when the Information Store user count exceeds the threshold value. It monitors the `User Count` counter of the `MSExchangeIS` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Performance (EX2007)

Default Threshold:

3500: The template sends an alert message of severity Warning.

Polling interval: Every 15 minutes

EXSPI-8X Get Public Folder Details

The EXSPI-8X Get Public Folder Details template obtains the details of the Public Folder with the help of the `Get-PublicFolderStatistics` cmdlet. The EXSPI-8X Get Public Folder Details template sends an alert message to the message browser when the total item size of the Public Folder exceeds the threshold of 50 bytes.

Collection Details

The Microsoft Exchange SPI stores the metric values collected by the EXSPI-8X Get Public Folder Details template in the `EX2007_PFDETAIL` table into the data store. The EXSPI-8X Get Public Folder Details template logs the metric values into the following columns in the `EX2007_PFDETAIL` table:

Metric Name	Column Name
DatabaseName	PF_DBNAME
StorageGroupName	PF_SGNAME
LastAccessTime	PF_LASTACCESS
ItemCount	PF_POSTCOUNT
ServerName	PF_SVRNAME
Name	PF_NAME
TotalItemSize	PF_SIZE

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Schedule: Every hour

EXSPI-8X Get Public IS Sum Data

The EXSPI-8X Get Public IS Sum Data template obtains the details of the Public Folder with the help of the `Get-PublicStoreSummary` cmdlet and stores the details into the data store.

Collection Details

The Microsoft Exchange SPI stores the metric values collected by the EXSPI-8X Get Public IS Sum Data template in the `EX2007_PFSUMMARY` table into the data store. The EXSPI-8X Get Public IS Sum Data template logs the metric values into the following columns in the `EX2007_PFSUMMARY` table:

Metric Name	Column Name
EDBFileSize	EDBSIZE
PublicFolderCount	FODLERCOUNT
Identity	INSTANCE_KEY
ServerName	SERVER_NAME
MessageCount	FOLDER_MSGCNT
EDBDriveFree	EDBFREE
EDBDriveTotal	EDBTOTAL
DatabaseName	DATABASE_NAME
EDBPath	EDBPATH
StorageGroupName	STORAGEGROUP_NAME

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Schedule: Once a week

EXSPI-8X Dc-IS Public Folder Performance

The EXSPI-8X Dc-IS Public Folder Performance template monitors the counters of the `MSExchangeIS Public` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Polling interval: Every 15 minutes

Collection Details

The EXSPI-8X Dc-IS Public Folder Performance template collects the following counters of the `MSExchangeIS Public` performance monitor object:

Counter Name	Data Type
Receive Queue Size	System.Int32
Average Delivery Time	System.Int32
Messages Delivered	System.Int32
Messages Sent	System.Int32

Counter Name	Data Type
Messages Submitted	System.Int32
Message Recipients Delivered	System.Int32
Active Client Logons	System.Int32
Client Logons	System.Int32
Peak Client Logons	System.Int32
Single Instance Ratio	System.Int32
Total Count of Recoverable Items	System.Int32
Total Size of Recoverable Items	System.Int32
Replication Messages Received	System.Int32
Replication Messages Sent	System.Int32
Replication Receive Queue Size	System.Int32

The Microsoft Exchange SPI creates the EX2007_PFPERF table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Receive Queue Size	PFRECEIVEQ
Average Delivery Time	PFDELIVERYTIME
Messages Delivered	PFDELIVER
Messages Sent	PFSENT
Messages Submitted	PFSUBMITTED
Message Recipients Delivered	PFRECIPIENT
Active Client Logons	PFACTIVELOGON
Client Logons	PFLOGON
Peak Client Logons	PFLOGONPEAK
Single Instance Ratio	PFSIRATIO
Total Count of Recoverable Items	PFRECOVERITEMS
Total Size of Recoverable Items	PFRECOVERSIZE
Replication Messages Received	PFREPRCVD
Replication Messages Sent	PFREPSENT
Replication Receive Queue Size	PFREPQ

EXSPI-8X Public Folder Average Delivery Time

The EXSPI-8X Public Folder Average Delivery Time template monitors the average delivery time for Public Folder Information Store instances. If the average delivery time exceeds the threshold, the template sends alert messages to the message browser. It monitors the `Average Delivery Time` counter of the `MSExchangeIS Public` performance monitor object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Default Threshold:

- **10000:** Critical
- **5000:** Warning

Polling interval: Every 5 minutes

EXSPI-8X PublicFolderItemCount

The EXSPI-8X PublicFolderItemCount template monitors the item count of the Public Folder. If the item count exceeds the threshold, the template sends an alert message to the message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Default Threshold:

10: The template sends an alert message of severity Minor.

Polling interval: Every 15 minutes

EXSPI-8X IS Public Receive Queue Length

The EXSPI-8X IS Public Receive Queue Length template monitors the `Receive Queue Size` counter from the `MSExchangeIS Public` performance object.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Default Threshold:

- **200:** The template sends an alert message of severity Critical.
- **100:** The template sends an alert message of severity Warning.

Polling interval: Every 2 minutes

EXSPI-8X IS Public Replication Queue Length

The EXSPI-8X IS Public Replication Queue Length template monitors the `Replication Receive Queue Size` counter of the `MSExchangeIS Public` performance monitor object. If the replication receive queue length of a Public Folder store instance exceeds the threshold, the template sends an alert message to the message browser.

Template type: Monitor

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Mailbox Server > EXSPI Public Folder (EX2007)

Default Threshold:

- **200:** The template sends an alert message of severity Critical.

- **100:** The template sends an alert message of severity Warning.

Polling interval: Every 2 minutes

6 Monitoring Edge Transport Servers

The EXSPI Edge Transport Server group includes the templates that help you monitor and manage the Exchange 2007 nodes with the edge transport role. The templates in this group help you monitor the details related to the message tracking settings, states of the services running on the edge transport server, and so on.

The group consists of the following subgroups and templates:

- **Template subgroups**
  - EXSPI Edge Server Availability—This group includes the EXSPI-8X Monitor Edge Server Services template, which monitors states of the services that are necessary for a smooth functioning of the Edge Transport Server. Additionally, this group includes three templates that monitor several event log sources on the Edge Transport node: EXSPI-8X MSExchange Messaging Policies, EXSPI-8X Ed-MSExchange EdgeSync-Errors and Warnings, and EXSPI-8X Ed-MSExchange Message Security.
  - EXSPI Edge Transport Agent—This group includes the following templates that help you collect metric data for several agents on the Edge Transport Servers, such as protocol analysis, Sender ID, Content Filter, Sender Filter, and so on:
    - EXSPI-8X Edge DC-MSExchange Attachment Filtering
    - EXSPI-8X Edge DC-MSExchange Protocol Analysis Agent
    - EXSPI-8X Edge DC-MSExchange Sender ID Agent
    - EXSPI-8X Edge DC-MSExchange Sender Filter Agent
    - EXSPI-8X Edge DC-MSExchange Connection Filtering Agent
    - EXSPI-8X Edge DC-MSExchange Content Filter Agent
    - EXSPI-8X Edge DC-MSExchange Recipient Filter Agent
  - EXSPI SMTP (EX2007)—This group includes the following templates to collect metric data for several counters of the performance monitor objects MSExchangeTransport SmtpReceive and MSExchangeTransport SmtpSend:
    - EXSPI-8X SMTP Performance for Outbound Connections
    - EXSPI-8X SMTP Performance for Inbound Connections
- Templates
  - EXSPI-8X Check Tracking Log Settings
  - EXSPI-8X Edge Get Configuration of the Transport Agent
  - EXSPI-8X Get Queue Data
  - EXSPI-8X Ed Sch-TransportQ
  - EXSPI-8X 721311
  - EXSPI-8X 721307
  - EXSPI-8X 721304

— EXSPI-8X Th-Delay DSNs

— EXSPI-8X Th-Failure DSNs Total

— EXSPI-8X 721310

— EXSPI-8X 721301

— EXSPI-8X 721303

— EXSPI-8X 721302

— EXSPI-8X 721305

To monitor the Edge Transport Servers, follow these steps:

1 Identify the Exchange 2007 nodes with the edge server role that you want to monitor.

2 Verify the schedules of the scheduled-action templates. If required, modify the schedule.

3 Deploy the scheduled-action templates on the identified nodes.

4 Review the polling intervals and thresholds of the monitor templates in this group. Change these settings if required.

5 Deploy the monitor templates on the identified nodes.

6 Similarly, deploy the Logfile templates on the identified nodes.

▶ Deploy the templates under the EXSPI Edge Transport Server group only on the nodes with the Edge Transport Server role.

EXSPI-8X Monitor Edge Server Services

The EXSPI-8X Monitor Edge Server Services template collects the states of the services necessary to run an edge transport server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Server Availability

Default schedule: Every 5 minutes

Monitoring Details

The EXSPI-8X Monitor Edge Server Services template monitors the states of the following services on the Edge Transport node:

• ADAM_MSExchange

• EdgeCredentialSvc

• MSExchangeTransport

• MSExchangeAntispamUpdate

• MSExchangeTransportLogSearch

The template generates appropriate alert messages if one of these services stops running.

EXSPI-8X MSExchange Messaging Policies

The EXSPI-8X MSExchange Messaging template monitors the source `MSExchange Messaging Policies` on the edge transport server. If an event is logged into the `MSExchange Messaging Policies` source, the EXSPI-8X MSExchange Messaging template sends a notification to the HPOM message browser with the event ID and description.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Server Availability

Polling interval: Every 30 minutes

EXSPI-8X Ed-MSExchange EdgeSync-Errors and Warnings

The EXSPI-8X Ed-MSExchange EdgeSync-Errors and Warnings template monitors source `MSExchange EdgeSync` on the edge transport server. If an event is logged into the `MSExchange EdgeSync` source, the EXSPI-8X Ed-MSExchange EdgeSync-Errors and Warnings template sends a notification to the HPOM message browser with the event ID and description.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Server Availability

Polling interval: Every 30 minutes

EXSPI-8X Ed-MSExchange Message Security

The EXSPI-8X Ed-MSExchange Message Security template monitors source `MSExchange Message Security` on the edge transport server. If an event is logged into the `MSExchange Message Security` source, the EXSPI-8X Ed-MSExchange Message Security template sends a notification to the HPOM message browser with the event ID and description.

Template type: LogFile

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Server Availability

Polling interval: Every 30 minutes

EXSPI-8X Edge DC-MSExchange Attachment Filtering

The EXSPI-8X Edge DC-MSExchange Attachment Filtering template collects data from different counters of the `MSExchange Attachment Filtering` performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Attachment Filtering template collects the values of the following counters of the MSExchange Attachment Filtering performance monitor object:

Counter Name	Data Type
Messages Attachment Filtered	System.Int32
Messages Filtered/sec	System.Int32

The Microsoft Exchange SPI creates the EX2007_ATTACHFILTER table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Name	INSTANCE_NAME
Server Name	SERVER_NAME
Messages Filtered/sec	MSGFILTERPERSEC
Messages Attachment Filtered	MSGATT_FILTERED

EXSPI-8X Edge DC-MSExchange Protocol Analysis Agent

The EXSPI-8X Edge DC-MSExchange Protocol Analysis Agent template collects data from several counters of the MSExchange Protocol Analysis Agent performance monitor object.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Protocol Analysis Agent template collects the values of the following counters of the MSExchange Protocol Analysis Agent performance monitor object:

Counter Name	Data Type
Senders Blocked Because of Remote Open Proxy	System.Int32
Senders Blocked Because of Remote SRL	System.Int32
Senders Processed	System.Int32
Senders Blocked Because of Local Open Proxy	System.Int32
Senders Bypass Local SRL calculation	System.Int32
Senders Blocked Because of Local SRL	System.Int32

The Microsoft Exchange SPI creates the EX2007_PRTAGT table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Instance Name	INSTANCE_NAME
Server Name	SERVER_NAME
Senders Blocked Because of Local Open Proxy	SENDBCK_LOPNPXY
Senders Blocked Because of Local SRL	SENDBCK_LCKEDLSRL
Senders Blocked Because of Remote SRL	SENDBCK_LCKEDRSRL
Senders Blocked Because of Remote Open Proxy	SENDBCK_ROPENPXY
Senders Bypass Local SRL calculation	SENDBYPASS_LSRLCALC
Senders Processed	SENDPROCESSED

EXSPI-8X Edge DC-MSExchange Sender ID Agent

The EXSPI-8X Edge DC-MSExchange Sender ID Agent template collects data from several counters of the MSExchange Sender Id Agent performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Sender ID Agent template collects the following counters of the MSExchange Sender Id Agent performance monitor object:

Counter Name	Data Type
Messages Validated with a TempError Result	System.Int32
Messages Validated	System.Int32
Messages Validated with a Fail - Non-existent Domain Result	System.Int32
Messages Validated with a Pass Result	System.Int32
Messages Validated with a PermError Result	System.Int32
Messages Validated with a Fail - Not Permitted Result	System.Int32
Messages Validated with a Fail - Malformed Domain Result	System.Int32
Messages Missing Originating IP	System.Int32
Messages Validated with a Neutral Result	System.Int32
Messages Validated with a SoftFail Result	System.Int32

Counter Name	Data Type
Messages With No PRA	System.Int32
Messages That Bypassed Validation	System.Int32
Messages Validated with a None Result	System.Int32

The Microsoft Exchange SPI creates the EX2007_SENDERID table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Messages Validated with a TempError Result	MSGTEMPERROR
Messages Validated	MSGVALIDATED
Messages Validated with a Fail - Non-existent Domain Result	MSGFAIL_NONEXISTDMN
Messages Validated with a Pass Result	MSGPASSRESULT
Messages Validated with a PermError Result	MSGPERMERROR
Messages Validated with a Fail - Not Permitted Result	MSGFAIL_NOTPERMIT
Messages Validated with a Fail - Malformed Domain Result	MSGFAILMALDOMAIN
Messages Missing Originating IP	MSGMISSORGIP
Messages Validated with a Neutral Result	MSGNEUTRALRESULT
Messages Validated with a SoftFail Result	MSGSOFTFAILED
Messages With No PRA	MSGWITHNOPRA
Messages That Bypassed Validation	MSGBYPASSED
Messages Validated with a None Result	MSGNONERESULT

EXSPI-8X Edge DC-MSExchange Sender Filter Agent

The EXSPI-8X Edge DC-MSExchange Sender Filter Agent template collects data from different counters of the MSExchange Sender Filter Agent performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Sender Filter Agent template collects the following counters of the MSExchange Sender Filter Agent performance monitor object:

Counter Name	Data Type
Messages Evaluated by Sender Filter	System.Int32
Messages Filtered by Sender Filter	System.Int32

The Microsoft Exchange SPI creates the EX2007_SENDERFILTER table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Messages Evaluated by Sender Filter	MSGEVALUATED
Messages Filtered by Sender Filter	MSGFILTERED

EXSPI-8X Edge DC-MSExchange Connection Filtering Agent

The EXSPI-8X Edge DC-MSExchange Connection Filtering Agent template collects data from different counters of the MSExchange Connection Filtering Agent performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Connection Filtering Agent template collects the following counters of the MSExchange Connection Filtering Agent performance monitor object:

Counter Name	Data Type
Connections on IP Block List	System.Int32
Connections on IP Allow List	System.Int32
Connections on IP Block List Providers	System.Int32
Connections on IP Allow List Providers	System.Int32

The Microsoft Exchange SPI creates the EX2007_CONNFILTER table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Connections on IP Block List	CONNIPBCKLIST
Connections on IP Allow List	CONNIPALLOWLIST
Connections on IP Block List Providers	CONNIPBCKLISTPVD
Connections on IP Allow List Providers	CONNIPALLOWLISTPVD

EXSPI-8X Edge DC-MSExchange Content Filter Agent

The EXSPI-8X Edge DC-MSExchange Content Filter Agent template collects data from several counters of the MSExchange Content Filter Agent performance monitor object.

Template type: Scheduled Action

Template group:SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Content Filter Agent template collects the following counters of the MSExchange Content Filter Agent performance monitor object:

Counter Name	Data Type
Messages Scanned	System.Int32
Messages with SCL 0	System.Int32
Messages with SCL 9	System.Int32
Messages with SCL 6	System.Int32
Messages with SCL 3	System.Int32
Messages Quarantined	System.Int32
Messages with SCL 2	System.Int32
Messages Deleted	System.Int32
Messages that Bypassed Scanning	System.Int32
Messages with SCL 1	System.Int32
Messages with SCL 5	System.Int32
Messages with SCL 7	System.Int32
Messages with SCL 4	System.Int32
Messages Rejected	System.Int32
Messages with SCL 8	System.Int32

The Microsoft Exchange SPI creates the EX2007_CONTFILTER table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Messages Scanned	MSGSCANNED
Messages with SCL 0	MSGWITHSCL0
Messages with SCL 9	MSGWITHSCL9
Messages with SCL 6	MSGWITHSCL6
Messages with SCL 3	MSGWITHSCL3
Messages Quarantined	MSGQUARANTINED
Messages with SCL 2	MSGWITHSCL2
Messages Deleted	MSGDELETED
Messages that Bypassed Scanning	MSGBYPASSSCAN
Messages with SCL 1	MSGWITHSCL1
Messages with SCL 5	MSGWITHSCL5

Metric Name	Column Name
Messages with SCL 7	MSGWITHSCL7
Messages with SCL 4	MSGWITHSCL4
Messages Rejected	MSGREJECTED
Messages with SCL 8	MSGWITHSCL8

EXSPI-8X Edge DC-MSExchange Recipient Filter Agent

The EXSPI-8X Edge DC-MSExchange Recipient Filter Agent template collects data from different counters of the MSExchange Recipient Filter Agent performance monitor object.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI Edge Transport Agent

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge DC-MSExchange Recipient Filter Agent template collects the following counters of the MSExchange Recipient Filter Agent performance monitor object:

Counter Name	Data Type
Recipients Rejected by Block List	System.Int32
Recipients Rejected by Recipient Validation	System.Int32

The Microsoft Exchange SPI creates the EX2007_RECPFILTER table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Recipients Rejected by Block List	RECPREJ_BCKLIST
Recipients Rejected by Recipient Validation	RECPREJ_RECPVLDATION

EXSPI-8X SMTP Performance for Outbound Connections

The template collects data from different counters of the MSExchangeTransport SmtpSend performance monitor object.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI SMTP (EX2007)

Default schedule: Every hour

Collection Details

The template collects the following counters of the MSExchangeTransport SmtpSend performance monitor object:

Counter Name	Data Type
Messages Sent Total	System.Int32
Message Bytes Sent Total	System.Int32
Connections Current	System.Int32
Connections Total	System.Int32
Bytes Sent Total	System.Int32

The Microsoft Exchange SPI creates the EX2007_SMTPSEND table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Message Bytes Sent Total	SMTPMSGBYTESEND
Messages Sent Total	SMTPMSGSEND
Connections Current	SMTPCONNCURR
Connections Total	SMTPCONNTOT
Bytes Sent Total	SMTPBYTESEND

EXSPI-8X SMTP Performance for Inbound Connections

The template collects data from different counters of the MSExchangeTransport SmtpReceive performance monitor object.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server > EXSPI SMTP (EX2007)

Default schedule: Every hour

Collection Details

The template collects the following counters of the MSExchangeTransport SmtpReceive performance monitor object:

Counter Name	Data Type
Messages Sent Total	System.Int32
Message Bytes Sent Total	System.Int32
Connections Current	System.Int32
Connections Total	System.Int32
Bytes Sent Total	System.Int32

The Microsoft Exchange SPI creates the EX2007_SMTPRECV table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Messages Received Total	SMTPMSGBYTERECV
Message Bytes Received Total	SMTPMSGRECV
Connections Current	SMTPCONNCURR
Connections Total	SMTPCONNTOT
Bytes Received Total	SMTPBYTERECV

EXSPI-8X Check Tracking Log Settings

The EXSPI-8X Edge Check Tracking Log Settings template collects the details related to the names and states of Edge Transport servers on which message tracking logs and message subject tracking logs are enabled and displays those details in the message browser.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default schedule: Every hour

EXSPI-8X Edge Get Configuration of the Transport Agent

The EXSPI-8X Edge Get Configuration of the Transport Agent template collects and stores the details of the transport agent on the Edge Transport Server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default schedule: Every 15 minutes

Collection Details

The EXSPI-8X Edge Get Configuration of the Transport Agent template collects the following metrics of the transport agent:

Metric Name	Data Type
Priority	System.String
Enabled	System.Boolean
Identity	System.String

The Microsoft Exchange SPI creates the EX2007_AGCFG table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Priority	AGCFG_PRI
Enabled	AGCFG_EN
Identity	AGCFG_ID

EXSPI-8X Get Queue Data

The template collects and stores the details of the queue on the Edge Transport Server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default schedule: Every 15 minutes

Collection Details

The template collects the following metrics of the transport agent:

Metric Name	Data Type
DeliveryType	System.String
NextHopConnector	System.String
NextHopDomain	System.String
MessageCount	System.Int32
LastError	System.String
Identity	System.String

The Microsoft Exchange SPI creates the EX2007_QINFO table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
DeliveryType	QINFO_DLVTYPE
NextHopConnector	QINFO_NHDOMAIN
NextHopDomain	QINFO_NHCNNT
MessageCount	QINFO_MSGCNT
LastError	QINFO_LSTERR
Identity	QINFO_ID

EXSPI-8X Ed Sch-TransportQ

The template collects and stores the values of different counters of all instances of the MSExchangeTransport Queues performance monitor object.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default schedule: Every 5 minutes

Collection Details

The template collects the following counters of the MSExchangeTransport Queues performance monitor object (for all the instances):

Counter Name	Data Type
Active Non-SMTP Delivery Queue Length	System.Int32
Retry Non-SMTP Delivery Queue Length	System.String
Active Mailbox Delivery Queue Length	System.String
Submission Queue Length	System.Boolean
Aggregate Delivery Queue Length (All Queues)	System.Int32
Unreachable Queue Length	System.Int32
Retry Remote Delivery Queue Length	System.Int32
Poison Queue Length	System.Int32
Largest Delivery Queue Length	System.Int32
Retry Mailbox Delivery Queue Length	System.Int32
Active Remote Delivery Queue Length	System.Int32

The Microsoft Exchange SPI creates the EX2007_TRANSQ table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Active Non-SMTP Delivery Queue Length	ACT_NONSMTP_DQLENG
Retry Non-SMTP Delivery Queue Length	RETRY_NONSMTP_QLEN
Active Mailbox Delivery Queue Length	ACT_MDQ_LENGTH
Submission Queue Length	SUB_Q_LENGTH
Aggregate Delivery Queue Length (All Queues)	AGGDEL_ALLQ_LEN
Unreachable Queue Length	UNREACH_Q_LENGTH
Retry Remote Delivery Queue Length	RETRY_REM_DQ_LEN
Poison Queue Length	POISON_Q_LENGTH
Largest Delivery Queue Length	LARG_DQ_LEN
Retry Mailbox Delivery Queue Length	RET_MD_Q_LEN
Active Remote Delivery Queue Length	ACT_REM_DQ_LEN

EXSPI-8X Sch-EdActMailDelvQLength

The template gathers data from the Active Mailbox Delivery Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721311 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721311

▶   Always deploy this template with the EXSPI-8X Sch-EdActMailDelvQLength template.

The template monitors the Active Mailbox Delivery Queue Length counter of the `_Total` instance of the MSExchangeTransport Queues performance monitor object. If the Active Mailbox Delivery Queue Length exceeds the threshold, the template sends alerts to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **250:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **200:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdActRemoteDelvQLength

The template gathers data from the Active Remote Delivery Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721307 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721307

▶   Always deploy this template with the EXSPI-8X Sch-EdActRemoteDelvQLength template.

The template monitors the Active Remote Delivery Queue Length counter of the `_Total` instance of the MSExchangeTransport Queues performance monitor object. If the Active Remote Delivery Queue Length exceeds the threshold, the template sends an alert to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **250:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.
- **200:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdAggDelvQLength

The template gathers data from the Aggregate Delivery Queue Length (All Queues) counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721304 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721304

▶ Always deploy this template with the EXSPI-8X Sch-EdAggDelvQLength template.

The template monitors the Aggregate Delivery Queue Length (All Queues) counter of the `_Total` instance of the MSExchangeTransport Queues performance monitor object. When the count of Aggregate Delivery Queue Length (All Queues) exceeds the threshold, the template sends an alert to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **5000:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.
- **3000:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Th-Delay DSNs

The template gathers the value of the Delay DSNs counter of the `Internal` instance of the MSExchangeTransport DSN performance monitor object and forwards the data to the EXSPI-8X-7236 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X-7236

▶ Always deploy this template with the EXSPI-8X Th-Delay DSNs template.

This template sends alerts to the message browser when the value of the Delay DSNs counter of the `Internal` instance of the MSExchangeTransport DSN performance monitor object exceeds the threshold.

Default threshold:

- **20:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **10:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Th-Failure DSNs Total

The EXSPI-8X Edge Th-Failure DSNs Total template monitors the Failure DSNs Total counter of the `Internal` instance of the MSExchangeTransport DSN performance monitor object.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X-7235

▶ Always deploy this template with the EXSPI-8X Th-Failure DSNs Total template.

This template sends alerts to the message browser when the value of the Failure DSNs counter of the `Internal` instance of the MSExchangeTransport DSN performance monitor object exceeds the threshold.

Default threshold:

- **40:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **30:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdLDelvQLength

The template gathers data from the Largest Delivery Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721310 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721310

➤ Always deploy this template with the EXSPI-8X Sch-EdLDelvQLength template.

The template monitors the Largest Delivery Queue Length counter of the `_Total` instance of the MSExchangeTransport DSN performance monitor object. When the count of Largest Delivery Queue Length exceeds the threshold, the template sends an alert to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **250:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **200:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdPoisonQLength

The template gathers data from the Poison Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721301 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721301

Always deploy this template with the EXSPI-8X Sch-EdPoisonQLength template.

The template monitors the Poison Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object. When the Poison Message queue-length count exceeds the threshold, the template sends an alert to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **5:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **1:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdRetryNonSmtpDelvQLength

The template gathers data from the Retry Non-SMTP Delivery Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721303 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721303

▶ Always deploy this template with the EXSPI-8X Sch-EdRetryNonSmtpDelvQLength template.

The template monitors the Retry Non-SMTP Delivery Queue Length counter of the `_Total` instance of the MSExchangeTransport Queues performance monitor object. When the Retry Non-SMTP Delivery-Queue length exceeds the threshold, the template sends an alert to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **250:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **200:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdSubmissionQLength

The template gathers data from the Retry Non-SMTP Delivery Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721302 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721302

▶ Always deploy this template with the EXSPI-8X Sch-EdSubmissionQLength template.

The template monitors the Submission Queue Length counter of the `_Total` instance of the MSExchangeTransport Queues performance monitor object. When the submission queue-length count exceeds the threshold, the template sends an alert to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **150:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **50:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

EXSPI-8X Sch-EdUnReachableQLength

The template gathers data from the Unreachable Queue Length counter of the _Total instance of the MSExchangeTransport Queues performance monitor object and forwards the data to the EXSPI-8X 721305 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Schedule: Every 5 minutes

EXSPI-8X 721305

Always deploy this template with the EXSPI-8X Sch-EdUnReachableQLength template.

The template monitors the Unreachable Queue Length counter of the `_Total` instance of the MSExchangeTransport Queues performance monitor object. It monitors the count of the available messages in the unreachable queue.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Edge Transport Server

Default threshold:

- **250:** The Microsoft Exchange SPI sends an alert message with the Critical severity to the message browser when this threshold is violated.

- **150:** The Microsoft Exchange SPI sends an alert message with the Warning severity to the message browser when this threshold is violated.

7 Monitoring Unified Messaging Servers

The EXSPI Unified Messaging Server group includes the templates that help you monitor and manage the Exchange 2007 nodes with the unified messaging role. The templates in this group help you monitor the details related to the Unified Messaging PIN, Unified Messaging IP gateways, Unified Messaging hunt groups, and so on.

The group consists of the following subgroups and templates:

- **Template subgroups**
  - EXSPI UMServer Availability—This group includes the EXSPI-8X Monitor Unified Messaging Server Services template, which monitors states of the services that are necessary for a smooth function of the Unified Messaging Server.
  - UM File Distribution Service—This group includes the following templates that help you monitor the MSExchangeFDS:UM performance monitor object from the Unified Messaging Servers:
    - EXSPI-8X-DownloadTasksCompleted-UM
    - EXSPI-8X-7231
    - EXSPI-8X -UM-FDS-CollectMetrics
    - EXSPI-8X-5DownloadTaskQueued-UM
    - EXSPI-8X 7230
- **Templates**
  - EXSPI-8X GetUM IPGatewayDetails
  - EXSPI-8X Get UMServer Details
  - EXSPI-8X Get UMMailbox Pin Details
  - EXSPI-8X Get Unified Messaging Mailbox Details
  - EXSPI-8X Get UMHuntGroup Details
  - EXSPI-8X UM Sch-UMFAX
  - EXSPI-8X UM Sch-UMSubAccess
  - EXSPI-8X UM Sch-UMAVAILABILITY
  - EXSPI-8X UM Sch-UMGeneral
  - EXSPI-8X UM Sch-UMAutoAttendant
  - EXSPI-8X UM Sch-UMCallAnswer
  - EXSPI-8X UM Sch-UMCAQMsg
  - EXSPI-8X-7926

To monitor the Unified Messaging Servers, follow these steps:

1 Identify the Exchange 2007 nodes with the unified messaging server role that you want to monitor.

2 Verify the schedules of the scheduled-action templates. If required, modify the schedule.

3 Deploy the scheduled-action templates on the identified nodes.

4 Review the polling intervals and thresholds of the monitor templates in this group. Change these settings if required.

5 Deploy the monitor templates on the identified nodes.

The following sections present the details of each template in the Unified Messaging Server group.

EXSPI-8X Monitor Unified Messaging Server Services

The EXSPI-8X Monitor Unified Messaging Server Services template collects the states of the services necessary to run unified messaging server.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server > EXSPI UMServer Availability

Default schedule: Every 5 minutes

Monitoring Details

The EXSPI-8X Monitor Unified Messaging Server Services template monitors the states of the following services on the Unified Messaging node:

• MS-ExchangeADTopology

• MSExchangeFDS

• MSSpeechService

• MSExchangeUM

The template generates appropriate alert messages if one of these services stops running.

EXSPI-8X-DownloadTasksCompleted-UM

The template gathers data from the `Download Tasks Completed` counter of the `MSExchangeFDS:UM` performance monitor object and forwards the data to the EXSPI-8X-7231 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server > UM File Distribution Service

Schedule: Every hour

EXSPI-8X-7231

▶ Always deploy this template with the EXSPI-8X-DownloadTasksCompleted-UM template.

The template monitors the `Download Tasks Completed` counter of the `MSExchangeFDS:UM` performance monitor object. This counter indicates the number of completed download tasks.

When the value of the `Download Tasks Completed` counter of the `MSExchangeFDS:UM` performance monitor object reaches the threshold, the template sends an alert message to the message browser.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server > UM File Distribution Service

Default threshold: 0

EXSPI-8X -UM-FDS-CollectMetrics

The template collects the values of the values of different counters of the Download Tasks Completed performance monitor object.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server > UM File Distribution Service

Polling interval: Every 15 minutes

Collection Details

The template collects the following counters of the MSExchangeFDS:UM performance monitor object from the Unified Messaging Server node:

Counter Name	Data Type
Download Tasks Completed	System.Int32
Download Tasks Queued	System.Int32

The Microsoft Exchange SPI creates the EX2007_FDSUM table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Name	INSTANCE_NAME
Server Name	SERVER_NAME
Download Tasks Queued	TASK_QUEUED
Download Tasks Completed	TASKS_COMPLETED

EXSPI-8X-5DownloadTaskQueued-UM

The template gathers the value of the Download Task Queued counter of the MSExchangeFDS:UM performance monitor object and forwards the data to the EXSPI-8X-7230 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server > UM File Distribution Service

Schedule: Every hour

EXSPI-8X 7230

▶ Always deploy this template with the EXSPI-8X-5DownloadTaskQueued-UM template.

The template monitors the Download Task Queued counter of the MSExchangeFDS:UM performance monitor object. This counter indicates the number of queued download tasks.

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server > UM File Distribution Service

Default threshold:

- Critical: 10
- Warning: 5

EXSPI-8X Get UMServer Details

The EXSPI-8X Get UMServer Details template collects details related to the unified messaging server and logs the collected data into the data store.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Default schedule: Every hour

Collection Details

The EXSPI-8X Get UMServer Details template collects the following metrics from the Unified Messaging Server node:

Metric Name	Data Type
Name	System.String
MaxCallAllowed	System.Int32
MaxFaxCallAllowed	System.Int32
MaxTTSSessionsAllowed	System.Int32
MaxASRSessionsAllowed	System.Int32
Status	System.String

The Microsoft Exchange SPI creates the EX2007_UMSRV table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Name	UMSRV_NAME
MaxCallAllowed	UMSRV_CALLS
MaxFaxCallAllowed	UMSRV_FAX
MaxTTSSessionsAllowed	UMSRV_TTS
MaxASRSessionsAllowed	UMSRV_ASR
Status	UMSRV_STATUS

EXSPI-8X Get UMMailbox Pin Details

The EXSPI-8X Get UMMailbox Pin Details template collects details related to the unified messaging mailbox PIN and logs the collected data into the data store.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Default schedule: Every hour

Collection Details

The EXSPI-8X Get UMMailbox Pin Details template collects the following metrics from the Unified Messaging Server node:

Metric Name	Data Type
UserID	System.String
PinExpired	System.Boolean
FirstTimeUser	System.Boolean
LockedOut	System.Boolean

The Microsoft Exchange SPI creates the EX2007_UMPIN table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
UserID	UMPIN_USER
PinExpired	UMPIN_EXP
FirstTimeUser	UMPIN_FRST
LockedOut	UMPIN_LOCK

EXSPI-8X GetUM IPGatewayDetails

The EXSPI-8X GetUM IPGatewayDetails template collects details related to the IP gateway of the unified messaging server and logs the collected data into the data store.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Default schedule: Every hour

Collection Details

The EXSPI-8X GetUM IPGatewayDetails template collects the following metrics from the Unified Messaging Server node:

Metric Name	Data Type
Name	System.String
Address	System.String
OutcallsAllowed	System.Boolean
Enabled	System.String
Port	System.Int32
Simulator	System.Boolean

The Microsoft Exchange SPI creates the EX2007_UMIPGWAY table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Name	UMIPGWAY_NAME
Address	UMIPGWAY_ADD
OutcallsAllowed	UMIPGWAY_OUT
Enabled	UMIPGWAY_EN
Port	UMIPGWAY_PORT
Simulator	UMIPGWAY_SIM

EXSPI-8X Get UMHuntGroup Details

The EXSPI-8X Get UMHuntGroup Details template collects details related to the hunt group of the unified messaging server and logs the collected data into the data store.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Default schedule: Every hour

Collection Details

The EXSPI-8X Get UMHuntGroup Details template collects the following metrics from the Unified Messaging Server node:

Metric Name	Data Type
Name	System.String
PilotIdentifier	System.String
UMDialPlan	System.String

The Microsoft Exchange SPI creates the EX2007_UMHUNT table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Name	UMHUNT_NAME
PilotIdentifier	UMHUNT_PILOT
UMDialPlan	UMHUNT_PLAN

EXSPI-8X Get Unified Messaging Mailbox Details

The EXSPI-8X Get Unified Messaging Mailbox Details template collects details related to the mailbox of the unified messaging server and logs the collected data into the data store.

Template type: Scheduled Action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Default schedule: Every hour

Collection Details

The EXSPI-8X Get Unified Messaging Mailbox Details template collects the following metrics from the Unified Messaging Server node:

Metric Name	Data Type
AllowUMCallsFromNonUsers	System.String
AnonymousCallerCanLeaveMessages	System.Boolean
ASREnabled	System.Boolean
AutomaticSpeechRecognityionEnabled	System.Boolean
DialPlan	System.String
DisplayName	System.String
FaxEnabled	System.Boolean
MissedCallNotificationEnable	System.Boolean
Name	System.String
PrimarySmtpAddress	System.String

Metric Name	Data Type
ServerName	System.String
SubscriberAccessEnable	System.Boolean
TUIAccessToAddressBookEnabled	System.Boolean
TUIAccessToCalendarEnabled	System.Boolean
TUIAccessToEmailEnabled	System.Boolean
UMEnabled	System.Boolean
UMFaxId	System.String
UMMailboxPolicy	System.String
UMMaxGreetingDuration	System.Int32
UMOperatorNumber	System.String

The Microsoft Exchange SPI creates the EX2007_UMMBOX table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
AllowUMCallsFromNonUsers	UMMBOX_NONUSR
AnonymousCallerCanLeaveMessages	UMMBOX_ANONYCALL
ASREnabled	UMMBOX_ASR
AutomaticSpeechRecognityionEnabled	UMMBOX_SPCH
DialPlan	UMMBOX_DIAL
DisplayName	UMMBOX_DNAME
FaxEnabled	UMMBOX_FAX
MissedCallNotificationEnable	UMMBOX_MISSCALL
Name	UMMBOX__NAME
PrimarySmtpAddress	UMMBOX_PRISMTP
ServerName	UMMBOX_SNAME
SubscriberAccessEnable	UMMBOX_SUBACC
TUIAccessToAddressBookEnabled	UMMBOX_TUIBOOK
TUIAccessToCalendarEnabled	UMMBOX_TUICALL
TUIAccessToEmailEnabled	UMMBOX_TUIMAIL
UMEnabled	UMMBOX_EN
UMFaxId	UMMBOX_FXID
UMMailboxPolicy	UMMBOX_MPOL
UMMaxGreetingDuration	UMMBOX_GREET
UMOperatorNumber	UMMBOX_OPER

EXSPI-8X UM Sch-UMAutoAttendant

The template collects data from different counters of the MSExchangeUMAutoAttendant performance monitor object and stores the value of several counters into the data store.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

Collection Details

The template collects the following counters from the Unified Messaging Server node:

Counter Name	Data Type
Out of Hours Calls	System.Int32
Business Hours Calls	System.Int32
Average Call Time	System.Int32
Operator Transfers	System.Int32

The Microsoft Exchange SPI creates the EX2007_UMAUTO_ATTEN table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Out of Hours Calls	OUT_OF_HR_CALLS
Business Hours Calls	BUSS_HR_CALLS
Average Call Time	AVERAGE_CALL_TIME
Operator Transfers	OPER_TRANSFERS

EXSPI-8X UM Sch-UMAVAILABILITY

The template collects data from different counters of the MSExchangeUMAvailability performance object.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

Collection Details

The template collects the following counters of the MSExchangeUMAvailability performance object from the Unified Messaging Server node:

Counter Name	Data Type
Hub Transport Access Failures	System.Int32
Directory Access Failures	System.Int32
Calls Disconnected by UM on Irrecoverable External Error	System.Int32
Calls Disconnected on Irrecoverable Internal Error	System.Int32
Mailbox Server Access Failures	System.Int32

The Microsoft Exchange SPI creates the EX2007_UMAVAIL table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Hub Transport Access Failures	HUB_ACCESS_FAIL
Directory Access Failures	DIR_ACCESS_FAIL
Calls Disconnected by UM on Irrecoverable External Error	CALLS_DISCN_EXT_ERR
Calls Disconnected on Irrecoverable Internal Error	CALLS_DISCN_INT_ERR
Mailbox Server Access Failures	MSERV_ACCESS_FAIL

EXSPI-8X UM Sch-UMGeneral

The template collects data from different counters of the MSExchangeUMGeneral performance monitor object and stores the data into the data store.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

Collection Details

The template collects the following counters of the MSExchangeUMGeneral performance object from the Unified Messaging Server node:

Counter Name	Data Type
Delayed Calls	System.Int32
Total Calls	System.Int32

The Microsoft Exchange SPI creates the EX2007_UMGENERAL table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Delayed Calls	DELAYED_CALLS
Total Calls	TOTAL_CALLS

EXSPI-8X UM Sch-UMSubAccess

The template collects data from different counters of the MSExchangeUMSubscriberAccess performance monitor object and stores the data into the data store.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

Collection Details

The template collects the following counters of the MSExchangeUMSubscriberAccess performance object from the Unified Messaging Server node:

Counter Name	Data Type
Email Messages Heard	System.Int32
Voice Messages Sent	System.Int32
Average Subscriber Call Duration	System.Int32
Email Message Queue Accessed	System.Int32

The Microsoft Exchange SPI creates the EX2007_UMSUBACCESS table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Email Messages Heard	EMAIL_MSG_HEARD
Voice Messages Sent	VOICE_MSG_SENT
Average Subscriber Call Duration	AVER_SUB_CALL_DURA
Email Message Queue Accessed	EMAIL_MSGQ_ACCESSED

EXSPI-8X UM Sch-UMCallAnswer

The template collects data from different counters of the MSExchangeUMCallAnswer performance monitor object and stores the data into the data store.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

Collection Details

The template collects the following counters of the MSExchangeUMCallAnswer performance object from the Unified Messaging Server node:

Counter Name	Data Type
Call Answering Missed Calls	System.Int32
Average Voice Message Size	System.Int32

The Microsoft Exchange SPI creates the EX2007_UMCALLANS table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Call Answering Missed Calls	CALL_ANSMISSED_CALLS
Average Voice Message Size	AV_VMSG_SIZE

EXSPI-8X UM Sch-UMFAX

The template collects data from different counters of the MSExchangeUMFax performance monitor object and stores the data into the data store.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

Collection Details

The template collects the following counters of the MSExchangeUMFax performance object from the Unified Messaging Server node:

Counter Name	Data Type
Fax Messages	System.Int32
Fax Incomplete	System.Int32

The Microsoft Exchange SPI creates the EX2007_UMFAX table into the data store on the node to store these details. The collected metrics are mapped into the following columns:

Metric Name	Column Name
Fax Messages	FAX_MSG
Fax Incomplete	FAX_INCOMPLETE

EXSPI-8X UM Sch-UMCAQMsg

The template gathers data from the Call Answer Queued Messages counter of the MSExchangeUMAvailability performance object counter and forwards the data to the EXSPI-8X-7926 template.

Template type: Scheduled action

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

Schedule: 5 minutes

EXSPI-8X-7926

Always deploy this template with the EXSPI-8X UM Sch-UMCAQMsg template.

The template monitors the data sent by he EXSPI-8X UM Sch-UMCAQMsg template and sends alerts to the message browser when the threshold is violated.

Default threshold:

- Critical: 100
- Warning: 50

Template type: Monitor

Template group: SPI for MS Exchange > EXSPI Exchange 2007 > EXSPI Standard Groups (EX2007) > EXSPI Unified Messaging Server

8 Exchange 2003 Templates

Summary of Exchange 2003 Monitor Templates

▶ Use the EXSPI Exchange 2003 group for Exchange 2003 nodes only. Exchange 2000 and 5.5 nodes are not supported (though Exchange 2000 and 5.5 versions are mentioned in the instruction text of some of these templates).

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
EXSPI Specialized Groups (Ex2003)		
EXSPI Exchange Server		
EXSPI Message Delivery (no monitor templates)		
EXSPI Server Availability		
	EXSPI-6X-0002	Inactive Process Monitor (Checks that processes are using CPU)
EXSPI Server Transaction Log		
	EXSPI-6X-0005	Low Log File Disk Space
	EXSPI-6X-0006	Transaction Log File Disc Space
EXSPI Site Replication Service		
	EXSPI-6X-0110	Monitors directory replication to verify that synchronization updates are being processed efficiently.
	EXSPI-6X-0111	Monitors directory replication to verify that synchronization updates are being processed efficiently
	EXSPI-6X-0112	Monitors the disk space used by the Site Replication Service database log files.
	EXSPI-6X-0113	Monitors the disk space used by the Site Replication Service database log files.

Table 1   **Summary of Exchange 2003 Monitor Templates**

Template group	Template	Description
EXSPI Standard Groups (Ex2003)		
EXSPI Availability		
	EXSPI-6X-0001	Process Monitor (Monitors CPU time used by Exchange processes)
	EXSPI-6X-1001	MSExchange Services Monitor
EXSPI Client Access (Ex2003)		
EXSPI ActiveSync		
	EXSPI-65-ActiveSyncADRequests	Alarms on Microsoft Exchange ActiveSync current Active Directory requests.
	EXSPI-65-ActiveSyncMboxConnReq	Alarms on Microsoft Exchange ActiveSync outstanding Exchange mailbox server connection requests.
	EXSPI-65-ActiveSyncMboxPendReqs	Alarms on Microsoft Exchange ActiveSync outstanding Exchange mailbox server I/O requests.
	EXSPI-65-ActiveSyncUsers	Alarms on Microsoft Exchange ActiveSync current users.
EXSPI IMAP4		
	EXSPI-6X-IMAP4Connections	Monitors IMAP4 connections.
	EXSPI-6X-2811	IMAP4 Failed Connections percentage.
	EXSPI-6X-2812	IMAP4 Rejected Connection percentage.
EXSPI MAPI		
	EXSPI-6X-IS_RPCAveragedLatency	Alarms on the number of MAPI client Average Latency. IS RPC Averaged Latency is the RPC latency in milliseconds, averaged for the past 1024 packets.
	EXSPI-6X-IS_RPCOperations	Alarm on number of MAPI client RPC operations/sec
	EXSPI-6X-IS_RPCRequest	Alarm on number of MAPI client RPC requests
EXSPI OMA		
	EXSPI-65-OMAResponseTime	Monitors the response time of the last request in milliseconds.

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
EXSPI OWA		
EXSPI Back End (no monitor Templates)		
EXSPI Front End		
	EXSPI-6X-OWACurrentConnections	Monitors the OWA current connections.
EXSPI Outlook 2003		
	EXSPI-65-OutlookClientLatency10	Monitors the number of successful RPCs with latencies of more than 10 seconds.
	EXSPI-65-OutlookClientLatency5	Monitors the number of successful RPCs with latencies of more than 5 seconds.
	EXSPI-65-OutlookClientLatency2	Monitors the number of successful RPCs with latencies of more than 2 seconds.
EXSPI POP3		
	EXSPI-6X-POP3Connections	Monitors POP3 connections.
	EXSPI-6X-4911	POP3 Failed Connections percentage.
	EXSPI-6X-4912	POP3 Rejected Connection percentage.
EXSPI Cluster (Ex2003)		
	EXSPI-6X-ClusterConnLimits	Monitors the number of client processes connected to the information store. Server performance can degrade when connection limits exceed those recommended by Microsoft.
EXSPI Directory		
	EXSPI-6X-0023	Monitors the ratio of MSExchangeDSAccess Cache hit rate (hits/sec) and miss rate (misses/sec).
EXSPI Information Store (Ex2003)		
EXSPI Epoxy (Ex2003)		
	EXSPI-65-EpoxyStoreOutQueueLength	Alarm on epoxy store out queue length
	EXSPI-65-EpoxyClientOutQueueLength	Alarm on epoxy client out queue length

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
EXSPI Full Text Index		
	EXSPI-6X-0074	This metric measures the percentage of free disk space available for the full text index of an Exchange server information store.
EXSPI Mailbox (Ex2003)		
	EXSPI-6X-ISMailboxReceiveQueueLength	Monitors the number of messages in the mailbox information store receive queue.
	EXSPI-6X-ISMailboxSendQueueLength	Monitors the number of messages in the mailbox information store send queue.
	EXSPI-6X-0070	Mailbox Database File Disk Space
	EXSPI-6X-ISPublicAverageDeliveryTime	Average Delivery Time is the average time between the submission of a message to the mailbox store, and submission to other storage providers, for the last 10 messages.
	EXSPI-6X-ISPublicAverageLocalDeliveryTime	Average Local Delivery Time is the average time in milliseconds between the submission of a message to the mailbox store and the delivery to all local recipients (recipients on the same server) for the last 10 messages. This counter should not be greater than zero for more than a few seconds.
EXSPI Performance (Ex2003)		
	EXSPI-6X-InformationStoreDbCacheSize	Alarms on the IS Database Cache Size Limits. The database cache size of an IS shows the amount of system memory used by the database cache manager to hold commonly used information from the database files in order to prevent file i/o operations.
	EXSPI-6X-InformationStoreDbLogRecordStallspersec	Alarm on Information Store Transaction Log Record Buffer Addition Stalls
	EXSPI-6X-InformationStoreDbLogThreadsWaiting	Alarm on Information Store Threads Waiting to write to Transaction Log
	EXSPI-6X-InformationStoreDbLogWriterspersec	Alarm on the number of times the transaction log buffers are written

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
	EXSPI-6X-InformationStoreUserCount	Monitors the number of users connected to the information store.
	EXSPI-6X-InformationStoreVMLargestBlock	Alarms on largest free block of virtual memory. IS Largest Block is the size of the largest free block of virtual memory available to the store process.
	EXSPI-6X-InformationStoreVMLargeBlockBytes	Alarms on the total size of large VM blocks available. IS VM Total Large Free Block Bytes is the total size of all free virtual memory blocks that are greater than or equal to 16MB in size.
	EXSPI-6X-InformationStoreVM16MBBlocks	Alarms on the number of 16MB blocks available. IS VM Total 16MB Free Blocks is the total number of free virtual memory blocks that are greater than or equal in size to 16MB.
EXSPI Public Folder (Ex2003)		
	EXSPI-6X-ISPublicAverageDeliveryTime	Monitors the average time between the submission of a message to the public store and submission to other storage providers for the last 10 messages.
	EXSPI-6X-ISPublicReceiveQueueLength	Monitors the number of messages in the public store's receive queue.
	EXSPI-6X-ISPublicSendQueueLength	Monitors the number of messages in the public store's send queue.
	EXSPI-6X-ISPublicReplicationQueueLength	Monitors the number of replication messages waiting to be processed.
	EXSPI-6X-0072	Monitors the amount of disk space being used by the public folder database.
EXSPI Transaction Log		
	EXSPI-6X-0008	Monitors the oldest Exchange transaction log files for a storage group.
	EXSPI-6X-0004	Monitors the percentage of free disk space where the Exchange transaction log files reside.
EXSPI Virus Scan		

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
	EXSPI-6X-VSQueueLength	Checks the Information Store Anti Virus API Queue Length.

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
EXSPI Messaging		
EXSPI MTA		
	EXSPI-6X-0075	Alarms on the percent of free disk space available for the X.400 server MTA queue.
	EXSPI-6X-300006	This metric measures the Work Queue Length minus the Deferred Delivery Messages, with respect to the rate that messages are processed.
	EXSPI-6X-300007	This metric divides the number of Rejected Inbound Associations by Cumulative Inbound Associations, over the current interval, which reveals a relative rate of rejected associations.
	EXSPI-6X-300008	This metric measures the total number of messages rejected from this entity since the last interval, with respect to the total number of messages received since the last interval.
	EXSPI-6X-300009	This metric measures the number of outstanding messages in the Work Queue, which indicates the number of messages not yet processed to completion by the MTA, relative to the number of messages successfully processed by the MTA.
	EXSPI-6X-300010	This metric measures the number of failed associations since the last interval, divided by the number of associations since the last interval.
	EXSPI-6X-300011	This metric measures the total number of messages which failed to be converted from one form to another since the last interval, with respect to the total number of messages successfully converted since the last interval.
	EXSPI-6X-MTAConnectionQueueLengths	This metric measures the number of outstanding messages queued for transfer to the entity.
	EXSPI-6XMTAConnectionMessageDelay	This metric measures the amount of seconds that the oldest message has been in the MTA queue.

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
EXSPI NNTP		
	EXSPI-6X-0058	Newsfeed Outbound Connections Failed.
EXSPI SMTP		
	EXSPI-6X-SMTPCategorizerQueueLength	Monitors the number of messages in the SMTP Categorizer Queue. The Categorizer performs lookups and checks limits and restrictions in Active Directory. Messages accumulate in this queue because the advanced queuing engine cannot categorize them.
	EXSPI-6X-SMTPLocalQueueLength	Monitors the number of messages in the SMTP Local queue.
	EXSPI-6X-SMTPRemoteRetryQueueLength	Monitors the number of messages that are destined for a remote delivery.
	EXSPI-6X-SMTPRemoteQueueLength	Monitors the number of messages that are destined for a remote delivery.
	EXSPI-6X-SMTPMessagesPendingRouting	Monitors the number of messages that have been categorized but not routed.
	EXSPI-6X-SMTPLocalRetryQueueLength	Monitors the number of messages in the SMTP Local Retry queue.
	EXSPI-6X-3000001	Monitors the SMTP Outbound Connection Refused. This is the percentage of outbound SMTP connections refused by remote sites against the total outbound connections for each SMTP virtual server.
	EXSPI-6X-0082	This metric measures the disk space usage by the SMTP badmail folder.
	EXSPI-6X-0083	This metric measures the growth rate of items in the SMTP badmail directory.
	EXSPI-6X-0084	This metric measures the disk space usage by the SMTP pickup folder.
	EXSPI-6X-0085	This metric measures the growth rate of items in SMTP pickup directory.

Table 1   Summary of Exchange 2003 Monitor Templates

Template group	Template	Description
	EXSPI-6X-0086	This metric measures the disk space usage by the SMTP Queue folder.
	EXSPI-6X-0087	This metric measures the growth rate of items in the SMTP Queue directory.
EXSPI Tracking Log		
	EXSPI-6X-0076	This metric measures the percentage of free disk space available for the message tracking log.
EXSPI OVO Exchange SPI core		
EXSPI Data Collection (no monitor Templates)		

Summary of Exchange 2003 Schedule Data Collection Templates

Table 2   Exchange 2003 Schedule Data Collection Templates

Template Group/Templates	Description	Schedule
EXSPI Specialized Groups		
EXSPI Exchange Server		
EXSPI Message Delivery		
EXSPI-6X End to End Message Ping	Scheduler for End to End Message Ping metric	10,40 past each hr.
EXSPI Server Availability		
EXSPI-6X-10m-Serv & Processes	10m Scheduler for metrics in Services and Processes group	0, 10, 20, 30, 40, 50 past each hr.
EXSPI Server Transaction Log		
EXSPI-6X Transaction Log Storage Use	Determine megabytes used and available to the Transaction Log	43 past each hr.
EXSPI Site Replication Service		
EXSPI-6X-05m-SRS Data Space Usage	Monitors SRS data space activity	18 past each hr.
EXSPI Standard Groups		
EXSPI Availability		
EXSPI-6X-05m-Serv & Processes	5m Scheduler for metrics in Services and Processes group	1, 6, 11, 16, 21,26, 31, 36, 41, 46, 51, 56 past each hr.
EXSPI-6X-UrlScan State	Checks if the ISAPI filter is running.	Each hour
EXSPI-6X-MB on Front-End Server	Checks for mailboxes on front end servers.	Each day
EXSPI-6X-TransactionLog BackUp	Checks if Log Files are being truncated by backup.	Each day
EXSPI-6X-SSL for HTTPVS	Checks for server configurations that allow for non-SSL data transmission.	Each hour
EXSPI-6X-Circular Logging-On EXSPI-6X-Circular Logging-Off	Checks circular logging setting for storage groups.	Each day
EXSPI-6X-Heap DeCommit	Checks Heap De-commit registry key.	Each day
EXSPI-6X-HotFix Installed	Checks the hotfix/service pack IDs.	Each hour

Template Group/Templates	Description	Schedule
EXSPI Client Access (Ex2003)		
EXSPI ActiveSync		
EXSPI-65-Dc-ActiveSync	Data collection of Microsoft Exchange ActiveSync perfmon counters	0, 15, 30, 45 past each hr.
EXSPI-65-Dc-ActiveSyncNotify	Data collection of MSExchangeActiveSyncNotify OmaPush perfmon counters	0, 15, 30, 45 past each hr.
IMAP4		
EXSPI-6X-Dc-IMAP4 Performance	Collect IMAP4 performance metrics	On each hr.
EXSPI-6X-IMAP4FailedConnRate	IMAP4 Failed Connections percentage	0, 15, 30, 45 past each hr.
EXSPI-6X-IMAP4RejectedConnRate	IMAP4 Rejected Connection percentage	0, 15, 30, 45 past each hr.
EXSPI-6X-IMAP4 Port Response	Determine if the IMAP4 port is responsive	0,10,20, 30,40,50 past each hr.
EXSPI MAPI (no schedule data collection templates)		
EXSPI OMA		
EXSPI-65-Dc-OMA	Data collection of MSExchangeActiveSyncNotify OmaPush and MSExchangeOMA perfmon counters	0, 15, 30, 45 past each hr.
EXSPI OWA		
EXSPI Back End		
EXSPI-6X-Dc-OWA Back End	Collect OWA Back End performance metrics	0, 15, 30, 45 past each hr.
EXSPI Front End		
EXSPI-6X-Dc-OWA Front End	Collect OWA Front End performance metrics	0, 15, 30, 45 past each hr.
EXSPI-6X HTTP Port Response	Determine if the HTTP port is responsive	0,10,20, 30,40,50 past each hr.
EXSPI Outlook 2003		
EXSPI-65-Dc- Outlook Client	Log Outlook Client Metrics	0,10,20, 30,40,50 past each hr.
EXSPI-65-ISClientRPCFailRate	Alarm on client RPC failure rate	0,10,20, 30,40,50 past each hr.
EXSPI POP3		
EXSPI-6X-Dc-POP3 Performance	Collect POP3 performance metrics	On each hr.

Template Group/Templates	Description	Schedule
EXSPI-6X-POP3FailedConnRate	POP3 Failed Connections percentage	0, 15, 30, 45 past each hr.
EXSPI-6X-POP3RejectedConnRate	POP3 Rejected Connection percentage	0, 15, 30, 45 past each hr.
EXSPI-6X-POP3 Port Response	Determine if the POP3 port is responsive	0,10,20, 30,40,50 past each hr.
EXSPI Cluster (no schedule data collection Templates)		
EXSPI Directory		
EXSPI-6X-15m-DSAccess	DSAccess Hit-Miss Ratio	0, 15, 30, 45 past each hr.
EXSPI Information Store		
EXSPI Epoxy (Ex2003) (no schedule data collection templates)		
EXSPI Full Text Index		
EXSPI-6X-Dc-Full Text Index	Collect disk space usage of full-text indexing	On each hr.
EXSPI Mailbox (Ex2003)		
EXSPI-6X--1h-Mailbox Space Usage	Monitors mailbox store space usage	M-F 6:05, 11:05, 15:05
EXSPI-6X-Dc-Mailbox Data	Collect data about all mailboxes on the system	M-F 21:05
EXSPI-6X-Database Mounted Search	Search an Exchange server for dismounted information store(s)	5,15,25,35,45,55 past each hr.
EXSPI-6X-Dc-Mailbox IS Sum Data	Collect summary data about Mailbox Information Stores	21:05 M,T,W,Th,Sat
EXSPI-6X-Dc-Mailbox IS Performance	Collect Performance Data on MSxchangeIS Mailbox Object	0, 15, 30, 45 past each hr.
EXSPI Performance (Ex2003)		
EXSPI-6X-Check Memory Configuration	Perform the optimal memory configuration check daily	7:00
EXSPI-6X-Dc-IS Performance	Collect Performance Data on MSExchangeIS Object	3, 18, 33, 48 past each hr.
EXSPI Public Folder (Ex2003)		
EXSPI-6X-Dc-Public IS Sum Data	Collect summary data about Public Info Store (Folders)	M-F 22:05
EXSPI-6X-1h-PubFolder Space Usage	Monitors public folder space usage	Daily 6:05, 11:05, 15:05

Template Group/Templates	Description	Schedule
EXSPI-6X-Database Mounted Search	Search an Exchange server for dismounted information store(s)	5,15,25,35,45,55 past each hr.
EXSPI-6X-Dc-Public Folder Data	Collect data about all public folders on the system	M-Sat 22:05
EXSPI-6X-Dc-IS PubFoldr Performance	Collect Performance Data on MSxchangeIS Public Object	1,16,31,46 past each hr.
EXSPI Transaction Log		
EXSPI-6X Transactn Log Backup Check	For each storage group determine age of oldest transaction log file	Daily 7:30
EXSPI-6X-Dc Trans. Log Space Usage	Collects and logs transaction log space usage activity	M-F 41 past each hr.
EXSPI Virus Scan (no schedule data collection templates)		
EXSPI Messaging		
EXSPI MTA		
EXSPI-6X-Dc -x400 Service MTA Queue	Determine and log X.400 service MTA queue storage metrics	Daily 6:05
EXSPI-6X-Dc-MTA Performance	Collect Performance Data on MSxchangeMTA Object	2, 17, 32, 47 past each hr.
EXSPI-6X-MTA Message Delay	Collect Message Delay Data on MSxchangeMTA Object	3,8,13,18,23,28,33,38,43,48,53,58 past each hr.
EXSPI-6X-MTA Rejected Inbnd Assocns	Collect Rejected Inbound Associations Data on MSxchangeMTA Object	12 past each hr.
EXSPI-6X-MTA Rejected Inbound Msgs	Message Transfer Agent Rejected Inbound Messages	11 past each hr.
EXSPI-6X-MTA Work Queue Length	Message Transfer Agent Work Queue Length	1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59 past each hr.
EXSPI-6X-MTA Failed Outbnd Assocns	Message Transfer Agent Failed Outbound Associations	17 past each hr.
EXSPI-6X-MTA Failed Conversions	Message Transfer Agent Failed Outbound Conversions	17 past each hr.
EXSPI NNTP		
EXSPI-6X-Ih-NNTP	1h Scheduler for metrics in NNTP group	On each hr.
EXSPI SMTP		

Template Group/Templates	Description	Schedule
EXSPI-6X-15m-300001	Collect Performance Data on MSxchangeIS Public Object	1, 16, 31, 46 past each hr.
EXSPI-6X-Dc SMTP Queues	Collect SMTP queue metrics	2,7,12,17,22, 27, 32, 37, 42, 47, 52, 57 past each hr.
EXSPI-6X-Dc SMTP Server Performance	Collect SMTP queue metrics	8 past each hr.
EXSPI-6X-Dc SMTP Virtual Server Storage	Determine and log SMTP queue storage metrics	2,7,12,17,22, 27, 32, 37, 42, 47, 52, 57 past each hr.
EXSPI-6X-Dc SMTP NDR Percentage	Collect SMTP queue metrics	8,18,28,38,48,58 past each hr.
EXSPI-6X-Dc SMTP Outbound Connections Refused	Collect SMTP queue metrics	9,19,29,39,49,59 past each hr.
EXSPI-6X-Dc SMTP Port Response	Collect SMTP queue metrics	1,11,21,31,41,51 past each hr.
EXSPI-6X-SMTP Anonymous Relay	Checks for anonymous access on SMTP virtual servers	Each day
EXSPI-6X-SMTP Directories	Checks if Queue, Pick Up, and BadMail SMTP directories on SMTP virtual server are on NTFS file system drive.	Each day
EXSPI-6X-SMTP Services	Checks for SMTP entry in the Services file.	Each hour
EXSPI Tracking Log		
EXSPI-6X-Dc-Message Tracking Log Space Usage	Collect information about message tracking log space usage and free space available	Daily 6:10
EXSPI-6X-Dc-TrackLog SLA Delivery	Daily Reporter Collection of Tracking Log data for SLA Delivery Time	Daily 19:35
EXSPI-6X-Dc-TrackLog Data	Collect Tracking log data	M-Sat 19:00
EXSPI-6X-Dc-Tracking Log ACLs	Checks if Message Tracking Logs have **Everyone** group listed in the ACL permissions.	Each hour
EXSPI-6X-Dc-Message Tracking State	Checks if message tracking is enabled.	Each hour
EXSPI OVO Exchange SPI Core		
EXSPI Data Collection (no schedule data collection templatess)		

Exchange 2003 Monitor Template Specifications

EXSPI-6X-0001 (Process Monitor)

Template:	**EXSPI-6X-0001**
Name:	Process Monitor
Description:	Process Monitor (Monitors CPU time used by Exchange processes).
Type:	With reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter:** Process.% Processor Time **Probable cause(s):** High CPU use could indicate an overloaded system. An Exchange process consuming a lot of CPU but processing few messages could indicate a problem with the process. **Potential impact:** Failure, Performance **Suggested action(s):** (1) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the service. (2) Monitor Exchange processes with NT Performance Monitor (Process.% Processor Time) and verify CPU consumption over a period of time. Constantly high value may indicate a scalability problem. (3) Stop and re-start the Exchange service. Use the NT Administrative Tool 'Service Manager'. NOTE: By default only Exchange processes are monitored. The'Catch All' suppress condition prevents messages about other busy processes. To receive messages about other busy processes, simply add conditions before the 'Catch All'

EXSPI-6X-0002 (Inactive Process Monitor)

Template:	EXSPI-6X-0002
Name:	Inactive Process Monitor
Description:	Monitors the core MS Exchange processes to check that they are using some CPU cycles. A process consistently at 0% could indicate a problem.
Type:	Without Reset
Schedule:	Every 10min
Message Group:	EX_Fault
Instruction Text:	**Probable cause(s):** Low CPU use during the day on an active system could indicate a problem with the process. **Potential impact:** Failure **Suggested action(s):** (1) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the service. (2) Monitor Exchange processes with NT Performance Monitor (Process.% Processor Time) and verify CPU consumption over a period of time. Constantly high value may indicate a scalability problem. (3) Stop and re-start the Exchange service. Use the NT Administrative Tool 'Service Manager'.

EXSPI-6X-0004 (Transaction Log)

Metric Name:	EXSPI-0004
Description:	Percent Low Log File Disk Space
Type:	Reset
Schedule:	Every 41 min
Message Group:	EX_Perf
Warning Threshold	20
Critical Threshold	10

EXSPI-6X-0005 (Low Log File Disk Space)

Template:	**EXSPI-6X-0005**
Name:	Low Log File Disk Space
Description:	Monitors the free disk space remaining on the logical disk drive where the transaction log files for the IS public and private databases reside.
Type:	With Reset
Schedule:	Every 15min
Message Group:	EX_Fault
Instruction Text:	**Probable cause(s):** The amount of free disk space on the disk drive where the Exchange transaction log files reside is getting low. **Potential impact:** Failure. Exchange will shutdown processing if there is no disk space for additional transaction log files. **Suggested action(s):** (1) Free up disk space on this drive. (2) If this drive is filling up because of many Exchange transaction log files, verify that Exchange backups are completing successfully (log files are removed when the i backup completes) and that backups are being done frequently enough.

EXSPI-6X-0006 (Transaction Log File Disc Space)

Template:	EXSPI-6X-0006
Name:	Transaction Log File Disc Space
Description:	Monitors the disk space used by the Exchange transaction and reserved transaction log files.
Type:	With Reset
Schedule:	Every day
Message Group:	EX_Fault
Instruction Text:	**Probable cause(s):** The amount of disk space being used by the Exchange transaction log files is getting large (disk space being used by edb*.log and res*.log files in the mdbdata and dsadata directories). A large amount of used disk space could indicate a possible problem with backups. **Potential impact:** Failure **Suggested action(s):** (1) Verify that Exchange backups are completing successfully (log files are removed when the backup completes). (2) Verify that backups are being done frequently enough. If they are, the conditions can be edited to increase the threshold values so this message is not generated as often.

EXSPI-6X-0008 (Transaction Log Backup Check Monitor)

Template:	**EXSPI-6X-0008**
Name:	Transaction Log Backup Check Monitor
Description:	Monitors the oldest Exchange transaction log files for a Storage group.
Type:	With Reset
Schedule:	Every day
Message Group:	EXSPI
Instruction Text:	**Probable cause(s):** The transaction log files are named Enn*.log, where nn is a number from 00 to 03 and corresponds to a storage group. The current log file is Enn.log. Completed log files are EnnXXXXX.log (the XXXXX portion of the name is a hexadecimal number starting with 00001). There are also two reserved files (res1.log and res2.log). When a backup is completed, the transaction log files are deleted. Old transaction log files could indicate a possible problem with backups. **Potential impact:** Failure **Suggested action(s):** (1) Verify that Exchange backups are completing successfully (log files are removed when the backup completes). (2) Verify that backups are being done frequently enough. If they are, the conditions can be edited to increase the threshold values so this message is not generated as often.

EXSPI-6X-0023 (Directory Svc Access)

Template:	EXSPI-6X-0023
Name:	Exchange DSAccess Cache Hit-Miss Ratio
Description:	Monitors the ratio of MSExchangeDSAccess Cache hit rate (hits/sec) and miss rate (misses/sec).
Type:	Reset
Schedule:	Every 15mins
Message Group:	EX_Perf
Instruction Text:	**Probable cause**: The component MSExchangeDSAccess has not been tuned. Potential impact: Performance (1) Performance of the Exchange server degrades. (2) There are long latencies for client's logging on to the server. **Suggested actions:** (1) Enable MSExchangeDSAccess caching: Registry key: HKEY_LOCAL_MACHINE \\SYSTEM\\CurrentControlSet\\Services\\MSExchangeDSAccess Value name: CachingEnabled Value: 0x1 (0x1 to enable and 0x2 to disable caching) (2) Adjust cache expiration time, maximum number of entries, and maximum memory size. Registry key: HKEY_LOCAL_MACHINE\\SYSTEM\\CurrentControlSet\\ServiceS\\MSExchangeDSAccess\\Instance0 Value name: CacheTTL (entry expiration time) Value type: REG_DWORD (second) Value name: MaxMemory (maximum memory) Value type: REG_DWORD (kilobyte) Value name: MaxEntries (maximum number of entries) Value type: REG_DWORD (number of entries) For more information, see Exchange 2000 server resource kit,: Chapter 17 - Backbone Configuration and Tuning, **http://www.microsoft.com/technet/treeview/default.asp?url=/technet/prodtechnol/exchange/exchange2000/reskit/part4/c17back.asp** Microsoft Knowledge Base Article: Q318228, **http://support.microsoft.com/default.aspx?scid=kb;en-us;318228**

EXSPI-6X-300001 (SMTP Outbound Connections Refused)

Template	**EXSPI-6X-300001**
Name:	SMTP Outbound Connections Refused
Description:	SMTP Outbound Connection Refused is the percentage of outbound SMTP connections refused by remote sites against the total outbound connections for each SMTP virtual server.
Type:	With Reset
Schedule:	Every 1h
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.Outbound Connections Refused.<instance> SMTP Server.Outbound Connections Total.<instance> If this is the first time the metric is run or the counter values are less than the previous counter values, then the values are just stored and thresholds are not processed. The percentage is calculated by subtracting the previous counter values from the current counter values to get the number of NDRs and number of messages for the current interval. The formula used to get the metric value is: NDRs this interval / outbound messages this interval * 100. **Probable cause(s)**: (1) There maybe a problem with the SMTP service making connections to remote systems. (2) No route exists for message delivery. For example, Exchange cannot determine a route or a connector to the final destination, or all available routes or connectors are marked as down. **Potential impact:** A high rate of failures could indicate problems with the network, remote systems, or the SMTP configuration. **Suggested action(s):** (1) Verify that there are no network problems. (2) Check the SMTP configuration using Exchange System Manager. (3) Check other messages in the Message Reader to see if Exchange has been reporting problems with the SMTP Service. (4) Enable Diagnostics Logging for the SMTP service (using Exchange System manager) to help in troubleshooting. **For more information**, see Microsoft Knowledge Base article: Q823489, **http://support.microsoft.com/ default.aspx?scid=kb;en-us;823489**

EXSPI-6X-300006 (MTA Message Delay)

Template:	**EXSPI-6X-300006**
Name:	MTA Message Delay
Description:	This metric measures the Work Queue Length less the Deferred Delivery Messages with respect to the rate that messages are processed ((Work Queue Length - Deferred Delivery)/ Messages per Second).
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Probable cause(s):** Delay of messages being processed could indicate problems with system load, the MTA, connectors, or the network. **Potential impact:** Performance **Suggested action(s):** (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (2) Run Exchange Administrator and check for 'stuck' messages in the MTA queue. (3) Verify that there are no network problems. **Additional Information:** Exchange 2000 and 2003 servers use the MTA to transfer messages over non-smtp connections such as X.400 connectors. The X.400 connector is primarily used to transfer messages with Exchange 5.5 servers. Typically X.400 connectors are used while migrating from Exchange 5.5 to a later version of Exchange although there are other uses. Due to the inherit inefficiency of the Exchange 2000 and later version of the MTA, there are a number of Microsoft recommendations, depending on your use. Please follow the link **http:// www.microsoft.com/technet/treeview/ default.asp?url=/technet/itsolutions/guide/ default.asp** and go to the section titled 'Chapter 9: Tuning Exchange 2000 Server for Performance'.

EXSPI-6X-300007 (MTA Rejected Inbound Associations)

Template:	**EXSPI-6X-300007**
Name:	MTA Rejected Inbound Associations
Description:	Monitors the percentage of rejected inbound remote associations to the MTA
Type:	With Reset
Schedule:	Every 1h
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeMTA Connections.Rejected Inbound Associations.<instance> MSExchangeMTA Connections.Cumulative Inbound Associations.<instance> **Probable cause(s)**: There may be problems with the MTA on a remote system making connections to this system. A high rejection rate could indicate problems with the local or remote MTA, the connector, or system load. **Potential impact**: Performance **Suggested action(s)**: (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system. (3) Verify that there are no network problems. (4) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting.

EXSPI-6X-300008 (MTA Rejected Inbound Messages)

Template:	EXSPI-6X-300008
Name:	MTA Rejected Inbound Messages
Description:	Monitors the percentage of Messages submitted to the MTA that are rejected
Type:	With Reset
Schedule:	Every 1h
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeMTA Connections.Inbound rejected Total.<instance> MSExchangeMTA Connections.Inbound Messages Total.<instance> **Probable cause(s):** There may be problems with the MTA on a remote system sending messages to this system. A high rate of rejected messages could indicate problems with the remote or local MTA or the connector. **Potential impact:** Performance **Suggested action(s):** (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system. (3) Verify that there are no network problems. (4) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting.

EXSPI-6X-300009 (MTA Work Queue Length)

Template:	EXSPI-6X-300009
Name:	MTA Work Queue Length
Description:	The metric measures the number of outstanding messages in the Work Queue, which indicates the number of messages not yet processed to completion by the MTA, relative to the number of messages successfully processed by the MTA
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeMTA.Work Queue Length MSExchangeMTA.Deferred Delivery Msgs **Probable cause(s):** Delay of messages being processed could indicate problems with system load, the MTA, connectors, or the network. **Potential impact:** Performance **Suggested action(s):** (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (2) Run Exchange Administrator and check for 'stuck' messages in the MTA queue. (3) Verify that there are no network problems. **Additional Information:** Exchange 2000 and 2003 servers use the MTA to transfer messages over non-smtp connections such as X.400 connectors. The X.400 connector is primarily used to transfer messages with Exchange 5.5 servers. Typically X.400 connectors are used while migrating from Exchange 5.5 to a later version of Exchange although there are other uses. Due to the inherit inefficiency of the Exchange 2000 and later version of the MTA, there are a number of Microsoft recommendations, depending on your use. Please follow the link **http://www.microsoft.com/technet/treeview/default.asp?url=/technet/itsolutions/guide/default.asp** and go to the section titled 'Chapter 9: Tuning Exchange 2000 Server for Performance'.

EXSPI-6X-300010 (MTA Failed Outbound Associations)

Template:	EXSPI-6X-300010
Name:	MTA Failed Outbound Associations
Description:	Monitors the percentage of failed outbound associations from the MTA
Type:	With Reset
Schedule:	Every 1h
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeMTA Connections.Failed Outbound Associations.<instance> MSExchangeMTA Connections.Cumulative Outbound Associations.<instance> **Probable cause(s):** There may be problems with the MTA making connections to another system. A high failure rate could indicate problems with the local or remote MTA, the connector, or the network.
	Potential impact: Performance
	Suggested action(s): (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running.
	(2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system.
	(3) Verify that there are no network problems.
	(4) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting.

EXSPI-6X-300011 (MTA Failed Conversions)

Template:	EXSPI-6X-300011
Name:	MTA Failed Conversions
Description:	Monitors the ratio of failed and successful conversion of messages from one form to another.
Type:	With Reset
Schedule:	Every 1hr
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeMTA.Total Failed Conversions MSExchangeMTA.Total Successful Conversions **Probable cause(s):** There may be problems with the MTA converting messages from one format to another. **Potential impact:** Performance/Failure. A high failure rate could indicate problems with the MTA or how messages being received are formatted. **Suggested action(s):** (1) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems converting messages. (2) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting.

EXSPI-6X-MTAConnectionMessageDelay)

Template:	EXSPI-6X-MTAConnectionMessageDelay
Name:	MTA Connection Message Delay
Description:	Monitors the time (secs) since the oldest message in this entity's queue was placed in the MTA queue
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s)**: MSExchangeMTA Connections.Oldest Message Queued.<instance> **Probable cause(s)**: Delivery of messages to another Exchange server may be delayed by the MTA because of possible problems with a connection. A long delay time could indicate problems with connectors, system load, the MTA, or the network. **Potential impact**: Performance/Failure. **Suggested action(s)**: (1) Monitor queue length for the specific connection with NT Performance Monitor: (2) If queue lengths for multiple connections are large, that could indicate performance or network problems. Also check that the MTA process (emsmta) is running. (3) Run Exchange Administrator and check for 'stuck' messages in the MTA queue. (4) Verify that there are no network problems. (5) Verify that this isn't a performance problem with the MTA service. See 'Additional Information' below for more information. **Additional Information:** Exchange 2000 and 2003 servers use the MTA to transfer messages over non-smtp connections such as X.400 connectors. The X.400 connector is primarily used to transfer messages with Exchange 5.5 servers. Typically X.400 connectors are used while migrating from Exchange 5.5 to a later version of Exchange although there are other uses. Due to the inherit inefficiency of the Exchange 2000 and later version of the MTA, there are a number of Microsoft recommendations, depending on your use. Please follow the link **http://www.microsoft.com/technet/treeview/default.asp?url=/technet/itsolutions/guide/default.asp** and go to the section titled 'Chapter 9: Tuning Exchange 2000 Server for Performance'.

EXSPI-6X-MTAConnectionQueueLengths)

Template:	EXSPI-6X-MTAConnectionQueueLengths
Name:	MTA Connection Queue Lengths
Description:	Monitors the number of outstanding messages queued for transfer to another Exchange Server.
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeMTA Connections.Queue Length.<instance> **Probable cause(s):** Delivery of messages to another Exchange server may be delayed by the MTA because of possible problems with a connection. A large queue length could indicate problems with connectors, system load, the MTA, or the network. **Potential impact:** Performance/Failure. **Suggested action(s):** (1) Monitor queue length for the specific connection with NT Performance Monitor: MSExchangeMTA Connections.Queue Length.<CONNECTION> (2) If queue lengths for multiple connections are large, that could indicate performance or network problems. Also check that the MTA process (emsmta) is running. (3) Run Exchange Administrator and check for 'stuck' messages in the MTA queue. (4) Verify that there are no network problems **Additional Information:** Exchange 2000 and 2003 servers use the MTA to transfer messages over non-smtp connections such as X.400 connectors. The X.400 connector is primarily used to transfer messages with Exchange 5.5 servers. Typically X.400 connectors are used while migrating from Exchange 5.5 to a later version of Exchange although there are other uses. Due to the inherit inefficiency of the Exchange 2000 and later version of the MTA, there are a number of Microsoft recommendations, depending on your use. Please follow the link **http://www.microsoft.com/technet/treeview/default.asp?url=/technet/itsolutions/guide/default.asp** and go to the section titled 'Chapter 9: Tuning Exchange 2000 Server for Performance'.

EXSPI-6X-ISPublicAverageDeliveryTime

Template:	EXSPI-6X-ISPublicAverageDeliveryTime
Name:	IS Public Average Delivery Time
Description:	Monitors the time between the submission of a message to the public information store and submission to the MTA, by taking an average for the last 10 messages.
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Probable cause(s)**: (1) The thresholds are set too low. (2) The system is overloaded. (3) There is a problem with the Information Store. (4) There is a problem with the Active Directory. (5) A large queue length could indicate be a problem with the SMTP process (inetinfo.exe), that SMTP is not processing messages being sent by the Information Store at all or quickly enough. **Potential impact:** (1) Delivery of public folder messages to other Exchange servers may be delayed. **Suggested action(s):** (1) Monitor system with Windows Task Manager or Performance Monitor to determine if the system is overloaded. Also check that SMTP (inetinfo.exe) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with Information Store or the SMTP service on either the problem system or the remote system. (3) Verify that there are no Active Directory problems. (4) Verify that there are no network problems. (5) Enable Diagnostics Logging for the SMTP (using Exchange System Manager) to help in troubleshooting. (6) Adjust template thresholds when establishing normal server performance baselines.

Template:	EXSPI-6X-ISPublicAverageDeliveryTime
For more information:	See the Microsoft Knowledge Base Articles: 328906: http://support.microsoft.com/default.aspx?scid=kb;en-us;328906 289779: http://support.microsoft.com/default.aspx?scid=kb;en-us;289779 313983: http://support.microsoft.com/default.aspx?scid=kb;en-us;313983 322258: http://support.microsoft.com/default.aspx?scid=kb;en-us;322258 811067: http://support.microsoft.com/default.aspx?scid=kb;en-us;811067 811862: http://support.microsoft.com/default.aspx?scid=kb;en-us;811862 824467: http://support.microsoft.com/default.aspx?scid=kb;en-us;824467 276081: http://support.microsoft.com/default.aspx?scid=kb;en-us;276081 304228: http://support.microsoft.com/default.aspx?scid=kb;en-us;304228 326992: http://support.microsoft.com/default.aspx?scid=kb;en-us;326992 816199: http://support.microsoft.com/default.aspx?scid=kb;en-us;816199

EXSPI-6X-ISMailboxAverageLocalDeliveryTime

Template:	**EXSPI-6X-ISMailboxAverageLocalDeliveryTime**
Name:	IS Mailbox Average Local Delivery Time
Description:	Monitors the average time between submission of a message to the public information store and the delivery to all local recipients (recipients on the same server) for the last 10 messages. This counter should not be greater than zero for more than a few seconds.
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeIS Public.Average Local Delivery Time.<instance> **Probable cause(s):** (1) A large queue length could indicate be a problem with the store process (store.exe). (2) The thresholds are set too low. (3) The system is overloaded. (4) There is a problem with the Information Store. **Potential impact:** Delivery of messages to local recipients may be delayed. **Suggested action(s):** (1) Monitor system with Windows Task Manager or Performance Monitor to determine if the system is overloaded. Also check that the store (store.exe) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with Information Store. (3) Enable Diagnostics Logging for the store (MSExchangeIS using Exchange System Manager) to help in troubleshooting. (4) Adjust template thresholds when establishing normal server performance baselines.

Template:	EXSPI-6X-ISMailboxAverageLocalDeliveryTime
For more information:	See the Microsoft Knowledge Base Articles: 289779: http://support.microsoft.com/default.aspx?scid=kb;en-us;289779 313983: http://support.microsoft.com/default.aspx?scid=kb;en-us;313983 322258: http://support.microsoft.com/default.aspx?scid=kb;en-us;322258 811067: http://support.microsoft.com/default.aspx?scid=kb;en-us;811067 811862: http://support.microsoft.com/default.aspx?scid=kb;en-us;811862 824467: http://support.microsoft.com/default.aspx?scid=kb;en-us;824467 276081: http://support.microsoft.com/default.aspx?scid=kb;en-us;276081 304228: http://support.microsoft.com/default.aspx?scid=kb;en-us;304228 326992: http://support.microsoft.com/default.aspx?scid=kb;en-us;326992 329171: http://support.microsoft.com/default.aspx?scid=kb;en-us;329171 823505: http://support.microsoft.com/default.aspx?scid=kb;en-us;823505 291248: http://support.microsoft.com/default.aspx?scid=kb;en-us;291248 816199: http://support.microsoft.com/default.aspx?scid=kb;en-us;816199

EXSPI-6X-ISPublicReplicationQueueLength

Template:	EXSPI-6X-ISPublicReplicationQueueLength
Name:	IS Public Replication Queue Length
Description:	Monitors the number of replication messages in the public information store's replication receive queue. Replication Receive Queue size is the number of replication messages waiting to be processed
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeIS Public.Replication Receive Queue Size.\<instance\> **Probable cause(s):** (1) The thresholds are set too low. (2) A large queue length could indicate problems with system load or the Information Store process. (3) A large queue length could indicate problems with replication intervals. **Potential impact:** (1) Delivery of replication messages to public folders may be delayed. **Suggested action(s):** (1) Monitor system with Windows Task Manager or Performance Monitor to determine if the system is overloaded. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the Information Store or SMTP service. (3) Verify that there are no Active Directory problems. (4) Verify that there are no network problems. (5) Verify that replication occurs at the right intervals. (6) Adjust template thresholds when establishing normal server performance baselines. **For more information** see the Microsoft Knowledge Base Articles: 328906: http://support.microsoft.com/default.aspx?scid=kb;en-us;328906 273479: http://support.microsoft.com/default.aspx?scid=kb;en-us;273479

EXSPI-6X-ISMailboxReceiveQueueLength

Template:	EXSPI-6X-ISMailboxReceiveQueueLength
Name:	IS Mailbox Receive Queue Length
Description:	Monitors the number of messages in the ISs receive queue
Type:	With Reset
Schedule:	Every 5min
Message Grp:	EX-Perf
Instruction Text:	**Probable cause(s)**: Delivery of replication messages to public folders may be delayed. A large queue length could indicate problems with system load or the Information Store process. **Potential impact**: Performance **Suggested action(s)**: (1) Check the Perfmon counter MSExchangeIS Mailbox.Messages Received/Min. If this value is relatively low, then the messages are backing up. If this value is relatively high, then it could be a spike in incoming traffic. (2) Monitor system with Windows NT Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (3) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system. (4) Verify that there are no network problems. (5) Verify that there are no Active Directory problems. (6) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting. (7) Adjust template thresholds when establishing normal server performance baselines. **For more information** see the Microsoft Knowledge Base Articles: 329167: http://support.microsoft.com/ default.aspx?scid=kb;en-us;329167 317539: http://support.microsoft.com/ default.aspx?scid=kb;en-us;317539 314744: http://support.microsoft.com/ default.aspx?scid=kb;en-us;314744 828938: http://support.microsoft.com/ default.aspx?scid=kb;en-us;828938 813781: http://support.microsoft.com/ default.aspx?scid=kb;en-us;813781 329639: http://support.microsoft.com/ default.aspx?scid=kb;en-us;329639 319653: http://support.microsoft.com/ default.aspx?scid=kb;en-us;319653

EXSPI-6X-ISMailboxSendQueueLength

Template:	**EXSPI-6X-ISMailboxSendQueueLength**
Name:	IS Mailbox Send Queue Length
Description:	Monitors the number of messages in the information store's send queue.
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeIS Public.Send Queue Size.<instance> **Probable cause(s)**: Delivery of replication messages to public folders may be delayed. A large queue length could indicate problems with system load or the Information Store process. **Potential impact**: Performance **Suggested action(s)**: (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system. (3) Verify that there are no network problems. (4) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting.

EXSPI-6X-ISMailboxAverageDeliveryTime

Template:	EXSPI-6X-ISMailboxAverageDeliveryTime
Name:	IS Mailbox Average Delivery Time
Description:	Monitors the average time between submission of a message to the Mailbox information store and submission to the MTA for the last 10 messages
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeIS Mailbox.Average Delivery Time.<instance> **Probable cause(s):** (1) The thresholds are set too low. (2) The system is overloaded. (3) There is a problem with the Information Store. (4) There is a problem with the Active Directory. (5) A large queue length could indicate be a problem with the SMTP process (inetinfo.exe), that SMTP is not processing messages being sent by the Information Store at all or quickly enough. **Potential impact:** Delivery of messages to other Exchange servers may be delayed. **Suggested action(s):** (1) Monitor system with Windows Task Manager or Performance Monitor to determine if the system is overloaded. Also check that SMTP (inetinfo.exe) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with Information Store or the SMTP service on either the problem system or the remote system. (3) Verify that there are no Active Directory problems. (4) Verify that there are no network problems. (5) Enable Diagnostics Logging for the SMTP (using Exchange System Manager) to help in troubleshooting. (6) Adjust template thresholds when establishing normal server performance baselines.

Template:	EXSPI-6X-ISMailboxAverageDeliveryTime
For more information:	See the Microsoft Knowledge Base Article(s): 289779: http://support.microsoft.com/default.aspx?scid=kb;en-us;289779 313983: http://support.microsoft.com/default.aspx?scid=kb;en-us;313983 322258: http://support.microsoft.com/default.aspx?scid=kb;en-us;322258 811067: http://support.microsoft.com/default.aspx?scid=kb;en-us;811067 811862: http://support.microsoft.com/default.aspx?scid=kb;en-us;811862 824467: http://support.microsoft.com/default.aspx?scid=kb;en-us;824467 276081: http://support.microsoft.com/default.aspx?scid=kb;en-us;276081 304228: http://support.microsoft.com/default.aspx?scid=kb;en-us;304228 326992: http://support.microsoft.com/default.aspx?scid=kb;en-us;326992 329171: http://support.microsoft.com/default.aspx?scid=kb;en-us;329171 823505: http://support.microsoft.com/default.aspx?scid=kb;en-us;823505 291248: http://support.microsoft.com/default.aspx?scid=kb;en-us;291248 816199: http://support.microsoft.com/default.aspx?scid=kb;en-us;816199

EXSPI-6X-ISMailboxReceiveQueueLength

Template:	EXSPI-6X-ISMailboxReceiveQueueLength
Name:	IS Mailbox Receive Queue Length
Description:	Monitors the number of messages in the mailbox information store's receive queue.
Type:	With Reset
Schedule:	Every 5min
Message Grp:	EX_Perf
Instruction Text:	**Probable cause(s):** Delivery of messages to mailboxes may be delayed. A large queue length could indicate problems with system load or the Information Store process **Potential impact:** Performance **Suggested action(s):** (1) Check the Perfmon counter MSExchangeIS Mailbox.Messages Received/Min. If this value is relatively low, then the messages are backing up. If this value is relatively high, then it could be a spike in incoming traffic. (2) Monitor system with Windows NT Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (3) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system. (4) Verify that there are no network problems. (5) Verify that there are no Active Directory problems. (6) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting. (7) Adjust template thresholds when establishing normal server performance baselines. For more information see the Microsoft Knowledge Base Article: 329167: http://support.microsoft.com/default.aspx?scid=kb;en-us;329167 317539: http://support.microsoft.com/default.aspx?scid=kb;en-us;317539 314744: http://support.microsoft.com/default.aspx?scid=kb;en-us;314744 828938: http://support.microsoft.com/default.aspx?scid=kb;en-us;828938 813781: http://support.microsoft.com/default.aspx?scid=kb;en-us;813781 329639: http://support.microsoft.com/default.aspx?scid=kb;en-us;329639 319653: http://support.microsoft.com/default.aspx?scid=kb;en-us;319653

EXSPI-6X-ISMailboxSendQueueLength

Template:	EXSPI-6X-ISMailboxSendQueueLength
Name:	IS Mailbox Send Queue Length
Description:	Monitors the number of messages in the mailbox information store's send queue.
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeIS Mailbox.Send Queue Size.<instance> **Probable cause(s):** Delivery of messages to other Exchange servers may be delayed by the MTA. A large queue length could indicate that the MTA is not processing messages being sent by the Information Store at all or quickly enough so they are backing up in the queue. There could be a problem with system load or the MTA process. **Potential impact:** Performance **Suggested action(s):** (1) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded. Also check that the MTA process (emsmta) is running. (2) Check other messages in the 'Message Browser' to see if Exchange has been reporting problems with the MTA service on either the problem system or the remote system. (3) Verify that there are no network problems. (4) Enable Diagnostics Logging for the MTA (using Exchange Administrator) to help in troubleshooting.

EXSPI-6X-InformationStoreDbLogRecordStallsPerSec

Metric Name:	EXSPI-6X-InformationStoreDbLogRecordStallsPerSec
Description:	Alarm on Information Store Transaction Log Record Buffer Addition Stalls. Log Record Stalls/sec is the number of log records that cannot be added to the log buffers per second because they are full.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Warning Threshold	2
Critical Threshold	1
Instruction Text:	**Probable cause:** Transaction log buffer is too small **Potential impacts:** (1) If this counter is non-zero most of the time, the log buffer size may be a bottleneck. (2) Significant performance degradation will be seen if the server is under load or if users are sending large messages. **Suggested action**: The default value (84) of the msExchESEParamLogBuffers attribute is too low; this value should be increased to 9000 on all servers. **For more information**, see Microsoft TechNet article: Microsoft Exchange 2000 Internals: Quick Tuning Guide, **http://www.microsoft.com/technet/treeview/ default.asp?url=/technet/prodtechnol/exchange/ exchange2000/maintain/optimize/exchtune.asp**

EXSPI-6X-InformationStoreDbLogThreadsWaiting

Metric Name:	EXSPI-6X-InformationStoreDbLogThreadsWaiting
Description:	Alarm on Information Store Threads Waiting to Write to Transaction Log. Information store Log Threads Waiting is the number of threads waiting for their data to be written to the log in order to complete an update of the database.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Warning Threshold	2
Critical Threshold	1
Instruction Text:	**Probable cause**: Transaction log buffer is too small. **Potential impacts**: (1) If this counter is too high, the log may be a bottleneck. (2) Significant performance degradation will be seen if the server is under load or if users are sending large messages. **Suggested action**: The default value (84) of the msExchESEParamLogBuffers attribute is too low; this value should be increased to 9000 on all servers. **For more information**, see Microsoft TechNet article: Microsoft Exchange 2000 Internals: Quick Tuning Guide, **http://www.microsoft.com/technet/treeview/ default.asp?url=/technet/prodtechnol/exchange/ exchange2000/maintain/optimize/exchtune.asp**

EXSPI-6X-InformationStoreDbLogWritesPerSec

Metric Name:	**EXSPI-6X-InformationStoreDbLogWritesPerSec**
Description:	Alarm on the number of times the transaction log buffers are written. Information store Log Writes/sec is the number of times the log buffers are written to the log file(s) per second.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Warning Threshold	500
Critical Threshold	n/a
Instruction Text:	**Probable cause:** The media used to host transaction log file(s) has a low write rate. **Potential impact:** If this number approaches the maximum write rate for the media holding the log file(s), the log may be a bottleneck. **Suggested actions:** (1) Adjust the threshold to be close to maximum write rate of the actual storage. (2) Determine whether your transaction log device is handling the load properly by monitoring the device for counter 'PhysicalDisk. Avg. Disk sec/write', making sure it stays well below 5ms or 1ms when write-back cache is enabled.

EXSPI-6X-InformationStoreDbCacheSize

Metric Name:	EXSPI-6X-InformationStoreDbCacheSize
Description:	Monitors the database cache size of an information store which shows the amount of system memory used by the database cache manager to hold commonly used information from the database file(s) in order to prevent file i/o operations.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Instruction Text:	On large servers, this counter should be in the range of 800,000,000 to 1,200,000,000 bytes at all times. The database cache size is automatically adjusted, based upon the physical memory configured in the server, and possible fine-tuning of the STORE virtual address space. The cache size should be less than 1.2GB: if you have incorrectly configured the maximum cache size, you run the risk of running out of virtual memory and eventually causing significant performance degradation and STORE crash.

EXSPI-6X-InformationStoreUserCount

Template:	EXSPI-6X-InformationStoreUserCount
Name:	IS User Count
Description:	Monitors the number of client processes connected to the information store. This metric could be baselined and put in the perspective of the RPC operations rate for an understanding of system resource utilization.
Type:	With Reset
Schedule:	Every 15min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** MSExchangeIS.User Count **Probable cause(s):** The number of client processes logged on to the Information Store is low. A low user logon count during the day could indicate problems with the Information Store process or network connectivity. **Potential impact:** Performance, Fault **Suggested action(s):** (1) Verify that this system has active mailboxes. If it does not, this **Template** should be removed from this system. (2) Using a test mailbox account, verify that you can connect to the server without problems. (3) Verify that there are no network problems.

EXSPI-6X-IS_RPCOperations

Metric Name:	EXSPI-6X-IS_RPCOperations
Description:	Alarm on number of MAPI client RPC operations/sec. Information store RPC operations/sec: this counter indicates outstanding MAPI client requests. The value of the counter is specific to the organization and server, but it should remain at 0 on 4 processor machines during normal operations.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Warning Threshold	1
Critical Threshold	2
Instruction Text:	**Probable causes:** (1) The server is overloaded with users using MAPI clients. (2) The threshold is set too low. **Potential impact:** MAPI clients are unable to contact the Exchange server. **Suggested actions:** (1) Adjust the thresholds after establishing normal server performance baselines. (2) Relocate some users of this server to another Exchange server.

EXSPI-6X-IS_RPCRequests

Metric Name:	EXSPI-6X-IS_RPCRequests
Description:	Alarm on number of MAPI client RPC requests. Information Store RPC Requests is the number of MAPI RPC client requests currently being processed by the information store.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Warning Threshold	80
Critical Threshold	100
Instruction Text:	**Probable cause**: The server is overloaded. **Potential impact:** MAPI RPC clients are unable to log on to the server when RPC requests are consistently over the maximum number of RPC requests (100) that can be processed by a server. **Suggestion action:** Relocate some users from this server to another server.

EXSPI-6X-InformationStoreVMLargestBlock

Metric Name:	EXSPI-6X-InformationStoreVMLargestBlock
Description:	Monitors the size (in bytes) of the largest free block of virtual memory available to the store process. This Block Size should remain above 32 MB at all times. When the VM Largest Block Size drops below 10MB the Databases will not mount.
Type:	Reset
Schedule:	10 min
Message Group:	EX_Perf
Warning Threshold	16
Critical Threshold	32
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact:** With the addition of more users and therefore more Exchange usage the amount of information store virtual memory can run low. Overall server performance will degrade as the lack of large virtual memory blocks causes the store to use the page file. **Suggestion for action:** Add up to 4GB of RAM. Relocate some users from this server to another server. **For more information**, see Microsoft Knowledge Base articles: **http://support.microsoft.com/ default.aspx?scid=kb;en-us;296073&sd=ee** **http://www.microsoft.com/products/ee/ transform.aspx?EvtSrc=MSExchangeIS&EvtID=9 582&ProdName=Exchange&LCID=1033&ProdVer =6.5.6940.0**

EXSPI-6X-InformationStoreVMl6MBBlocks

Metric Name:	EXSPI-6X-InforamtionStoreVM16MBBlocks
Description:	Monitors total number of free virtual memory blocks that are greater than or equal to 16 MB.
Type:	Reset
Schedule:	5 min
Message Group:	EX_Perf
Warning Threshold	3
Critical Threshold	5
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact**: With the addition of more users and therefore more Exchange usage the amount of information store virtual memory can run low. Overall server performance will degrade as the lack of large virtual memory blocks causes the store to use the page file. **Suggestion action:** Add up to 4GB of RAM. Relocate some users from this server to another server. **For more information**, see Microsoft Knowledge Base articles: **http://support.microsoft.com/ default.aspx?scid=kb;en-us;325044&sd=ee** **http://www.microsoft.com/products/ee/ transform.aspx?EvtSrc=MSExchangeIS&EvtID=1 2800&ProdName=Exchange&LCID=1033&ProdVe r=6.5.6940.0**

EXSPI-6X-InformationStoreVMLargeBlockBytes

Metric Name:	EXSPI-6X-InformationStoreVMLargeBlockBytes
Description:	Monitors the total size of all free virtual memory blocks that are greater than or equal to 16 MB in size. This total should remain above 50 MB at all times.
Type:	Reset
Schedule:	10 mins
Message Group:	EX_Perf
Warning Threshold	6X
Critical Threshold	55
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact:** With the addition of more users and therefore more Exchange usage the amount of information store virtual memory can run low. Overall server performance will degrade as the lack of large virtual memory blocks causes the store to use the page file. **Suggestion action**: Add up to 4GB of RAM. Relocate some users from this server to another server. **For more information**, see Microsoft Knowledge Base articles: **http://support.microsoft.com/ default.aspx?scid=kb;en-us;296073&sd=ee** **http://www.microsoft.com/products/ee/ transform.aspx?EvtSrc=MSExchangeIS&EvtID=9 582&ProdName=Exchange&LCID=1033&ProdVer =6.5.6940.0**

EXSPI-6X-SMTPCategorizerQueueLength)

Metric:	**EXSPI-6X-SMTPCategorizerQueueLength**
Name:	SMTP Categorizer Queue Length
Description:	Monitors the number of messages in the SMTP Categorizer Queue. The Categorizer performs lookups and checks limits and restrictions in Active Directory.
Type:	With Reset
Schedule:	Every 2 min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.Categorizer Queue Length.<instance>
	Probable cause(s):
	(1) The Categorization Queue Length counter may show an incorrect number of messages in the queue.
	(2) The advanced queuing engine may not be able to access the global catalog servers or to access the recipient information. Or, the global catalog servers are unreachable or are performing slowly.
	Potential impact:
	The SMTP server may not deliver or delay the delivery of messages either locally or remotely.
	Suggested action(s):
	(1) Install the latest Microsoft Exchange service pack.
	(2) Increase diagnostic logging for the MSExchangeDSAccess service and for the MSExchangeTransport service to collect information about Categorizer components.
	(3) Active Directory Lookups may be an issue. Consider implementing another Active Directory server.
	(4) If you have the Windows+ SPI, deploy the ADS policies to the Active Directory server. These policies may also have recommendations to increase Active Directory Lookup performance.
	For more information, see Microsoft Knowledge Base articles:
	Q823489, **http://support.microsoft.com/ default.aspx?scid=kb;en-us;823489**
	Q814018, **http://support.microsoft.com/ default.aspx?scid=kb;en-us;814018**

EXSPI-6X-SMTPLocalQueueLength)

Template:	**EXSPI-6X-SMTPLocalQueueLength**
Name:	SMTP Local Queue Length
Description:	Monitors the number of messages to the SMTP Local Queue.
Type:	With Reset
Schedule:	Every 2 min
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.Local Queue Length.\<instance\> **Probable cause(s):** (1) A corrupted message is at the head of the queue. (2) The header of the message is malformed. (3) The message is deeply nested. (4) There is cross membership in Security Groups. (5) A message is forwarded to an inappropriately configured public folder. (6) The information store is not accepting messages for local delivery. Slow or sporadic message delivery can indicate that a looping message or that a performance problem exists. **Potential impact**: Delivery of messages to the local Exchange server may be delayed by the Exchange Information Store. **Suggested action(s)**: (1) Install the latest Exchange service pack (2) Follow the instructions described in the following Microsoft Knowledge Base articles to remove the root cause of the problem. (3) Reduce the Exchange server load by moving some users to another Exchange server. (4) Increase diagnostic logging for the MSExchangeIS service and for the MSExchangeTransport service for the SMTP Store Driver components. **For more information,** see Microsoft Knowledge Base articles: **Q823489, http://support.microsoft.com/ default.aspx?scid=kb;en-us;823489** **Q283291, http://support.microsoft.com/ default.aspx?scid=kb;en-us;283291** **Q319461, http://support.microsoft.com/ default.aspx?scid=kb;en-us;319461** **Q329639, http://support.microsoft.com/ default.aspx?scid=kb;en-us;329639** **Q813781, http://support.microsoft.com/ default.aspx?scid=kb;en-us;813781** **Q318334, http://support.microsoft.com/ default.aspx?scid=kb;en-us;318334**

EXSPI-6X-SMTPLocalRetryQueueLength)

Template:	**EXSPI-6X-SMTPLocalRetryQueueLength**
Name:	SMTP Local Retry Queue Length
Description:	Monitors the number of messages in the SMTP Local Retry queue.
Type:	With Reset
Schedule:	Every 2 min
Message Grp:	EX_Perf
Instruction Text:	**Probable cause(s):**
	(1) A corrupted message is at the head of the queue.
	(2) The header of the message is malformed.
	(3) The message is deeply nested.
	(4) There is cross membership in Security Groups.
	(5) A message is forwarded to an inappropriately configured public folder.
	(6) The information store is not accepting messages for local delivery. Slow or sporadic message delivery can indicate that a looping message or that a performance problem exists.
	Potential impact:
	Delivery of messages to the local Exchange server may be delayed by the Exchange Information Store.
	Suggested action(s):
	(1) Install the latest Exchange service pack
	(2) Follow the instructions described in the following Microsoft Knowledge Base articles to remove the root cause of the problem.
	(3) Reduce the Exchange server load by moving some users to another Exchange server.
	(4) Increase diagnostic logging for the MSExchangeIS service and for the MSExchangeTransport service for the SMTP Store Driver components.
	For more information, see Microsoft Knowledge Base articles:
	Q823489, http://support.microsoft.com/default.aspx?scid=kb;en-us;823489
	Q283291, http://support.microsoft.com/default.aspx?scid=kb;en-us;283291
	Q319461, http://support.microsoft.com/default.aspx?scid=kb;en-us;319461
	Q329639, http://support.microsoft.com/default.aspx?scid=kb;en-us;329639
	Q813781, http://support.microsoft.com/default.aspx?scid=kb;en-us;813781
	Q318334, http://support.microsoft.com/default.aspx?scid=kb;en-us;318334

EXSPI-6X-SMTPMessagesPendingRouting

Template:	EXSPI-6X-SMTPMessagesPendingRouting
Name:	SMTP Messages Pending Routing
Description:	Monitors the number of messages that have been categorized but not routed.
Type:	With Reset
Schedule:	Every 2 min
Message Grp:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.Messages Pending Routing.\<instance\> **Probable cause(s):** (1) Connector delivery restrictions may not work correctly (2) The Least-Cost route to the destination server is scoped and rerouting the message takes longer time. (3) The system resource is low or Active Directory server or DNS is slow. (4) Reinstallation of IIS on the Exchange server may result in not being able to start Exchange routing engine. **Potential impact:** Delivery of messages to other Exchange servers may be delayed by the SMTP Server. **Suggested action(s):** (1) Install the latest Microsoft Exchange service pack. (2) Disable any unnecessary connector restrictions because the restrictions can cause a significant degradation in server performance. (3) Increase diagnostic logging for the MSExchangeTransport service for the Routing category component to gather additional information. (4) Determine if network problems are preventing message flow. (5) Reinstallation of IIS on the Exchange server may require reinstallation of Exchange server. **For more information**, see Microsoft Knowledge Base articles: Q823489, http://support.microsoft.com/default.aspx?scid=kb;en-us;823489 Q277872, http://support.microsoft.com/default.aspx?scid=kb;en-us;277872 Q287058, http://support.microsoft.com/default.aspx?scid=kb;en-us;287058 Q323672, http://support.microsoft.com/default.aspx?scid=kb;en-us;323672

EXSPI-6X-SMTPRemoteQueueLength

Template:	EXSPI-6X-SMTPRemoteQueueLength
Name:	SMTP Remote Queue Length
Description:	Monitors the number of messages in the queue for remote delivery
Type:	With Reset
Schedule:	Every 2 min
Message Grp:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.Remote Queue Length.\<instance\>
	Probable cause(s):
	(1) There is a problem with network connection to the remote server with 'host unreachable' errors.
	(2) A backlog occurs in the SMTP remote delivery queues because of waiting threads in message tracking.
	(3) The server is being used as an open relay SMTP server for unsolicited commercial e-mail (UCE) messages, or spam.
	Potential impact:
	Delivery of messages to other Exchange servers may be delayed by the SMTP Server.
	Suggested action(s):
	(1) You can use an Network Monitor tool to obtain information about network connection errors. For example use the NSlookup utility to review possible issues with Domain Name System (DNS) resolution. For connection and protocol issues such as 'host unreachable' errors, use telnet.exe to try to connect to the destination computer.
	(2) To troubleshoot protocol errors, increase diagnostic logging for the MSExchangeTransport service for the SMTP Protocol component, and review the logs for errors.
	(3) Resolve message tracking or security issues if a backlog occurs.
	(4) Configure the Exchange server to block open SMTP relaying.
	For more information, see Microsoft Knowledge Base articles:
	Q823489, http://support.microsoft.com/default.aspx?scid=kb;en-us;823489
	Q328931, http://support.microsoft.com/default.aspx?scid=kb;en-us;328931
	Q324958, http://support.microsoft.com/default.aspx?scid=kb;en-us;324958
	Q821746, http://support.microsoft.com/default.aspx?scid=kb;en-us;821746

EXSPI-6X-SMTPRemoteRetryQueueLength)

Template	EXSPI-6X-SMTPRemoteRetryQueueLength
Name:	SMTP Remote Retry Queue Length
Description:	Monitors the number of messages in the retry queue for remote delivery
Type:	With Reset
Schedule:	Every 2 min
Message Grp:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.Remote Retry Queue Length.\<instance\>
	Probable cause(s):
	(1) There is a problem with network connection to the remote server with 'host unreachable' errors.
	(2) A backlog occurs in the SMTP remote delivery queues because of waiting threads in message tracking.
	(3) The server is being used as an open relay SMTP server for unsolicited commercial e-mail (UCE) messages, or spam.
	Potential impact:
	Delivery of messages to other Exchange servers may be delayed by the SMTP Server.
	Suggested action(s):
	(1) You can use an Network Monitor tool to obtain information about network connection errors. For example, use the NSlookup utility to review possible issues with Domain Name System (DNS) resolution. For connection and protocol issues such as 'host unreachable' errors, use telnet.exe to try to connect to the destination computer.
	(2) To troubleshoot protocol errors, increase diagnostic logging for the MSExchangeTransport service for the SMTP Protocol component, and review the logs for errors.
	(3) Resolve message tracking or security issues if a backlog occurs.
	(4) Configure the Exchange server to block open SMTP relaying.
	For more information, see Microsoft Knowledge Base articles:
	Q823489, http://support.microsoft.com/default.aspx?scid=kb;en-us;823489
	Q328931, http://support.microsoft.com/default.aspx?scid=kb;en-us;328931
	Q324958, http://support.microsoft.com/default.aspx?scid=kb;en-us;324958
	Q821746, http://support.microsoft.com/default.aspx?scid=kb;en-us;821746.

EXSPI-6X-SMTPNDRPercentage

Template:	EXSPI-6X-SMTPNDRPercentage
Name:	SMTP NDR Percentage
Description:	Monitors the percentage of NDRs for each SMTP virtual server
Type:	With Reset
Schedule:	Every 1h
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** SMTP Server.NDRs Generated.<instance> SMTP Server.Outbound Messages.<instance> If this is the first time the metric is run or the counter values are less than the previous counter values, then the values are just stored and thresholds are not processed. The percentage is calculated by subtracting the previous counter values from the current counter values to get the number of NDRs and number of messages for the current interval. The formula used to get the metric value is: NDRs this interval / outbound messages this interval * 100. **Probable cause(s)**: A high rate of non-delivery reports could indicate problems with the SMTP configuration, the network, or how mail is being addressed. **Potential impact:** Performance **Suggested action(s):** (1) If the SMTP server has been configured to send notification of NDRs, check the configured mailbox for the system to get information about the NDRs. Otherwise, configure the SMTP server to send notifications for NDRs to help in troubleshooting. (2) Verify that there are no network problems. (3) Check other problems in the Message Reader to see if Exchange has been reporting problems with the SMTP server. (4) Enable diagnostics logging for the SMTP server (using Exchange System manager) to help in troubleshooting.

EXSPI-6X-0058 (Newsfeed Outbound Connections Failed)

Template:	**EXSPI-6X-0058**
Name:	Newsfeed Outbound Connections Failed
Description:	Monitors the percentage of outbound newsfeed connections that failed
Type:	With Reset
Schedule:	Every 1h
Message Group:	EX_Perf
Instruction Text:	**Counter(s):** NNTP Server.Total Outbound Connections Failed.\<instance\> NNTP Server.Total Outbound Connections.\<instance\> If this is the first time the metric is run or the counter values are less than the previous counter values, then the values are just stored and thresholds are not processed. The percentage is calculated by subtracting the previous counter values from the current counter values to get the number of NDRs and number of messages for the current interval. The formula used to get the metric value is: NDRs this interval / outbound messages this interval * 100.

EXSPI-6X-0070 (Mailbox Database File Disk Space)

Metric Name:	EXSPI-0070
Description:	Mailbox Database File Disk Space
Type:	Reset
Schedule:	Every 1 hr.
Message Group:	EX_Perf
Warning Threshold	20
Critical Threshold	10
Instruction Text:	**Probable cause(s):** The amount of disk space being used by the Exchange Mailbox Database files is getting large. A large amount of used disk space indicates a growing number of users and/or size of users' mailboxes. **Potential impact**: Failure **Suggested action(s):** (1) Get more diskspace for the drive that the Mailbox database resides on. (2) Enable or decrease mailbox quota to reduce the amount of diskspace used by the users. (3) Move some of the users to another mailbox database.

EXSPI-6X-0072 (Public Folder Database File Disk Space)

Metric Name:	EXSPI-0072
Description:	Monitors the amount of disk space being used by the public folder database.
Type:	Reset
Schedule:	Every 1 hr.
Message Group:	EX_Perf
Warning Threshold	20
Critical Threshold	10
Instruction Text:	**Probable cause(s):** The public folder database has grown to nearly filling the disk. Users have added files into the public folder database. Other files on the volume may have filled up the volume. **Potential impact:** Failure **Suggested action(s):** (1) Increase the size of the volume that the public folder database resides on. (2) Using the Inactive Public Folder report, decide which inactive public folder files can be archived to tape and deleted. Recover the space by running the defragment utility. (3) Move any extraneous files from the volume where the public folder database resides on.

EXSPI-6X-0110 (SRS Pending Replication Synchronizations)

Template:	**EXSPI-6X-0110**
Name:	SRS Pending Replication Synchronizations
Description:	SRS Pending Replication Synchronizations.
Type:	With Reset
Schedule:	Every 5min
Message Group:	EX_Fault
Instruction Text:	**Counter(s):** MSExchangeSRS.Pending Replication Synchronizations **Probable cause(s):** Replication of directory information may be delayed. A delay in processing replication updates could indicate problems with system load or the Site Replication Service process. **Potential impact:** Performance, Fault **Suggested action(s):** (1) Check that the Directory process (dsamain) is running. (2) Verify that there are no network problems. (3) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded.

EXSPI-6X-0111 (SRS Remaining Replication Updates)

Template:	**EXSPI-6X-0111**
Name:	SRS Remaining Replication Updates
Description:	SRS Remaining Replication Updates.
Type:	Without Reset
Schedule:	Every 5min
Message Group:	EX_Fault
Instruction Text:	**Counter(s):** MSExchangeSRS.Remaining Replication Updates **Probable cause(s):** Replication of directory information may be delayed. A delay in processing replication updates could indicate problems with system load or the Site Replication Service process. **Potential impact:** Performance, Fault **Suggested action(s):** (1) Check that the Directory process (dsamain) is running. (2) Verify that there are no network problems. (3) Monitor system with Windows Task Manager or NT Performance Monitor to determine if the system is overloaded.

EXSPI-6X-1001 (Services Monitor)

Template:	**EXSPI-1001**
Name:	MSExchange Services Monitor
Description:	Monitors Exchange Server process. Generates event if an Exchange service is currently stopped but configured startup automatic.
Type:	Without Reset
Schedule:	Every 5min
Message Group:	EX_Fault
Instruction Text:	**Probable cause(s)**: A service marked for automatic start-up is not running. **Potential impact**: Failure **Suggested action(s)**: (1) Unless the service is known to be down for maintenance, use the Services tool in the Control Panel to re-start the service. NOTE: By default only Exchange related services are monitored. If you would like to receive messages about other stopped services, simply add conditions. A value of 0.0 is sent for running services and 1.0 for stopped services.

EXSPI-6X-End-to-End-Message-Ping

Template:	EXSPI-6X-End-to-End-Message-Ping
Name:	MSExchange End to End Message Ping Monitor
Description:	Monitors the round trip time for a message
Type:	With Reset
Schedule:	Every 30min
Message Group:	EX_Perf
Instruction Text:	**Probable cause(s)**: Slow or non-reply of messages could indicate problems with system load, the MTA, connectors, or the network. The threshold could be too low. For the most accurate alarming, separate thresholds should be set for each ping system pair. **Potential impact:** Failure or Performance **Suggested action(s):** If the threshold is too low, make it bigger. See the User's Guide for information on how to set the threshold differently for each system pair. If the threshold is accurate, then evaluate the following suggestions on the source and destination servers: Select the Performance Monitor 'MS Exchange Server Health' to determine if the source system is overloaded. Also check that the MTA process (emsmta) is running. (If it is not running, it will not be shown on the graph.) Re-start it if needed. Select the Performance Monitor 'MS Exchange Server Health' to determine if the message queue to the destination system is large or growing. If the queues on either side or large or growing and the systems are not overloaded, run Exchange Administrator and check for 'stuck' messages in the MTA queue. If there are no stuck messages, check if there are network problems between the two systems. If the connection between the source and destination system is not direct (e.g., the message travels through bridgehead servers), check the connector queue lengths and system load on those systems as well.

EXSPI-65-EpoxyClientOutQueueLength

Metric Name:	EXSPI-65-EpoxyClientOutQueueLength
Description:	Alarm on epoxy client out queue length. This indicates the number of requests waiting to be processed by the Exchange store.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Warning Threshold	2
Critical Threshold	5
Instruction Text:	**Probable cause:** (1) The thresholds are set too low. (2) The Exchange server is heavily loaded. **Potential impact:** (1) The Microsoft Exchange IMAP4 service may stop responding to client requests. (2) The performance of SMTP and information store processes (Inetinfo.exe and Store.exe) degrades as data is shuttled back and forth. **Suggested action:** (1) Adjust template thresholds when establishing normal server performance baselines. (2) Alleviate load of the server by moving some users to another server. **For more information**, see the Microsoft Knowledge Base article - Q81705 **http://support.microsoft.com/ default.aspx?scid=kb;en-us;817051**

EXSPI-65-EpoxyStoreOutQueueLength

Metric Name:	EXSPI-65-EpoxyStoreOutQueueLength
Description:	Alarm on epoxy store out queue length. This indicates the number of requests waiting to be processed by the IIS protocol handlers.
Type:	Reset
Schedule:	Every 5 min
Message Group:	EX_Perf
Warning Threshold	2
Critical Threshold	5

Instruction Text:	**Probable cause:**
	
	   (1) The thresholds are set too low.
	
	   (2) The Exchange server is heavily loaded.
	
	Potential impact:
	
	   (1) The Microsoft Exchange IMAP4 service may stop responding to client requests.
	
	   (2) The performance of information store processes (Inetinfo.exe and Store.exe) degrades as data is shuttled back and forth.
	
	Suggested action:
	
	   (1) Adjust template thresholds when establishing normal server performance baselines.
	
	   (2) Alleviate load of the server by moving some users to another server.
	
	For more information, see the Microsoft Knowledge Base article - Q81705
	
	  http://support.microsoft.com/ default.aspx?scid=kb;en-us;817051

EXSPI-65-ActiveSyncUsers

Metric Name:	EXSPI-65-ActiveSyncUsers
Description:	Alarms on Microsoft Exchange ActiveSync current users
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Instruction Text:	**Probable causes:** Outlook mobile users are overloaded in this Exchange 2003 server. **Potential impact:** 1) The Exchange server ActiveSync service is unable to process incoming outlook mobile connect requests 2) The performance of the Exchange server is deteriorated **Suggested action:** Move some Outlook mobile users to another Exchange 2003 server.

EXSPI-65-ActiveSyncMboxPendReqs

Metric Name:	**EXSPI-65-ActiveSyncMboxPendReqs**
Description:	Alarms on Microsoft Exchange ActiveSync Outstanding Exchange Mailbox Server I/O Requests: the number of pending connection requests from Exchange ActiveSync to the Exchange mailbox server.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf

Instruction Text:	**Probable causes:**
	
	  1) Outlook mobile users are overloaded in this Exchange 2003 server
	
	  2) Resources such as CPU time and memory are low in this Exchange 2003 server.
	
	Potential impact:
	
	  The Exchange server ActiveSync service is unable to synchronize the mobile device with the Exchange mailbox server.
	
	Suggested actions:
	
	  1) Check hardware performance of the Exchange 2003 server
	
	  2) Move some Outlook mobile users to another Exchange 2003 server.

EXSPI-65-ActiveSynMboxConnReqs

Metric Name:	EXSPI-65-ActiveSyncMboxConnReqs
Description:	Microsoft Exchange ActiveSync Outstanding Exchange Mailbox Server Connection Requests is the number of pending connection requests from Exchange ActiveSync to the Exchange mailbox server.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Instruction Text:	**Probable causes:** 1) Outlook mobile users are overloaded in this Exchange 2003 server 2) Resources such as CPU time and memory are low in this Exchange 2003 server. **Potential impact:** The Exchange server ActiveSync service is unable to process incoming outlook mobile connection requests. **Suggested actions:** 1) Check hardware performance of the Exchange 2003 server 2) Move some Outlook mobile users to another Exchange 2003 server.

EXSPI-65-ActiveSyncADRequests

Metric Name:	EXSPI-65-ActiveSyncADRequests
Description:	Microsoft Exchange ActiveSync Current Active Directory Requests is the current outstanding requests to Active Directory.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Instruction Text:	**Probable causes:** 1) Outlook mobile users are overloaded in this Exchange 2003 server 2) Global catalog server is slow in response to the active directory requests. **Potential impact:** The Exchange server ActiveSync service is unable to process incoming outlook mobile access requests. **Suggested actions:** 1) Check performance of Active Directory service with ADSPI 2) Move some Outlook mobile users to another Exchange 2003 server.

EXSPI-65-InformationStoreAdditionalHeaps

Metric Name:	EXSPI-65-InformationStoreAdditionalHeaps
Description:	The Information Store process utilizes an internal heap; this heap allocation is called exchmem. Information Store Exchmem Number of additional heaps is the total number of exchmem heaps that have been created since startup.
Type:	Reset
Schedule:	Every 15 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact:** At startup the Information Store process creates several exchmem heaps. New heaps are created when the initial heaps are fully utilized or are fragmented to the point the allocation request of contiguous memory fails. When this is the case the Information Store creates new exchmem heaps. When the Information Store process must consistently create heaps then the overall Information Store virtual memory becomes fragmented or depleted. Suggestion action: 1. Add up to 4GB of RAM. 2. Relocate some users from this server to another server. 3. Use a minimum number of Storage Groups to accomplish service agreements. For each additional Storage Group the Information Store process allocates and uses additional memory. 4. If the server is performing multiple roles (Mailbox Server and Public Folder Server) consider moving a role to a new server. For more information, see Microsoft Knowledge Base article: **http://support.microsoft.com/?kbid=815372**

EXSPI-65-InformationStoreHeapMemoryErrors

Metric Name:	EXSPI-65-InformationStoreHeapMemoryErrors
Description:	Information Store Exchmem Number of heaps with memory errors is the total number of exchmem heaps that failed allocations due to insufficient available memory
Type:	Reset
Schedule:	Every 15 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact:** The Information Store process utilizes an internal heap; this heap allocation is called exchmem. At startup the Information Store process creates several exchmem heaps. New heaps are created when the initial heaps are fully utilized or are fragmented to the point the allocation request of contiguous memory fails. When this is the case the Information Store creates new exchmem heaps. When the Information Store process must consistently create heaps then the overall Information Store virtual memory becomes fragmented or depleted. **Suggestion action:** 1. Add up to 4GB of RAM. 2. Relocate some users from this server to another server. 3. Use a minimum number of Storage Groups to accomplish service agreements. For each additional Storage Group the Information Store process allocates and uses additional memory. 4. If the server is performing multiple roles (Mailbox Server and Public Folder Server) consider moving a role to a new server. **For more information**, see Microsoft Knowledge Base article: **http://support.microsoft.com/?kbid=815372**

EXSPI-65-InformationStoreMemoryErrors

Metric Name:	EXSPI-65-InformationStoreMemoryErrors
Description:	Information Store Exchmem Number of memory errors is the total number of exchmem allocations that could not be satisfied by available memory.
Type:	Reset
Schedule:	Every 15 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause**:
	The server is overloaded.
	Potential impact:
	The Information Store process utilizes an internal heap; this heap allocation is called exchmem. At startup the Information Store process creates several exchmem heaps. New heaps are created when the initial heaps are fully utilized or are fragmented to the point the allocation request of contiguous memory fails. When this is the case the Information Store creates new exchmem heaps. When the Information Store process must consistently create heaps then the overall Information Store virtual memory becomes fragmented or depleted.
	Suggestion action:
	1. Add up to 4GB of RAM.
	2. Relocate some users from this server to another server.
	3. Use a minimum number of Storage Groups to accomplish service agreements. For each additional Storage Group the Information Store process allocates and uses additional memory.
	4. If the server is performing multiple roles (Mailbox Server and Public Folder Server) consider moving a role to a new server.
	For more information, see Microsoft Knowledge Base articles:
	http://support.microsoft.com/?kbid=815372

EXSPI-65-OutlookClientLatency10

Metric Name:	EXSPI-65-OutlookClientLatency10
Description:	Alarms on the number of successful RPCs with RPC latency > 10 seconds.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause:**
	The server is overloaded.
	Potential impact:
	RPC clients experience high latencies and may even be unable to log on to the server. Most likely the RPC requests are also over the maximum number of RPC requests (100) that can be processed by a server.
	Suggestion action:
	Relocate some users from this server to another server.

EXSPI-65-OutlookClientLatency5

Metric Name:	EXSPI-65-OutlookClientLatency5
Description:	Alarms on the number of successful RPCs with RPC latency > 5 seconds.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact:** RPC clients experience high latencies and may even be unable to log on to the server. Most likely the RPC requests are also over the maximum number of RPC requests (100) that can be processed by a server. **Suggestion action:** Relocate some users from this server to another server.

EXSPI-65-OutlookClientLatency2

Metric Name:	EXSPI-65-OutlookClientLatency2
Description:	Alarms on the number of successful RPCs with RPC latency > 2 seconds.
Type:	Reset
Schedule:	Every 10 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause:** The server is overloaded. **Potential impact:** RPC clients experience high latencies and may even be unable to log on to the server. Most likely the RPC requests are also over the maximum number of RPC requests (100) that can be processed by a server. **Suggestion action:** Relocate some users from this server to another server.

EXSPI-65-2920 (Client RPC Failure Rate)

Metric Name:	EXSPI-65-2920
Description:	Alarms on client RPC failure rate: the percentage of MSExchangeIS client RPCs failed against MSExchangeIS client RPCs attempted.
Type:	Reset
Schedule:	Every 15 min
Message Group:	EX_Perf
Instruction Text:	**Probable cause:** Outlook RCP clients can not log on the Exchange server due to server unavailable, server too busy, call cancelled, call failed, access denied, or other errors. **Potential impact:** Performance (1) Performance of the Exchange server degrades. (2) RPC clients are unable to log on the Exchange server. **Suggested actions**: (1) Identify the root cause for the high RPC failure rate through the graph \"Outlook Client Failures\". (2) Move some mailboxes to other Exchange server if the high RPC failure rate is due to server too busy.

A Data Store Tables for the Microsoft Exchange 2003 Nodes

The Microsoft Exchange SPI for UNIX creates the following data tables for Microsoft Exchange Server 2003 metrics in the data store on the node to facilitate the data-collection procedure. The data store for all the policies of Microsoft Exchange SPI are of Scheduled Task policy type.

Table 3   Data Store Metrics of Microsoft Exchange 2003 Nodes

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ ASNOTIFY - This table contains details regarding the synchronization notifications. *Policy Name:* EXSPI-65-Dc-ActiveSync Notify *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003)→ EXSPI Client (Ex2003) → EXSPI ActiveSync** *Metric number used:* EXSPI_102000	MSExchange ActiveSync Notify OmaPush	Categorizer Notifications Discarded Total	Number of notifications discarded by mobile categorizer due to errors	ASNDISCARD
		Categorizer Notifications Bifurcated Total	Number of notifications bifurcated by mobile categorizer due to multiple devices	ASNBIFUR CATED
		Categorizer Notifications Sent Total	Number of successful notifications sent by mobile categorizer	ASNSENT
		Categorizer Notifications Expired Total	Number of notifications discarded by mobile categorizer due to expiry	ASNEXPIRED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Categorizer Notifications Processed Total	Number of notifications processed by mobile categorizer	ASNTOTAL
		Categorizer Notifications Ignored Total	Number of notifications ignored by mobile categorizer due to batching	ASNIGNORE
EXSPI_I MAP4PERF - This table contains information about IMAP4 performance metrics. *Policy Name:* EXSPI-6X-Dc-I MAP4 Performance *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Client Access (Ex2003) → EXSPI IMAP4** *Metric number used:* EXSPI_102002	MSExchange IMAP4	Connections Total	Number of connections since startup	IMAP4CON
		Connections Failed	Number of failed connections since startup	IMAP4FAILED CON
		UID Total	Number of UID commands received since startup	IMAP4UID
		Connections Rejected	Number of rejected connections since startup	IMAP4 REJECTED CON

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_OMA - This table contains information about OMA synchronization notifications. *Policy Name:* EXSPI-65-Dc-OMA *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Client Access (Ex2003) → EXSPI OMA** *Metric number used:* EXSPI_102007	MSExchange ActiveSync Notify OmaPush	OmaSink Notifications Sent Total	Number of successful notifications sent by omasink	OMASENT
		OmaSink Notifications Discarded Total	Number of notifications discarded by omasink due to errors	OMADISCARD
		OmaSink Notifications Ignored Total	Number of notifications ignored by omasink	OMAIGNORE
	MSExchange OMA	Last Response Time	The response time of the last request in milliseconds	OMA RESPONSE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ ISCLIENT - This table contains information about outlook client metrics. *Policy Name:* EXSPI-65-Dc-Outlook Client *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Client Access (Ex2003) → EXSPI Outlook 2003** *Metric number used:* EXSPI_102003	MSExchangeIS	Client: RPCs Failed: All Other Errors	The client-reported number of failed RPCs (since the store was started) due to all other RPC errors	ISCRPCF OTHER
		Client: RPCs Failed: Call Cancelled	The client-reported number of failed RPCs (since the store was started) due to the Call Cancelled RPC errors	ISCRPCF CANCEL
		Client: RPCs Failed	The client-reported number of failed RPCs (since the store was started)	ISCRPCFAIL
		Client: RPCs Failed: Access Denied	The client-reported number of failed RPCs (since the store was started) due to the Access Denied RPC errors	ISCRPCF ACCESSDENY
		Client: RPCs Attempted	The client-reported total number of RPCs attempted by the users (since the store was started)	ISCRPC ATTEMPT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Client: RPCs Failed: Server Unavailable	The client-reported number of failed RPCs (since the store was started) due to the Server Unavailable RPC errors	ISCRPCFUNAV
		Client: RPCs Failed: Call Failed	The client-reported number of failed RPCs (since the store was started) due to the Call Failed RPC errors	ISCRPCF CALLFAIL
		Client: Latency > 5 sec RPCs	The client-reported number of successful RPCs with latencies > 5 seconds	ISCLATENCY5
		Client: Latency > 10 sec RPCs	The client-reported number of successful RPCs with latencies > 10 seconds	ISCLATENCY 10
		Client: Latency > 2 sec RPCs	The client-reported number of successful RPCs with latencies > 2 seconds.	ISCLATENCY2
		Client: RPCs succeeded	The client-reported total number of successful RPCs (since the store was started)	ISCRPC SUCCEED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Client: RPCs Failed: Server Too Busy	The client-reported number of failed RPCs (since the store was started) due to the Server Too Busy RPC error	ISCRPCFBUSY
EXSPI_ OWABE - This table contains information about OWA Back End performance metrics. *Policy Name:* EXSPI-6X-Dc-O WA Back End *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Client Access (Ex2003) → EXSPI OWA → EXSPI Back End** *Metric number used:* EXSPI_100083	MSExchange Web Mail	Authentications (total)	Number of Authentications. This is the total number of times authentication is needed	OWAAUTHS
		Authentications (in cache)	Number of Authentications (in cache). This gives the number of different users who have accessed the Microsoft Exchange store through DAV in the last few minutes	OWA AUTHSCACHE
		Message Sends (total)	Number of messages sent	OWA MSGSSENT
		Authentication Cache Hits (total)	Number of Authentication cache hits. This is the number of times that the needed authentication is retrieved from a cache.	OWA RECENT AUTHS
		Message Opens (total)	Number of messages opened	OWA MSGSOPEN

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ OWAFE - This table contains information about OWA Front End performance metrics. *Policy Name:* EXSPI-6X-Dc-OWA Front End *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Client Access (Ex2003) → EXSPI OWA → EXSPI Front End** *Metric number used:* EXSPI_100084	Web service	Maximum Connections	Maximum number of concurrent connections established with the Web service (since service startup)	OWAMAX CONNECT IONS
		Current Connections	Current number of connections established with the Web service.	OWA CONNECT IONS

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ POP3PERF - This table contains information about POP3 performance metrics. *Policy Name:* EXSPI-6X-Dc-POP3 Performance *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Client Access (Ex2003) → EXSPI POP3** *Metric number used:* EXSPI_102009	MSExchange POP3	RETR Total	Number of RETR commands received since startup	POP3RETR
		Connections Total	Number of connections since startup	POP3CON
		Connections Failed	Number of failed connections since startup	POP3 FAILEDCON
		Connections Rejected	Number of rejected connections since startup	POP3 REJECTED CON
		DELE Total	Number of DELE commands received since startup	POP3DELE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ MBPERF - This table contains mailbox performance data. *Policy Name:* EXSPI-6X-Dc-IS Mailbox Performance *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Mailbox (Ex2003)** *Metric number used:* EXSPI_102005	MSExchange IS Mailbox	Messages Delivered	Number of messages delivered to all recipients since startup	MBDELIVER
		Total Count of Recoverable Items	Number of items retained for Item Recovery	MBRECOVER ITEMS
		Single Instance Ratio	Average number of references to each message in the mailbox store	MBSIRATIO
		Messages Submitted	Number of messages submitted by clients since service startup	MB SUBMITTED
		Receive Queue Size	Number of messages in the mailbox store's receive queue	MBRECEIVEQ
		Total Size of Recoverable Items	Total size in kilobytes of items retained for Item Recovery	MB RECOVERSIZE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Client Logons	Number of clients (including system processes) currently logged on	MBLOGON
		Messages Sent	Number of messages sent to the transport since startup	MBSENT
		Active Client Logons	Number of clients that performed any action within the last 10 minute time interval	MB ACTIVELOGON
		Local deliveries	Number of messages delivered locally	MBLOCAL DELIVER
		Send Queue Size	Number of messages in the mailbox store's send queue	MBSENDQ
		Peak Client Logons	Number of concurrent client logons since the service started	MB LOGONPEAK

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Average Delivery Time	Average time in milliseconds between the submission of a message to the mailbox store and the delivery to all local recipients (recipients on the same server) for the last 10 messages	MBDELIVERY TIME
		Message Recipients Delivered	Number of recipients that have received a message since startup	MBRECIPIENT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ ISPERF - This table contains performance data on MSExchangeIS object. *Policy Name:* EXSPI-6X-Dc-Information Store Performance *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003)→ EXSPI Information Store (Ex2003)→ EXSPI Performance (Ex2003)** *Metric number used:* EXSPI_102004	MSExchangeIS	VM Total 16MB Free Blocks	Number of free Virtual Memory blocks larger than or equal to 16MB	ISVM16 MBFREE
		Connection Count	Number of client processes connected to the information store	IS CONNECTCNT
		RPC Requests	Number of client requests that are currently being processed by the information store	RPCREQUESTS
		User Count	Number of users connected to the information store	ISUSERCNT
		VM Total Large Free Block Bytes	Number of bytes in free Virtual Memory blocks larger than or equal to 16MB	ISVM LARGE FREEBB
		Anonymous User Count	Number of anonymous users connected to the information store	IS ANONUSER CNT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		RPC Operations/ Sec	Rate that RPC operations occur	RP COPERATIONS PERSEC
		VM Largest Block Size	Size of the largest free virtual memory block	ISVMLARGEST BLOCK
		Active Anonymous User Count	Number of active users	ISACTIVE ANONUSER CNT
		Active User Count	Number of user connections that have shown some activity in the last 10 minutes	ISACTIVE USERCNT
		Active Connection Count	Number of connections that have shown some activity in the last 10 minutes	ISACTIVE CONNECTCNT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ PFPERF - This table contains public folder performance data. *Policy Name:* EXSPI-6X Dc-IS Public Folder Performance *Policy Group:* **ESPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003)→ EXSPI Information Store (Ex2003) → EXSPI Public Folder (Ex2003)** *Metric number used:* EXSPI_102008	MSExchangeIS Public	Messages Delivered	Number of messages delivered to all recipients since startup	PFDELIVER
		Total Size of Recoverable Items	Total size in kilobytes of items retained for Item Recovery	PFRECOVER SIZE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Message Recipients Delivered	Number of recipients that have received a message since startup	PFRECIPIENT
		Replication Messages Sent	Number of replication messages that have been sent to other servers since service startup	PFREPSENT
		Replication Receive Queue Size	Number of replication messages waiting to be processed	PFREPQ
		Receive Queue Size	Number of messages in the public store's receive queue.	PFRECEIVEQ
		Messages Submitted	Number of messages submitted by clients since service startup	PFSUBMITTED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Single Instance Ratio	Average number of references to each message in the public store	PFSIRATIO
		Total Count of Recoverable Items	Number of items retained for Item Recovery	PFRECOVER ITEMS
		Client Logons	Number of clients (including system processes) currently logged on	PFLOGON
		Messages Sent	Number of messages sent to the transport since startup	PFSENT
		Active Client Logons	Number of clients that performed any action within the last 10 minute time interval	PFACTIVE LOGON
		Send Queue Size	Number of messages in the public store's send queue	PFSENDQ

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Average Delivery Time	Average time in milliseconds between the submission of a message to the public store and the delivery to all local recipients (recipients on the same server) for the last 10 messages	PFDELIVERY TIME
		Peak Client Logons	Number of concurrent client logons since the service started	PF LOGONPEAK
		Replication Messages Received	Number of replication messages received from other servers since service startup	PFREPRCVD

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ MTAPERF - This table contains MTA performance data. *Policy Name:* EXSPI-6X Dc-MTA Performance *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI MTA** *Metric number used:* EXSPI_102006	MSExchange MTA	Work Queue Length	Number of outstanding messages in the Work Queue, which indicates the number of messages not yet processed to completion by the MTA	MTAWORKQ
		Outbound Bytes Total	Total volume of message content transmitted since MTA initialization, measured in kilobytes.	MTA BYTESOUT
		Outbound Messages Total	Number of messages transmitted since MTA initialization	MTAMSGOUT
		Inbound Messages Total	Number of messages received since MTA initialization	MTAMSGIN
		Inbound Bytes Total	Total volume of message content received since MTA initialization, measured in kilobytes	MTABYTESIN
		Total Recipients Outbound	Number of recipients specified in all messages transmitted since MTA initialization	MTARCPOUT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Total Recipients Inbound	Number of recipients specified in all messages received since MTA initialization	MTARCPIN
EXSPI_ SMTPPERF - This table contains information about SMTP Server performance metrics. *Policy Name:* EXSPI-6X-Dc SMTP Server Performance *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI SMTP** *Metric number used:* EXSPI_102010	SMTP Server	Outbound Connections Total	Number of outbound connections attempted	SMTPOUT BOUNDCON
		Messages Sent Total	Number of outbound messages sent	SMTP MSGSENT
		Outbound Connections Refused	Number of outbound connection attempts refused by remote sites	SMTP OUTBOUND CONREF
		Messages Received Total	Number of inbound messages accepted	SMTP MSGRECEIVE
		Message Bytes Sent Total	Number of bytes sent in messages	SMTP MSGBYTE SENT
		Inbound Connections Total	Number of inbound connections received	SMTP INBOUNDCON
		Message Bytes Received Total	Number of bytes received in messages.	SMTP MSGBYTE RECEIVE
		Bytes Sent Total	Number of bytes sent	SMTP BYTESENT
		Bytes Received Total	Number of bytes received.	SMTP BYTERECEIVE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_SMTPQ - This table contains information about SMTP queue metrics. *Policy Name:* EXSPI-6X-Dc SMTP Queues *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI SMTP** *Metric number used:* EXSPI_100015	SMTP Server	Local Queue Length	Number of messages in the local queue	LOCALQ
		Remote Retry Queue Length	Number of messages in the retry queue for remote delivery	REMOTE RETRYQ
		Categorizer Queue Length	Number of messages in the categorizer queue	CATEGORIZER Q
		Messages Pending Routing	Number of messages that have been categorized but not routed	PENDING ROUTINGQ
		Remote Queue Length	Number of messages in the remote queue	REMOTEQ
		Local Retry Queue Length	Number of messages in the local retry queue	LOCALRETRY Q

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EXSPI_ASYNC - This table stores information about the synchronization between clients and the Microsoft Exchange server. *Policy Name:* EXSPI-65-Dc-ActiveSync Notify *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003)→ EXSPI Client Access (Ex2003)→ EXSPI ActiveSync** *Metric number used:* EXSPI_102000	Microsoft Exchange ActiveSync	Total Sync Commands	Number of Sync commands processed by Microsoft Exchange ActiveSync.	ASYNCCMDS
		Outstanding Exchange Mailbox Server Connection Requests	Number of pending connection requests from Microsoft Exchange ActiveSync to one or more Microsoft Exchange mailbox servers	ASYNC CONNECT
		Total Client Sync Items	Number of client item adds, changes, and deletes (within the sync command) sent from the client	ASYNC CLIENTITEMS
		Total SendMail Commands	Number of SendMail commands processed by Microsoft Exchange ActiveSync. The SendMail command is called when a user sends mail from the client	ASYNC SENDMAIL
		Total Users	Number of users who have accessed Microsoft Exchange ActiveSync.	ASYNCUSERS

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Current Active Directory Requests	Specifies the current outstanding requests to the Microsoft Active Directory.	ASYNCAD
		Total Exchange Mailbox Server Sync Items	Number of Microsoft Exchange mailbox server adds, changes, and deletes (within the sync command) sent to the client	ASYNC SERVERITEMS
		Outstanding Exchange Mailbox Server I/O Requests	Number of pending input/ output requests from Microsoft Exchange ActiveSync to one or more Microsoft Exchange mailbox servers	ASYNC PENDING

Table and Policy Details	Metric Description	Data Store Column
EXSPI_FTIDATA - This table contains information about disk space usage of full-text indexing. *Policy Name:* EXSPI-6X Dc-Full Text Index *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Full Text Index** *Metric used:* 74	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_NAME
	Specifies the instance in the server for which the data is collected	INSTANCE_NAME
	Specifies the location of the full text index.	FTILOCATION
	Specifies the size of the full text index (in MB)	FTISIZE
	Specifies the free space (in MB) available on the logical drive on which the full text index is stored	FTIFREE
	Specifies the total size (in MB) of the logical drive on which the full text index is stored	FTITOTAL
	Specifies the percentage free space available on the logical drive on which the full text index is stored	FTIFP
EXSPI_MULTI - This table contains the Single Instance Ratio values for various instances on the server. *Policy Name:* EXSPI-6X-Dc-Mailbox Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Mailbox (Ex2003)** *Metric Used:* 614	A unique key that is used for identifying the instance. It is a combination of the metric number and the instance	INSTANCE_KEY
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_NAME
	Specifies the metric id that is used for collecting this data	METRIC_ID
	Specifies the instance of Mailbox for which data is collected	INSTANCE
	Specifies the time interval at which data was collected.	INTERVAL_KEY

Table and Policy Details	Metric Description	Data Store Column
EXSPI_ SINGLE - This table contains the Single Instance Ratio value for the instance _Total. *Policy Name:* EXSPI-6X-Dc-Mailbox Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Mailbox (Ex2003)** *Metric Used:* 614	Specifies the version of Exchange Server that is installed.	VERSION
	Specifies the Microsoft Exchange server name for which the data is collected.	SERVER_ NAME
EXSPI_ MBDETAIL - This table contains mailbox data. *Policy Name:* EXSPI-6X-Dc-Mailbox Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Mailbox (Ex2003)** *Metric Used:* 815	A unique key that is used for identifying the instance. It is a combination of the mailbox name, name of the data store and the name of the storage group	INSTANCE_ KEY
	Specifies the time interval at which data was collected	INTERVAL_ KEY
	Specifies the name of the mailbox for which the data is collected	MAILBOX_ NAME
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the storage group to which the mailbox belongs	STORAGE GROUP_NAME
	Specifies the name of the data store that contains the mailbox	DATABASE_ NAME
	Specifies the size of the mailbox (in KB)	MAILBOX_SIZE

Table and Policy Details	Metric Description	Data Store Column
	Specifies the status of the mailbox storage quota. 0 => Not Available 1 => Below Limit 2 => Issue Warning 4 => Prohibit Send 8 => No Checking 16 => Mailbox Disabled	MAILBOX_ QUOTA
	Specifies the number of items in the mailbox	MAILBOX_ MSGCNT
	Specifies the last logon time (in Microsoft Exchange time format) for the mailbox user	MAILBOX_ LASTACCESS
EXSPI_ MBSUMMARY - This table contains information about mailbox data store. *Policy Name:* EXSPI-6X-Dc-Mailbox IS Sum Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Mailbox (Ex2003)** *Metric Used:*71	A unique key that is used for identifying the instance. It is a combination of the name of the storage group, the name of the data store and the server name	INSTANCE_ KEY
	Specifies the storage group to which the data store belongs	STORAGE GROUP_NAME
	Specifies the name of the data store (containing mailboxes) for which data is collected	DATABASE_ NAME
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the administrative group to which the data store belongs	ADMINGROUP
	Specifies the location of the .edb file associated with the data store	EDBPATH
	Specifies the location of the .stm file associated with the data store	STMPATH

Table and Policy Details	Metric Description	Data Store Column
	Specifies the size of the .edb file associated with the data store.	EDBSIZE
	Specifies the size of the .stm file associated with the data store	STMSIZE
	Specifies the free space (in MB) available on the logical drive on which the .edb file is stored	EDBFREE
	Specifies the free space (in MB) available on the logical drive on which the .stm file is stored	STMFREE
	Specifies the total size (in MB) of the logical drive on which the .edb file is stored	EDBTOTAL
	Specifies the total size (in MB) of the logical drive on which the .stm file is stored	STMTOTAL

Table and Policy Details	Metric Description	Data Store Column
	Specifies the logical size of the data store. The logical size of the database equals the physical size of the .edb file and the .stm file minus the logical free space in each	MBLOGICAL SIZE
	Specifies the number of users who have mailboxes in that data store	MAILBOX_ USRCNT
	Specifies the total number of messages in all the mailboxes in the data store	MAILBOX_ MSGCNT
	Specifies the time interval at which data was collected	INTERVAL_ KEY
EXSPI_ MTLDATA - This table contains information about message tracking log space usage and free space available. *Policy Name:* EXSPI-6X-Dc-Message Tracking Log Space Usage *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI Tracking Log** *Metric Used:* 76	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_NAME
	Specifies the path to the log directory. The logs in this directory are related to message tracking.	MTLPATH
	Specifies the size of the log directory (in MB)	MTLSIZE
	Specifies the number of log files present in the log directory	MTLCNT
	Specifies the free space (in MB) available on the logical drive on which the log directory exists	MTLFREE
	Specifies the total size (in MB) of the logical drive on which the log directory exists	MTLTOTAL
	Specifies the percentage free space available on the logical drive on which the log directory exists	MTLFP

Table and Policy Details	Metric Description	Data Store Column
EXSPI_MULTI - This table contains the Single Instance Ratio values for various instances on the server. *Policy Name:* EXSPI-6X-Dc-Public Folder Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Public Folder (Ex2003)** *Metric Used:* 624	A unique key that is used for identifying the instance. It is a combination of the metric number and the instance	INSTANCE_ KEY
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the metric id that is used for collecting this data	METRIC_ID
	Specifies the instance of public folder for which data is collected	INSTANCE
	Specifies the time interval at which data was collected	INTERVAL_ KEY
EXSPI_ SINGLE - This table contains the Single Instance Ratio value for the instance _Total. *Policy Name:* EXSPI-6X-Dc-Public Folder Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Public Folder (Ex2003)** *Metric Used:* 624	Specifies the version of Exchange Server that is installed	VERSION
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME

Table and Policy Details	Metric Description	Data Store Column
EXSPI_ PFDETAIL - This table contains public folder details. *Policy Name:* EXSPI-6X-Dc-Public Folder Data	A unique key that is used for identifying the instance. The public folder name is used as the instance key	INSTANCE_ KEY
Policy Group: **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Public Folder (Ex2003)** *Metric Used:* 816	Specifies the time interval at which data was collected	INTERVAL_ KEY

Table and Policy Details	Metric Description	Data Store Column
	Specifies the name of the public folder for which data is collected	FOLDER_ NAME
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the storage group to which the public folder belongs.	STORAGE GROUP_NAME
	Specifies the name of the data store that contains the public folder	DATABASE_ NAME
	Specifies the size of the public folder (in KB)	FOLDER_SIZE
	Specifies the number of items in the public folder	FOLDER_ MSGCNT
	Specifies the time (in Microsoft Exchange time format) at which the public folder was last accessed.	FOLDER_ LASTACCESS
EXSPI_ PFSUMMARY - This table contains information about public folder data store. *Policy Name:* EXSPI-6X-Dc-Public IS Sum Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Public Folder (Ex2003)** *Metric Used:* 73	A unique key that is used for identifying the instance. It is a combination of the name of the storage group, the name of the public folder store and the server name.	INSTANCE_ KEY
	Specifies the storage group to which the data store belongs.	STORAGE GROUP_NAME

Table and Policy Details	Metric Description	Data Store Column
	Specifies the name of the data store (containing public folders) for which data is collected	DATABASE_NAME
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_NAME
	Specifies the administrative group to which the data store belongs	ADMINGROUP
	Specifies the location of the .edb file associated with the data store	EDBPATH
	Specifies the location of the .stm file associated with the data store.	STMPATH
	Specifies the size of the .edb file associated with the data store	EDBSIZE
	Specifies the size of the .stm file associated with the data store	STMSIZE
	Specifies the free space (in MB) available on the logical drive on which the .edb file is stored	EDBFREE
	Specifies the free space (in MB) available on the logical drive on which the .stm file is stored	STMFREE
	Specifies the total size (in MB) of the logical drive on which the .edb file is stored	EDBTOTAL

Table and Policy Details	Metric Description	Data Store Column
	Specifies the total size (in MB) of the logical drive on which the .stm file is stored.	STMTOTAL
	Specifies the logical size of the public store. The logical size of the database equals the physical size of the .edb file and the .stm file minus the logical free space in each	PFLOGICAL SIZE
	Specifies the number of public folders in the data store.	FOLDER_ COUNT
	Specifies the number of messages in all the public folders in the data store	FOLDER_ MSGCNT
	Specifies the time interval at which data was collected	INTERVAL_ KEY

Table and Policy Details	Metric Description	Data Store Column
EXSPI_ SMTPDATA - This table contains information about SMTP queue storage metrics. *Policy Name:* EXSPI-6X-Dc SMTP Virtual Server Storage *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI SMTP** *Metric Used:* 82	Specifies the Microsoft Exchange server name for which the data is collected.	SERVER_ NAME
	Specifies the instance in the server for which the data is collected	INSTANCE_ NAME
	Specifies the location where badmail (e-mail messages contained in the BadMail folder) is stored on the file system	SMTP BADMAILDIR
	Specifies the size of the BadMail folder	SMTP BADMAILSIZE
	Specifies the number of messages in the BadMail folder	SMTP BADMAILCNT
	Specifies the free space (in MB) available on the logical drive where the BadMail folder exists	SMTP BADMAILFREE
	Specifies the total size (in MB) of the logical drive where the BadMail folder exists	SMTP BADMAIL TOTAL
	Specifies the percentage free space available on the logical drive where the BadMail folder exists.	SMTP BADMAILFP
	Specifies the directory from which mail messages are obtained	SMTP PICKUPDIR
	Specifies the size of the PickUp folder	SMTP PICKUPSIZE
	Specifies the number of messages obtained from the PickUp folder	SMTP PICKUPCNT
	Specifies the free space (in MB) available on the logical drive where the PickUp folder exists	SMTP PICKUPFREE
	Specifies the total size (in MB) of the logical drive where the PickUp folder exists.	SMTP PICKUPTOTAL

Table and Policy Details	Metric Description	Data Store Column
	Specifies the percentage free space available on the logical drive where the PickUp folder exists.	SMTP PICKUPFP
	Specifies the directory from which mail messages are queued	SMTP QUEUEDIR
	Specifies the size of the Queue folder	SMTP QUEUESIZE
	Specifies the number of messages in the Queue folder	SMTP QUEUECNT
	Specifies the free space (in MB) available on the logical drive where the Queue folder exists	SMTP QUEUEFREE
	Specifies the total size (in MB) of the logical drive where the Queue folder exists.	SMTP QUEUETOTAL
	Specifies the percentage free space available on the logical drive where the Queue folder exists	SMTP QUEUEFP

Table and Policy Details	Metric Description	Data Store Column
EXSPI_M0660 - This table contains information about top email senders. *Policy Name:* EXSPI-6X Dc-TrackLog Data *Policy Group:* **SPI for MS Exchange** → **EXSPI Exchange 2003** → **EXSPI Standard Groups (Ex2003)** → **EXSPI Messaging** → **EXSPI Tracking Log** *Metric Used:* 660	A unique key that is used for identifying the instance. The instance name is used as the instance key	INSTANCE_ KEY
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the Top Sender instance for which the data is collected	INSTANCE_ 0660
	Specifies the number of bytes sent by the top sender instance	NUM_BYTES_ 0660
	Specifies the number of bytes sent by the top sender instance	NUM_MSGS_ 0660
	Specifies that this metric collects information about email senders.	COUNTER_ 0660
EXSPI_M0661 - This table contains information about top email recipients. *Policy Name:* EXSPI-6X Dc-TrackLog Data *Policy Group:* **SPI for MS Exchange** → **EXSPI Exchange 2003** → **EXSPI Standard Groups (Ex2003)** → **EXSPI Messaging** → **EXSPI Tracking Log** *Metric Used:* 661	A unique key that is used for identifying the instance. The instance name is used as the instance key.	INSTANCE_ KEY
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the Top Recipient instance for which the data is collected	INSTANCE_ 0661
	Specifies the number of bytes received by the top recipient instance	NUM_BYTES_ 0661
	Specifies the number of messages received by the top recipient instance	NUM_MSGS_ 0661
	Specifies that this metric collects information about email recipients.	COUNTER_ 0661

Table and Policy Details	Metric Description	Data Store Column
EXSPI_M0662 - This table contains information about top email destinations.	A unique key that is used for identifying the instance. The instance name is used as the instance key	INSTANCE_ KEY
Policy Name: EXSPI-6X Dc-TrackLog Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI Tracking Log** *Metric Used:* 662	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME

Table and Policy Details	Metric Description	Data Store Column
	Specifies the Top Destination instance for which the data is collected	INSTANCE_0662
	Specifies the number of bytes received by the top destination instance	NUM_BYTES_0662
	Specifies the number of messages received by the top destination instance	NUM_MSGS_0662
	Specifies the destination type - for example: internet address, another Microsoft Exchange server, gateway. A destination type is a combination of a location type and location address	DEST_TYPE_0662
	Specifies the time interval at which data was collected	COUNTER_0662
EXSPI_M0663 - This table contains information about top email sources. *Policy Name:* EXSPI-6X Dc-TrackLog Data *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI Tracking Log** *Metric Used:* 663	A unique key that is used for identifying the instance. The instance name is used as the instance key.	INSTANCE_KEY
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_NAME
	Specifies the Top Source instance for which the data is collected	INSTANCE_0663
	Specifies the number of bytes sent from the top source instance	NUM_BYTES_0663
	Specifies the number of messages sent from the top source instance	NUM_MSGS_0663
	Specifies the source type - for example: internet address, another Microsoft Exchange server, gateway. A source type is a combination of a location type and location address	SRC_TYPE_0663
	Specifies the time interval at which data was collected	COUNTER_0663

Table and Policy Details	Metric Description	Data Store Column
EXSPI_DELIV - This table contains information about SLA delivery time.	A unique key that is used for identifying the instance. The server name is used as the instance key.	INSTANCE_ KEY
Policy Name: EXSPI-6X Dc-TrackLog SLA Delivery	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
Policy Group: **SPI for MS Exchange** → **EXSPI Exchange 2003** → **EXSPI Standard Groups (Ex2003)** → **EXSPI Messaging** → **EXSPI Tracking Log** Collects data from binaryc	Denotes if the required percentage of messages (specified in SLAP PERCENT) has passed the SLA. 1 - indicates that the required percentage of messages have passed the SLA and 0 - indicates that the required percentage of messages have not passed the SLA	DELIVSTATUS
	Amount of time within which a message must be delivered to pass the SLA	SLATIME
	Percentage of messages which must pass the given SLA value	SLAPERCENT
	Denotes the total number of messages that were delivered	DELIVTOTAL
	Percentage of messages that were delivered within the SLA	PERCENTMET
	Number of messages that were not delivered within the specified SLA	TOTALMISSEDSLA
	Denotes the average time taken to deliver a message	AVERAGE DELIV
	Specifies the exchange server from where the message has originated	ORIGSVR
	Specifies the time interval at which data was collected	INTERVAL_ KEY

Table and Policy Details	Metric Description	Data Store Column
EXSPI_ MTADATA - This table contains information about X.400 service MTA queue storage metrics. *Policy Name:* EXSPI-6X Dc-X400 Service MTA Queue *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI MTA** *Metric Used:* 75	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the MTA instance in the server for which the data is collected	INSTANCE_ NAME
	Indicates the path to the MTA database directory	MTA DATABASE PATH
	Specifies the size of the MTA database (in MB)	MTA DATABASE SIZE
	Specifies the free space (in MB) available on the logical drive on which the MTA database is stored	MTA DATABASE FREE
	Specifies the total size (in MB) of the logical drive on which the MTA database is stored	MTA DATABASE TOTAL
	Specifies the percentage free space available on the logical drive on which the MTA database is stored	MTA DATABASEFP

Table and Policy Details	Metric Description	Data Store Column
EXSPI_ TRANSLOG - This table contains information about the transaction log space usage. *Policy Name:* EXSPI-6X Dc-Transaction Log Space Usage *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Information Store (Ex2003) → EXSPI Transaction Log** *Metric Used:* 7	Specifies the storage group name for which the data is collected	STORAGE GROUP_NAME
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the path to the directory where transaction logs for this storage group is stored	TRANSLOG FILEPATH
	Specifies the total size of all the transaction log files present in the directory	TRANSLOG FILESIZE
	Specifies the free space (in MB) available on the logical drive on which the transaction logs are stored	TRANSLOG FILEFREE
	Specifies the total size (in MB) of the logical drive on which the transaction logs are stored	TRANSLOG FILETOTAL
	Specifies the percentage free space available on the logical drive on which the transaction logs are stored	TRANSLOG FILEFP
	Specifies the time interval at which data was collected	INTERVAL_ KEY

Table and Policy Details	Metric Description	Data Store Column
EXSPI_PORTS - This table contains information about the smtp port response. *Policy Name:* EXSPI-6X SMTP Port Response *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Standard Groups (Ex2003) → EXSPI Messaging → EXSPI SMTP** *Metric Used:* 1006	Specifies the target Microsoft Exchange server name on which the port is monitored	SERVER_NAME
	Specifies the name of the port that is being monitored	PORT_NAME
	Specifies the port number that is being monitored	PORT_NUMBER
	Specifies the provider of the daemon listening to the port	SERVICE_PROVIDER
	Specifies the number of bytes that have been sent to the port	SENT_BYTE
	Specifies the number of bytes that have been received from the port.	RECV_BYTE
	Specifies the time taken (in seconds) by the port to respond to the request	RESP_TIME
	Specifies the timeout (in seconds) set for availability checking. The port will be considered not available if no response has been received from the port before the timeout.	CONFIG_TIMEOUT

Table and Policy Details	Metric Description	Data Store Column
EXSPI_ERS - This table contains information about the SRS data space usage. *Policy Name:* EXSPI-6X-05m-SRS Data Space Usage *Policy Group:* **SPI for MS Exchange → EXSPI Exchange 2003 → EXSPI Specialized Groups → EXSPI Site Replication Service** *Metric Used:*114	Specifies the path to the Site Replication Service directory (directory where SRS service maintains copy of legacy contents to be replicated with Microsoft Active Directory. This is present only if there is a Microsoft Exchange 5.5 in the organization).	SRSDIRPATH
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_NAME
	Specifies the size (in MB) of the contents to be replicated	SRSDIRSIZE
	Specifies the free space (in MB) available on the logical drive on which the SRS directory is present	SRSDIRFREE
	Specifies the total size (in MB) of the logical drive on which the SRS directory is present	SRSDIRTOTAL
	Specifies the percentage free space available on the logical drive on which the SRS directory is present	SRSDIRPF
	Specifies the time interval at which data was collected	INTERVAL_KEY

Table and Policy Details	Metric Description	Data Store Column
EXSPI_1002 - This table contains information about ping response. *Policy Name:* EXSPI-6X End to End Message Ping *Policy Group:* **SPI for MS Exchange** → **EXSPI Exchange 2003** → **EXSPI Specialized Groups** → **EXSPI Exchange Server** → **EXSPI Message Delivery** *Metric Used:*1002	A unique key that is used for identifying the instance	INSTANCE_ KEY
	Specifies the time interval at which data was collected	INTERVAL_ KEY
	Specifies the Microsoft Exchange server name for which the data is collected	SERVER_ NAME
	Specifies the site from which the ping message is sent	MSE_ORIG_ SITE
	Specifies the site to which the ping message is sent	MSE_DEST_ SITE
	Specifies the time at which a ping message was sent	PING TIMESTAMP
	Specifies the system name from which a ping message was sent	FROMSYSTEM
	Specifies the system to which a ping message was sent	TOSYSTEM
	Specifies the status of the ping message. 0 => SLA has been met, 1 => SLA has been met within a short additional time 2 => SLA has been exceeded 3 => Request has failed to meet the SLA 4 => SLA is not available	INSTANCEVAL
	Specifies the SLA that has to be met by the ping request	SLA
	Specifies the additional time that the system should wait for the response before it can indicate that the SLA has been exceeded	SLA APPROACH
	Specifies the maximum time the system should wait for a response for the ping request before it can indicate that the request has failed	TIMEOUT
	Specifies the actual time taken for the ping response	MEASURED TIME

B Data Store Tables for the Microsoft Exchange 2007 Nodes

The Microsoft Exchange SPI creates the following data tables for Microsoft Exchange Server 2007 metrics in the data store on the node to facilitate the data-collection procedure.

Table 4   Data Store Metrics of Microsoft Exchange 2007 Nodes

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_ ATTACH FILTER - This table has data on the performance object "MSExchange Attachment Filtering". In Microsoft Exchange Server 2007, attachment filtering lets you apply filters at the server level to control the attachments that users receive.	MSExchange Attachment Filtering	Instance Name	Perfmon instance name of the counter	INSTANCE_NAME
		Server Name	Name of the Exchange Server on which the data is being collected	SERVER_NAME
		Messages Filtered/Sec	Number of messages being filtered per second by the attachment filtering agent	MSGFILTER PERSEC

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
Policy Name: EXSPI-8X Edge DC-MSExchange Attachment Filtering *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server → EXSPI Edge Transport Agent**		Messages Attachment Filtered	Number of messages that were either blocked, attachment-stripped or silent-deleted (as per configuration) by the attachment filtering agent.	MSGATT_ FILTERED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_ CONNFILTER - This table has data for the performance object "MSExchangeConnection Filtering Agent"; The Connection Filter agent is an anti-spam agent that is enabled on computers that have the Microsoft Exchange Server 2007 Edge Transport server role installed. *Policy Name:* EXSPI-8X Edge DC-MSExchange Connection Filtering Agent *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server → EXSPI Edge Transport Agent**	MSExchange Connection Filtering Agent	Instance Name	Perfmon instance name of the counter	INSTANCE_ NAME
		Server Name	Name of the Exchange Server on which the data is being collected	SERVER_NAM E
		Connections on IP Allow List	Number of connections on the IP Allow list.	CONNIPALLO WLIST
		Connections on IP Block List Providers	Number of connections on the IP Block List providers.	CONNIPBCKLI STPVD
		Connections on IP Block List	Number of connections on the IP Block list.	CONNIPBCK LIST
		Connections on IP Allow List Providers	Number of connections on the IP Allow List providers.	CONNIPALLO WLISTPVD

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_ CONTFILTER - This table has data for the performance object "MSExchangeContent Filtering Agent"; The Content Filter agent is one of several anti-spam agents. The Content Filter agent assigns a spam confidence level (SCL) rating to each message. The SCL rating is a number between 0 and 9. A higher SCL rating indicates that a message is more likely to be spam. *Policy Name:* EXSPI-8X Edge DC-MSExchange Content Filter Agent *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server → EXSPI Edge Transport Agent**	MSExchangeContent Filtering Agent	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Messages with SCL 1	number of messages assigned an SCL rating of 1.	MSGWITHSCL1
		Messages with SCL 0	number of messages assigned an SCL rating of 0.	MSGWITHSCL0
		Messages with SCL 2	number of messages assigned an SCL rating of 2.	MSGWITHSCL2
		Messages with SCL 3	number of messages assigned an SCL rating of 3.	MSGWITHSCL3
		Messages with SCL 4	number of messages assigned an SCL rating of 4.	MSGWITHSCL4
		Messages with SCL 5	number of messages assigned an SCL rating of 5.	MSGWITHSCL5
		Messages with SCL 6	number of messages assigned an SCL rating of 6.	MSGWITHSCL6
		Messages with SCL 7	number of messages assigned an SCL rating of 7.	MSGWITHSCL7

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Messages with SCL 8	number of messages assigned an SCL rating of 8.	MSGWITHSCL8
		Messages with SCL 9	number of messages assigned an SCL rating of 9.	MSGWITHSCL9
		Messages Quarantined	number of messages that were quarantined by Content Filter Agent.	MSGQUARANTINED
		Messages Deleted	number of messages that were deleted by Content Filter Agent.	MSGDELETED
		Messages that Bypassed Scanning	number of messages that bypass scanning	MSGBYPASSSCAN
		Messages Scanned	number of messages scanned by Content Filter Agent.	MSGSCANNED
		Messages Rejected	number of messages that were rejected by Content Filter Agent.	MSGREJECTED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_FDSOAB - This table contains data on the performance object "MSExchangeFDS:OAB"; Microsoft Exchange File Distribution Service is responsible for downloading Offline Address Book (OAB) content from the Exchange server that is configured to be the OAB generation server. Each attempt to download an OAB by a Client Access server is considered a download task. *Policy Name:* EXSPI-8X CAS Collect FDS Metrics *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Client Access Server → File Distribution Service**	MSExchangeFDS:OAB	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Download Task Queued	Download Task Queued is '1' if task is queued for execution, otherwise '0.'	TASK_QUEUED
		Download Tasks Completed	number of OAB download tasks completed.	TASKS_COMPLETED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_FDSUM - This table contains data on the performance object "MSExchangeFDS:UM" *Policy Name:* EXSPI-8X UM Collect FDS Metrics *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server → File Distribution Service**	MSExchangeFDS:UM	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Download Task Queued	has a value of 1 if a download task is waiting to start running. Otherwise, the value is 0.	TASK_QUEUED
		Download Tasks Completed	count of the number of UM dial plan downloads that have been completed since the service started.	TASKS_COMPLETED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_HUBTRANSDSN - This table contains data on the performance object "MSExchangeTransport DSN"; Delivery status notifications (DSNs) notify the Microsoft Exchange Server 2007 administrator or e-mail sender of the status of a particular message. This performance object monitors the number of different DSNs generated *Policy Name:* EXSPI-8X HUB Transport DSN *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Hub Transport Server**	MSExchangeTransport DSN	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Failure DSNs Total	number of failure delivery status notifications (DSNs) that have been generated.	FAIL_DSNs_TOTAL
		Delay DSNs	number of delivery status notifications (DSNs) that have been generated.	DELAY_DSNs

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_IMAP4PERF - This table has data on the performance object "MSExchangeIMAP4" *Policy Name:* EXSPI-8X Dc-IMAP4 Performance *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Client Access Server → IMAP4**	MSExchangeIMAP4	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Admin Display Name	number of connections that have been opened since the IMAP service was started.	ADMINDISPLAY_NAME
		Total Connections	number of connections that have failed since the IMAP service was started.	IMAP4CON
		Connections Failed	number of connections that have been rejected since the IMAP service was started.	IMAP4FAILEDCON
		Connections Rejected		IMAP4REJECTEDCON

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_ISCLIENT - This table has data on the performance object "MSExchangeIS" *Policy Name:* EXSPI-8X Dc-Outlook Client *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Outlook Performance**	MSExchangeIS	Client: Latency > 10 sec RPCs	number of successful RPCs with latencies > 10 seconds.	ISCLATENCY10
		Client: Latency > 5 sec RPCs	number of successful RPCs with latencies > 5 seconds.	ISCLATENCY5
		Client: Latency > 2 sec RPCs	number of successful RPCs with latencies > 2 seconds.	ISCLATENCY2
		Client: RPCs attempted	number of RPCs attempted by the users (since the store was started).	ISCRPCATTEMPT
		Client: RPCs succeeded	number of successful RPCs (since the store was started).	ISCRPCSUCCEED
		Client: RPCs Failed	number of failed RPCs (since the store was started).	ISCRPCFAIL
		Client: RPCs Failed: Server Unavailable	number of failed RPCs (since the store was started) due to the Server Unavailable RPC error.	ISCRPCFUNAV
		Client: RPCs Failed: Server Too Busy	number of failed RPCs (since the store was started) due to the Server Too Busy RPC error.	ISCRPCFBUSY
		Client: RPCs Failed: Call Cancelled	number of failed RPCs (since the store was started) due to the Call Cancelled RPC error.	ISCRPCFCANCEL

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Client: RPCs Failed: Call Failed	number of failed RPCs (since the store was started) due to the Call Failed RPC error.	ISCRPCFCALL FAIL
		Client: RPCs Failed: Access Denied	number of failed RPCs (since the store was started) due to the Access Denied RPC error.	ISCRPCFACCE SSDENY
		Client: RPCs Failed: All other errors	number of failed RPCs (since the store was started) due to all other RPC errors.	ISCRPCFOTHE R

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_ISPERF - This table has data on the performance object "MSExchangeIS" *Policy Name:* EXSPI-8X Dc-Information Store Performance *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange →** **en → Exchange** **2007 → Manual** **Deploy Groups →** **Mailbox Server →** **Performance**	MSExchangeIS	RPC Requests	number of client requests that are currently being processed by the information store.	RPCREQUESTS
		RPC Operations/ sec	rate that RPC operations occur.	RPCOPERATIO NSPERSEC
		VM Largest Block Size	size of the largest free virtual memory block.	ISVMLARGEST BLOCK
		VM Total Large Free Block Bytes	number of bytes in free Virtual Memory blocks larger than or equal to 16MB.	ISVMLARGEFR EEBB
		VM Total 16MB Free Blocks	number of free Virtual Memory blocks larger than or equal to 16MB.	ISVM16MBFRE E
		User Count	number of users connected to the information store.	ISUSERCNT
		Connection Count	number of client processes connected to the information store.	ISCONNECTCN T
		Anonymous User Count	number of anonymous users connected to the information store.	ISANONUSERC NT
		Active User Count	number of user connections that have shown some activity in the last 10 minutes.	ISACTIVEUSE RCNT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Active Connection Count	number of connections that have shown some activity in the last 10 minutes.	ISACTIVECON NECTCNT
		Active Anonymous User Count	number of active users.	ISACTIVEANO NUSERCNT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_MBPERF - This table has data on the performance object "MSExchangeIS Mailbox" *Policy Name:* EXSPI-8X Dc-IS Mailbox Performance *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Mailbox**	MSExchangeIS Mailbox	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Receive Queue Size	number of messages in the mailbox store's receive queue.	MBRECEIVEQ
		Average delivery Time	average time in miliseconds between the submission of a message to the mailbox store and the delivery to all local recipients (recipients on the same server) for the last 10 messages.	MBDELIVERYTIME
		Local Deliveries	number of messages delivered locally	MBLOCALDELIVER
		Messages Delivered	number of messages delivered to all recipients since startup.	MBDELIVER
		Messages Sent	number of messages sent to the transport since startup.	MBSENT
		Messages Submitted	number of messages submitted by clients since service startup.	MBSUBMITTED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Messages Recipients Delivered	number of recipients that have received a message since startup.	MBRECIPIENT
		Active Client Logons	number of clients that performed any action within the last ten minute time interval.	MBACTIVELO GON
		Client Logons	number of clients (including system processes) currently logged on.	MBLOGON
		Peak Client Logons	maximum number of concurrent client logons since the service started.	MBLOGONPEA K
		Single Instance Ratio	number of references to each message in the mailbox store.	MBSIRATIO
		Total Count of Recoverable Items	number of items retained for Item Recovery	MBRECOVERI TEMS
		Total Size of Recoverable Items	total size in kilobytes of items retained for Item Recovery	MBRECOVERSI ZE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_PFPERF - This table has data on the performance object "MSExchangeIS Public". *Policy Name:* EXSPI-8X Dc-IS Public Folder Performance *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Public Folder**	MSExchangeIS Public	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Receive Queue Size	number of messages in the public store's receive queue.	PFRECEIVEQ
		Average Delivery Time	average time in miliseconds between the submission of a message to the public store and the delivery to all local recipients (recipients on the same server) for the last 10 messages.	PFDELIVERYTIME
		Messages Delivered	number of messages delivered to all recipients since startup.	PFDELIVER
		Messages Sent	number of messages sent to the transport since startup.	PFSENT
		Messages Submitted	number of messages submitted by clients since service startup.	PFSUBMITTED
		Message Recipients Delivered	number of recipients that have received a message since startup.	PFRECIPIENT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Active Client Logons	number of clients that performed any action within the last ten minute time interval.	PFACTIVELOGON
		Client Logons	number of clients (including system processes) currently logged on.	PFLOGON
		Peak Client Logons	number of concurrent client logons since the service started.	PFLOGONPEAK
		Single Instance Ratio	number of references to each message in the public store.	PFSIRATIO
		Total Count of Recoverable Items	number of items retained for Item Recovery	PFRECOVERITEMS
		Total Size of Recoverable Items	size in kilobytes of items retained for Item Recovery	PFRECOVERSIZE
		Replication Messages Received	number of replication messages received from other servers since service startup.	PFREPRCVD
		Replication Messages Sent	number of replication messages that have been sent to other servers since service startup.	PFREPSENT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Replication Receive Queue Size	number of replication messages waiting to be processed.	PFREPQ
EX2007_POP3P ERF - This table has data on the performance object "MSExchangePO P3". *Policy Name:* EXSPI-8X Dc-POP3 Performance *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Client Access Server → POP3**	MSExchangePO P3	Instance Name	perfmon instance name of the counter	INSTANCE_NA ME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAM E
		Admin Display Name	number of connections that have been opened since the POP service was started.	ADMINDISPLA Y_NAME
		Connections Total	number of connections that have failed since the POP service was started.	POP3CON
		Connections Failed	number of connections that have been rejected since the POP service was started.	POP3FAILEDC ON
		Connections Rejected	number of DELE commands that have been received since the POP service was started.	POP3REJECTE DCON
		DELE Total	number of RETR commands that have been received since the POP service was started.	POP3DELE
		RETR Total		POP3RETR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_PRTAGT - This table has data on the performance object "MSExchange Protocol Analysis Agent". *Policy Name:* EXSPI-8X Edge DC-MSExchange Protocol *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server →EXSPI Edge Transport Agent**	MSExchange Protocol Analysis Agent	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Senders Blocked Because of Local Open Proxy	number of senders blocked because of a local open proxy.	SENDBCK_LOPNPXY
		Senders Blocked Because of Local SRL	number of senders blocked because of local sender reputation level (SRL).	SENDBCK_LCKEDLSRL
		Senders Blocked Because of Remote SRL	number of senders blocked because of remote sender reputation level (SRL).	SENDBCK_LCKEDRSRL

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Senders Blocked Because of Remote Open Proxy	number of senders blocked because of a remote open proxy.	SENDBCK_ROP ENPXY
		Senders Bypass Local SRL calculation	number of senders that bypass local Sender Reputation Level (SRL) calculation.	SENDBYPASS_ LSRLCALC
		Senders Processed	number of senders processed.	SENDPROCESS ED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_RECPFILTER - This table has data for the performance object "MSExchange Recipient Filtering Agent"; The Recipient Filter agent is an anti-spam agent that is enabled on computers that have the Microsoft Exchange Server 2007 Edge Transport server role installed.The Recipient Filter agent blocks messages according to the characteristics of the intended recipient in the organization. *Policy Name:* EXSPI-8X Edge DC-MSExchange Recipient Filter Agent *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server → EXSPI Edge Transport Agent**	MSExchange Recipient Filtering Agent	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Recipients Rejected by Recipient Validation	number of recipients rejected by recipient validation.	RECPREJ_RECPVLDATION
		Recipients Rejected by Block List	number of recipients rejected by block list.	RECPREJ_BCKLIST

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_SENDE RID - This table has data for the performance object "MSExchange Sender Id Agent"; The Sender ID agent is an anti-spam agent that is enabled on computers that have the Microsoft Exchange Server 2007 Edge Transport server role installed. When you enable Sender ID, each message contains a Sender ID status in the metadata of the message. When an e-mail message is received, the Edge Transport server queries the sender's DNS server to verify that the IP address from which the message was received is authorized to send messages for the domain that is specified in the message headers. The Sender ID evaluation process generates a Sender ID status for the message. The Sender ID status is used to evaluate the SCL rating for the message.	MSExchange Sender Id Agent	Instance Name	perfmon instance name of the counter	INSTANCE_NA ME
		Server Name	Exchange Server on which the data is being collected	SERVER_NAM E
		Messages That Bypassed Validation	number of messages that bypassed validation by the Sender Id agent.	MSGBYPASSE D
		Messages Validated with a SoftFail Result	number of messages validated with a result of SoftFail.	MSGSOFTFAIL ED
		Messages Validated with a Neutral Result	number of messages validated with a result of Neutral.	MSGNEUTRAL RESULT
		Messages Validated with a Fail - Malformed Domain Result	number of messages validated with a result of Fail - Malformed Domain.	MSGFAILMAL DOMAIN
		Messages Validated	number of messages validated by the Sender Id agent.	MSGVALIDATE D
		Messages Validated with a Pass Result	number of messages validated with a result of Pass.	MSGPASSRES ULT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
Policy Name: EXSPI-8X Edge DC-MSExchange Sender ID Agent		Messages Validated with a TempError Result	number of messages validated with a result of TempError.	MSGTEMPERR OR
Policy Type: Measurement Threshold		Messages Validated with a None Result	number of messages validated with a result of None.	MSGNONERES ULT
Policy Group: **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups →Edge Server →EXSPI Edge Transport Agent**		Messages Validated with a Fail - Non-existent Domain Result	number of messages validated with a result of Fail - Non-existent Domain.	MSGFAIL_NON EXISTDMN
		Messages Validated with a PermError Result	number of messages validated with a result of PermError.	MSGPERMERR OR
		Messages Missing Originating IP	number of messages for which the originating IP could not be determined.	MSGMISSORGI P
		Messages With No PRA	number of messages that do not have a valid PRA.	MSGWITHNOP RA
		Messages Validated with a Fail - Not Permitted Result	number of messages validated per second with a result of Fail - Not Permitted.	MSGFAIL_NOT PERMIT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_SENDFILTER - This table has data for the performance object "MSExchange Sender Filter Agent"; The Sender Filter agent is an anti-spam filter that is enabled on computers that have the Microsoft Exchange Server 2007 Edge Transport server role installed. The Sender Filter agent acts on messages from specific senders outside the organization. *Policy Name:* EXSPI-8X Edge DC-MSExchange Sender Filter Agent *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups →Edge Server →EXSPI Edge Transport Agent**	MSExchange Sender Filter Agent	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Messages Evaluated by Sender Filter	number of messages evaluated by the Sender Filter agent.	MSGEVALUATED
		Messages Filtered by Sender Filter	number of messages filtered by the Sender Filter agent.	MSGFILTERED

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_SMTPRECV - This table has data on the performance object "MSExchangeTransport SmtpReceive". *Policy Name:* EXSPI-8X Edge Dc-SMTP Perf Inbound Cnn *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups →Edge Server →SMTP**	MSExchangeTransport SmtpReceive	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Admin Display Name	number of bytes received.	ADMINDISPLAY_NAME
		Bytes Received Total	number of bytes in messages received and committed to database. This includes the headers that are inserted by the SMTP server and is the actual number of bytes that are written to database.	SMTPBYTERECV
		Message Bytes Received Total	number of messages received by the SMTP server.	SMTPMSGRECV
		Messages Received Total	number of inbound connections to the SMTP server.	SMTPMSGBYTERECV
		Connections Current	number of connections ever made to the SMTP server.	SMTPCONNCURR
		Connections Total		SMTPCONNTOT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_SMTPS END - This table has data on the performance object "MSExchangeTransport SmtpSend". *Policy Name:* EXSPI-8X Edge Dc-SMTP Perf Outbound Cnn *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups →Edge Server →SMTP**	MSExchangeTransport SmtpSend	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Admin Display Name	number of bytes sent.	ADMINDISPLAY_NAME
		BytesSentTotal	number of messages sent by the SMTP Send connector.	SMTPBYTESEND
		MessagesSentTotal	number of bytes sent. This number includes only those messages that were successfully sent.	SMTPMSGSEND
		MessageBytesSentTotal	number of outbound connections from the SMTP Send connector.	SMTPMSGBYTESEND
		ConnectionsCurrent	number of connections ever made from the SMTP Send connector.	SMTPCONNCURR
		ConnectionsTotal		SMTPCONNTOT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_TRANS Q - This table has data on the performance object "MSExchangeIMAP4". *Policy Name:* EXSPI-8X Dc Transport Queues *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Hub Transport Server**	MSExchangeIMAP4	Instance Name	perfmon instance name of the counter	INSTANCE_NAME
		Server Name	name of the Exchange Server on which the data is being collected	SERVER_NAME
		Poison Queue Length	number of messages in the poison message queue.	POISON_Q_LENGTH
		Submission Queue Length	number of messages in the Submission queue.	SUB_Q_LENGTH
		Retry Non-Smtp Delivery Queue Length	number of messages in retry in the non-SMTP gateway delivery queues.	RETRY_NONSMTP_QLEN
		Aggregate Delivery Queue Length (All Queues)	number of messages queued for delivery in all queues.	AGGDEL_ALLQ_LEN
		Unreachable Queue Length	number of messages in the Unreachable queue.	UNREACH_Q_LENGTH
		Retry Mailbox Delivery Queue Length	number of messages in retry.	RET_MD_Q_LEN
		Active Remote Delivery Queue Length	number of messages in the active remote delivery queues.	ACT_REM_DQLENGTH
		Active Non-Smtp Delivery Queue Length	number of messages in the Drop directory that is used by a Foreign connector.	ACT_NonSMTP_DQLENG

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Retry Remote Delivery Queue Length	number of messages in retry in the remote delivery queues.	RET_REM_DQL ENGTH
		Largest Delivery Queue Length	number of messages in the largest delivery queue.	LARG_DQ_LEN GTH
		Active Mailbox Delivery Queue Length	number of messages in the active mailbox queues.	ACT_MDQ_LEN GTH

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMAUTO_ATTEN - This table contains data on the performance object "MSExchangeUMAutoAttendant"; UM auto attendants can be used to create a voice menu system for an organization that lets external and internal callers move through the UM auto attendant menu system to locate and place or transfer calls to company users or departments in an organization. *Policy Name:* EXSPI-8X UM DC-MSExchange UMAutoAttendant *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	MSExchangeUMAutoAttendant	Business Hours Calls	number of calls processed by this auto attendant during business hours.	BUSS_HR_CALLS
		Operator Transfers	number of calls that have been transferred to the operator.	OPER_TRANSFERS
		Out of Hours Calls	number of calls that have been processed by this auto attendant outside of business hours.	OUT_OF_HR_CALLS
		Average Call Time	average length of time that callers interacted with the auto attendant.	AVERAGE_CALL_TIME

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMAVAIL - This table contains data on the performance object "MSExchangeUMAvailability"; *Policy Name:* EXSPI-8X UM DC-MSExchange UMAvailability *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	MSExchangeUMavailability	Calls Disconnected by UM on Irrecoverable External Error	number of calls disconnected after an irrecoverable external error occurred.	CALLS_DISCN_EXT_ERR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		Calls Disconnected on Irrecoverable Internal Error	number of calls disconnected after an internal system error occurred.	CALLS_DISCN_INT_ERR
		Hub Transport Access Failures	number of times that attempts to access a Hub Transport server failed. This number is only incremented if all Hub Transport servers were unavailable.	HUB_ACCESS_FAIL
		Mailbox Server Access Failures	number of times the system did not access a Mailbox server.	MSERV_ACCESS_FAIL
		Directory Access Failure	number of times that attempts to access Active Directory failed.	DIR_ACCESS_FAIL

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMCALL LANS - This table contains data on the performance object "MSExchangeUM CallAnswer"; *Policy Name:* EXSPI-8X UM DC-MSExchange UMCallAnswer *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	MSExchangeU MCallAnswer	Average Voice Message Size	average size, in seconds, of voice messages left for subscribers.	AV_VMSG_SIZ E
		Call Answering Missed Calls	number of times a diverted call was dropped without a message being left.	CALL_ANSMIS SED_CALLS

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMFAX - This table contains data on the performance object "MSExchangeUMFax"; *Policy Name:* EXSPI-8X UM DC-MSExchange UMFax *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	MSExchangeUMFax	Fax Messages	number of fax messages received.	FAX_MSG
		Fax Incomplete	number of fax calls that were dropped before completion.	FAX_INCOMPLETE
EX2007_UMGENERAL - This table has data on the performance counter "MSExchange General"; *Policy Name:* EXSPI-8X UM DC-MSExchange UMGeneral *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	MSExchange General	Delayed Calls	number of calls that experienced one or more delays longer than 2 seconds.	DELAYED_CALLS
		Total Calls	number of calls since the service was started.	TOTAL_CALLS

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMSUB ACCESS - This table has data on the performance counter "MSExchange UMSubscriberAcc ess"; A subscriber is an internal business user or network user who is enabled for Exchange 2007 Unified Messaging. Subscriber access is used by users to access their individual mailboxes to retrieve e-mail, voice messages, contacts, and calendaring information. *Policy Name:* EXSPI-8X UM DC-MSExchange UMSubscriberAcc ess *Policy Type:* Measurement Threshold *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	MSExchange UMSubscriberA ccess	Voice Messages Sent	number of voice messages that have been sent by authenticated UM subscribers.	VOICE_MSG_S ENT
		Email Message Queue Accessed	number of times subscribers accessed their e-mail message queue by using the telephone user interface.	EMAIL_MSGQ_ ACCESSED
		Average Subscriber Call Duration	average duration, in seconds, that subscribers spent logged on to the system. This timer starts when logon completes.	AVER_SUB_CA LL_DURA
		Email Messages Heard	number of e-mail messages that have been heard by authenticated subscribers.	EMAIL_MSG_H EARD

Table 5   Data Store from Binary

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_AGCFG - This table has data on the configuration of a transport agent on a computer that has the Edge Transport server role or the Hub Transport server role installed in a Microsoft Exchange Server 2007 organization. *Policy Name:* EXSPI-8X Edge Get Configuration of the Transport Agent *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server**	Not applicable	Identity	Specifies the display name of the transport agent to be displayed	AGCFG_ID
		Enabled	Specifies if the transport agent mentioned is enabled or disabled	AGCFG_EN
		Priority	Specifies the priority of the transport agent. The priority of the transport agent controls the order in which the transport agents process e-mail messages. The priority must be a value between 0 and the maximum number of transport agents. The default behavior is to append a new transport agent to the end of the priority list. Transport agents with a priority closest to 0 process e-mail messages first	AGCFG_PRI

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_ AVAILABILITY - This table has data on availability of the Exchange Server where it resides. *Policy Name:* EXSPI-8X Get Exchange Availability *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Availability**	Not applicable	Server	Name of the Exchange Server where the data is being collected	SERVER_NAME
		ADSite	Name of the Active Directory Site where the Exchange Server (where the data is being collected) resides	ADSITE_NAME
		Role	Server role (Mailbox Server role or Cklient Access Server role or Unified Messaging Server Role or Hub Transport server Role or Edge Transport server Role) for the exchange server where the data is being collected	SERVER_ROLE
		Availability	availability of the services (if the services are up, the availability is 1) required to run Exchange server for that particular role	AVAILABILITY

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_DEST - This table has data specific to each Mailbox in a specific ADSite listing all the destinations to which mails have been sent, the domain names of the destination addresses, the total number of bytes of messages and the total number of messages sent to each destination. It classifies the destination servers into 3 categories: Exchange 2007, Exchange 2000/ 2003, SMTP. *Policy Name:* EXSPI-8X Dc-Get Top Destination Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Hub Transport Server**	Not applicable	DestinationAddr	actual destination address to which mails have been sent from each Mailbox in a specific ADSite	DEST_ADDR
		DestinationDomainName	domain name of the destination servers to which mails have been sent from each Mailbox in a specific ADSite	DOMAIN_NAME
		DestinationKey	unique key to identify a particular destination	DEST_KEY
		ServerName	name of the server from which mails have been sent to the specific destinations	SERVER_NAME
		AdSiteName	Active Directory Site name in which the server from which mails have been sent to the specific destinations is present	ADSITE_NAME
		isInternal	size in bytes of the messages sent to each destination	IS_INTERNAL
		TotalBytes	number of messages sent to each destination	NUM_BYTES_DR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		nMsgCount	actual destination address to which mails have been sent from each Mailbox in a specific ADSite	NUM_MSGS_DR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_MBDETAIL - This table has data about a mailbox, such as the size of the mailbox, the number of messages it contains, and the last time it was accessed. This data is present for all the mailboxes present on a particular Mailbox Server where the data is being collected. *Policy Name:* EXSPI-8X Get Mailbox Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Mailbox**	Not applicable	Identity	unique Identity of the Mailbox present on the Mailbox server	MB_IDENTITY
		DisplayName	name of the mailbox which isused for display purposes.	MB_NAME
		ServerName	name of the Mailbox server name where the mailbox is present	MB_SVRNAME
		StorageGroupName	name of the Storage Group where the Mailbox is present on the specified Mailbox Server on which the data is being collected	MB_SGNAME
		DatabaseName	name of the Database where the Mailbox is present on the specified Mailbox Server on which the data is being collected	MB_DBNAME
		TotalItemSize	total size of the items in Bytes present in the Mailbox on the specified Mailbox Server on which the data is being collected	MB_SIZE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		ItemCount	total number of items present in the Mailbox on the specified Mailbox Server on which the data is being collected	MB_MSGCOUNT
		LastLogonTime	last time the mailbox was logged on the specified Mailbox Server on which the data is being collected	MB_LASTACCESS
		DisconnectedDate	last time the mailbox was disconnected on the specified Mailbox Server on which the data is being collected	MB_DISCONNECT
		DeletedItemCount	number of deleted items present in the mailbox on the specified Mailbox Server on which the data is being collected	MB_DELCOUNT
		TotalDeletedItemSize	total size of the deleted items in Bytes present in the mailbox on the specified Mailbox Server on which the data is being collected	MB_DELSIZE
		StorageLimitStatus		MB_STGLIMIT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_MBSUMMARY - This table has data on all the mailboxes on all databases on the local Exchange Mailbox Server where it is created. *Policy Name:* EXSPI-8X Get Mailbox IS Sum Data *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Mailbox**	Not applicable	Identity	unique identity of the mailbox present on the Mailbox Server	INSTANCE_KEY
		StorageGroupName	name of the storage group where the mailbox specified is present on the Mailbox Server	STORAGEGROUP_NAME
		DatabaseName	name of the database where the mailbox specified is present on the Mailbox Server	DATABASE_NAME
		ServerName	EDB file path of the database where the mailbox specified is present on the Mailbox server	SERVER_NAME
		EDBPath	size of the EDB File of the database where the mailbox specified is present on the Mailbox server	EDBPATH
		EDBFileSize	free space available on the drive where the EDB file of the database is present where the mailbox specified is present on the Mailbox server	EDBSIZE

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		EDBDriveFree	total space on the drive where the EDB file of the database is present where the mailbox specified is present on the Mailbox server	EDBFREE
		EDBDriveTotal	number of users having mailboxes on the specified database present on the Mailbox Server	EDBTOTAL
		UserCount	number of messages present in the specified database present on the Mailbox server	MAILBOX_USR CNT
		MessageCount		MAILBOX_MSG CNT

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_PFDETAIL -This table has data on the statistical information about public folders, such as folder size and last logon time. This data is present for all the public folders present on a particular Mailbox Server where the data is being collected. *Policy Name:* EXSPI-8X Get Public Folder Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Public Folder**	Not applicable	Name	name of the public folder on the Mailbox Server	PF_NAME
		ServerName	name of the Mailbox server where the data is being collected	PF_SVRNAME
		StorageGroupName	name of the Storage Group where the public folder is present on the specific Mailbox Server	PF_SGNAME
		DatabaseName	name of the Database where the public folder is present on the specific Mailbox Server	PF_DBNAME
		TotalItemSize	size of the items in Bytes in the public folder on the specific Mailbox server	PF_SIZE
		ItemCount	number of items present in the public folder on the specific Mailbox server	PF_POSTCOUNT
		LastAccessTime	last time the public folder was accessed	PF_LASTACCESS

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_PFSUM MARY - This table has data on all the public folders on all databases on the local Exchange Mailbox Server where it is created. *Policy Name:* EXSPI-8X Get Public IS Sum Data *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Mailbox Server → Public Folder**	Not applicable	Identity	unique identity of the public folder present on the Mailbox Server	INSTANCE_KE Y
		StorageGroupNa me	name of the storage group where the public folder specified is present on the Mailbox Server	STORAGEGRO UP_NAME

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		DatabaseName	name of the database where the public folder specified is present on the Mailbox Server	DATABASE_NAME
		ServerName	EDB file path of the database where the publ;ic folder specified is present on the Mailbox server	SERVER_NAME
		EDBPath	size of the EDB File of the database where the public folder specified is present on the Mailbox server	EDBPATH
		EDBFileSize	free space available on the drive where the EDB file of the database is present where the public folder specified is present on the Mailbox server	EDBSIZE
		EDBDriveFree	space on the drive where the EDB file of the database is present where the public folder specified is present on the Mailbox server	EDBFREE
		EDBDriveTotal	number of public folders specified database present on the Mailbox Server	EDBTOTAL

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		PublicFolderCount	number of messages present in the specified database present on the Mailbox server	FOLDER_COUNT
		MessageCount		FOLDER_MSGCNT
EX2007_QINFO - This table has data on the configuration information for queues on a computer that has the Hub Transport server role or the Edge Transport server role installed. *Policy Name:* EXSPI-8X Get Queue Data *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Edge Server**	Not applicable	Identity	queue identity in the form of Server\destination, where destination is a remote domain, mailbox server, or persistent queue name.	QINFO_ID
		DeliveryType	delivery type for this queue as defined by transport	QINFO_DLVTYPE
		NextHopDomain	next hop domain of the queue, specified as a remote Simple Mail Transfer Protocol (SMTP) domain, a server name, the name of an Active Directory site, or a message database (MDB) identifier.	QINFO_NHDOMAIN

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		NextHopConnector	GUID of the connector that was used to create the queue.	QINFO_NHCNNT
		MessageCount	number of items in the queue.	QINFO_MSGCNT
		LastError	text string of the last error recorded for a queue.	QINFO_LSTERR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_RECP - This table has data specific to each Mailbox in a specific ADSite listing all the recipients to which mails have been sent, the storage groups, store names , Mailbox names, Email Addresses of each recipient, the total number of bytes of messages and the total number of messages sent to each recipient. It classifies the recipient servers into 3 categories: Exchange 2007, Exchange 2000/ 2003, SMTP. *Policy Name:* EXSPI-8X Dc-Get Top Recipient Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Hub Transport Server**	Not applicable	RecipientServer Name	name of the server to which mails have been received from the specific Mailbox servers	SERVER_NAM E
		RecipientAdSite	Active Directory Site name in which the recipient servers from which mails have been received to the specific Mailbox server is present	ADSITE_NAME
		RecipientStorag eGroup	name of the storage group of the specific recipients	SG_NAME
		RecipientStoreN ame	name of the recipient server store for the specific recipients	STORE_NAME
		RecipientMbox	name of the recipient mailbox for the specific recipients	MBOX_NAME
		RecipientEmail Addr	email address of the specific recipients to which mails have been received from the specific mailbox server	EMAIL_ADDR
		TotalBytes	size in bytes of the messages received at each recipient	NUM_BYTES_R R
		nMsgCount	number of messages received at each recipient	NUM_MSGS_R R

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_REPLSUMM - The data logged in this table is used to view the status information about the storage groups in a cluster continuous repluication(CCR), local continuous replication(LCR) or standby continuous replication(SCR) environment. It uses the Get-StorageGroupCopyStatus cmdlet to get this information. From the output of this cmdlet, the Log times and Backup times are converted to dateTime formats. *Policy Name:* EXSPI-8X Dc Replication Summary *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups →Mailbox Server →High Availability → Replication Monitoring**	Not applicable	Identity	identity of the storage group	REPL_IDENTITY
		StorageGroupName	name of the storage group	REPL_SGNAME
		SummaryCopyStatus	summary representation of the general status of the copy.	REPL_STATUS
		LastCopiedLogTime	modification time of the last log that was successfully copied.	REPL_LSTCPLOGTIME
		LastInspectedLogTime	modification time of the last log that was successfully validated by the node hosting the copy.	REPL_LSTINSLOGTIME
		LastReplayedLogTime	modification time of the last log that was successfully replayed by the node hosting the copy.	REPL_LSTRPLLOGTIME
		LastLogGenerated	log generation number of the last log known to be generated on the active node.	REPL_LSTLOGGEN
		LastLogCopied	log generation number of the last log copied to the copy.	REPL_LSTLOGCP

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		LastLogInspected	log generation number of the last log inspected by the copy.	REPL_LSTLOGINS
		LastLogReplayed	log generation number of the last log replayed by the copy.	REPL_LSTLOGRPL
		LatestFullBackupTime	time of last full backup.	REPL_LSTBCKPTIME
		LatestIncrementalBackupTime	time of the last incremental backup.	REPL_LSTIBCKPTIME
		CopyQueueLength	number of logs known by the copy that need to be replicated to the copy.	REPL_CPQLEN
		ReplayQueueLength	number of logs available to be replayed into the copy's database.	REPL_RPLQLEN
		CCRTargetNode	CCRTargetNode	REPL_TARGET

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_SENDER - This table has data specific to each Mailbox in an specific ADSite listing all the senders from which mails have been received, the storage groups, store names , Mailbox names, Email Addresses of each Sender, the total number of bytes of messages and the total number of messages sent from each sender. It classifies the sender servers into 3 categories: Exchange 2007, Exchange 2000/ 2003, SMTP. *Policy Name:* EXSPI-8X Dc-Get Top Sender Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups →Hub Transport Serve**	Not applicable	Server Name	name of the server from which mails have been sent to the specific Mailbox servers	SERVER_NAME
		ServerAdSite	Active Directory Site name in which the server to which mails have been received from the specific senders is present	ADSITE_NAME
		SenderStorageGroup	name of the storage group of the specific senders	SG_NAME
		SenderStoreName	name of the sender server store for the specific senders	STORE_NAME
		SenderMbox	name of the sender mailbox for the specific senders	MBOX_NAME
		SenderEmailAddr	email address of the specific senders from which mails have been sent to the specific mailbox server	EMAIL_ADDR
		TotalBytes	size in bytes of the messages received from each sender	NUM_BYTES_SR
		nMsgCount	number of messages received from each source	NUM_MSGS_SR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_SOURCE - This table has data specific to each Mailbox in a specific ADSite listing all the sources from which mails have been received, the domain names of the source addresses, the total number of bytes of messages and the total number of messages sent from each source. It classifies the source servers into 3 categories: Exchange 2007, Exchange 2000/ 2003, SMTP. *Policy Name:* EXSPI-8X Dc-Get Top Source Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Hub Transport Server**	Not applicable	SourceAddr	actual source address from which mails have been sent to each Mailbox in a specific ADSite	SOURCE_ADDR
		SourceDomainName	domain name of the source servers from which mails have been sent to each Mailbox in a specific ADSite	DOMAIN_NAME
		SourceKey	Sunique key to identify a particular source	SOURCE_KEY
		ServerName	name of the server to which mails have been received from the specific sources	SERVER_NAME
		AdSiteName	Active Directory Site name in which the server to which mails have been received from the specific sources is present	ADSITE_NAME
		isInternal	size in bytes of the messages received from each source	IS_INTERNAL
		TotalBytes	number of messages received from each source	NUM_BYTES_SRC
		nMsgCount		NUM_MSGS_SRC

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMHUNT - This table has data on the the properties and values for an existing Unified Messaging (UM) hunt group *Policy Name:* EXSPI-8X Get UMHuntGroup Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	Not applicable	PilotIdentifier	number string that is used to uniquely identify the pilot access number for the specified IP gateway. It matches the subscriber access number that is configured in the UM dial plan.	UMHUNT_PILOT
		UMDialPlan	specifies the UM dial plan that is used with the UM hunt group	UMHUNT_DIAL L
		Name	specifies the UM hunt group name that is used for display purposes	UMHUNT_NAME

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMIPG WAY - This table has data on the list of properties and values for the list of UM IP gateways. *Policy Name:* EXSPI-8X GetUM IPGatewayDetails *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	Not applicable	Address	IP address that is configured on the IP gateway or SIP-enabled IP PBX.	MIPGWAY_AD D
		OutcallsAllowed	specifies if Outgoing calls are allowed or not from the IP gateway	UMIPGWAY_O UT
		Status	enable or disable calls that are destined for the IP gateway	UMIPGWAY_E N
		Port	port at which the IP gateway is configured	UMIPGWAY_P ORT
		Simulator	allows a client to connect to the Unified Messaging server	UMIPGWAY_SI M
		Name	specifies the display name for the UM IP gateway	UMIPGWAY_N AME

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMMB OX - This table has data on the the Unified Messaging (UM) properties for a recipient who is UM-enabled. It contains data on the UM properties for a single UM mailbox. It can also contain a list of UM-enabled mailboxes. *Policy Name:* EXSPI-8X Get Unified Messaging Mailbox Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	Not applicable	AllowUMCallsF romNonUsers	specifies whether to exclude the mailbox from directory searches.	UMMBOX_NON USR
		AnonymousCall erCanLeaveMes sages	specifies whether diverted calls without a caller ID will be allowed to leave a message.	UMMBOX_ANO NYCALL
		ASREnabled	specifies whether the user can use Automatic Speech Recognition when they log on to their mailbox This parameter can only be set to $true if there is ASR support for the language selected by the user in Outlook Web Access Options.	UMMBOX_ASR

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		AutomaticSpeechRecognitionEnabled	specifies whether the user can use Automatic Speech Recognition when they log on to their mailbox This parameter can only be set to $true if there is ASR support for the language selected by the user in Outlook Web Access Options.	UMMBOX_SPCH
		DialPlan	specifies the UM dial plan that is used with the UM Mailbox	UMMBOX_DIAL
		DisplayName	specifies the user to enable for Unified Messaging. The variables for this parameter include the following: ADObjectID, GUID, DN, Domain\Account, UPN, LegacyExchangeDN, SmtpAddress, Alias	UMMBOX_DNAME
		FaxEnabled	specifies whether a user is allowed to receive incoming faxes.	UMMBOX_FAX

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		MissedCallNotificationEnable	specifies whether to send missed call notifications.	UMMBOX_MISSCALL
		Name	specifies the display name for the user.	UMMBOX_NAME
		PrimarySmtpAddress	specifies the primary SMTP address, which is the e-mail address that external users will see when they receive a message from this recipient.	UMMBOX_PRISMTP
		ServerName	ServerName	UMMBOX_SNAME
		SubscriberAccessEnable	specifies whether the user is allowed subscriber access to their individual mailbox. If it is set to $true, users, after they are authenticated, will be able to retrieve voice mail over the telephone.	UMMBOX_SUBACC

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		TUIAccessToAddressBookEnabled	specifies whether a user can access the directory and contact information over the telephone.	UMMBOX_TUIBOOK
		TUIAccessToCalendarEnabled	specifies whether users can access their individual calendaring over the telephone.	UMMBOX_TUICALL
		TUIAccessToEmailEnabled	specifies whether users can access their individual e-mail over the telephone.	UMMBOX_TUIMAIL
		UMEnabled	specifies whether UM is enabled for this mailbox.	UMMBOX_EN
		UMFaxId	specifies the fax number of the user or contact.	UMMBOX_FXID
		UMMailboxPolicy	specifies the UM mailbox policy that is associated with the UM-enabled user's mailbox.	UMMBOX_MPOL
		UMMaxGreetingDuration	UMMaxGreetingDuration	UMMBOX_GREET
		UMOperatorNumber	contains the string of digits for the personal operator.	UMMBOX_OPER

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMPIN - This table has information from a UM-enabled user's mailbox.This information is calculated from the PIN data that is stored in encrypted form in the user's mailbox. *Policy Name:* EXSPI-8X Get UMMailbox Pin Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	Not applicable	UserID	specifies the identifier that can be used to retrieve information about the mailbox. The variables for this parameter include the following: ADObjectID GUID DN Domain\Account UPN LegacyExchangeDN SmtpAddress Alias PinExpired	UMPIN_USER
		PinExpired	specifies whether the PIN will be treated as expired. If this parameter is supplied and is set to $false, the user will not be required to reset their PIN the next time that they log on. If the PIN is not supplied, the PIN will be treated as expired and the user will be prompted to reset their PIN the next time that they log on.	UMPIN_EXP
		FirstTimeUser	FirstTimeUser	UMPIN_FRST

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		LockedOut	specifies whether the mailbox will continue to be locked. If set to $true, the mailbox will be marked as locked out. By default, if this parameter is omitted or set to $false, the task will clear the locked out status on a mailbox.	UMPIN_LOCK

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
EX2007_UMSRV - This table has data on the the properties for a single computer that is running Microsoft Exchange Server 2007 that has the Unified Messaging server role installed or displays a list of servers that are enabled for Unified Messaging (UM). *Policy Name:* EXSPI-8X Get UMServer Details *Policy Type:* Scheduled Task *Policy Group:* **SPI for Exchange → en → Exchange 2007 → Manual Deploy Groups → Unified Messaging Server**	Not applicable	Name	specifies the ID for the Unified Messaging server object that is to be configured. This parameter specifies the directory object ID for the UM server.	UMSRV_NAME

Table and Policy Details	Performance Object	Metrics / Performance Counter	Metric Description	Data Store Column
		MaxCallsAllowed	specifies the maximum number of concurrent calls that the Unified Messaging server will allow.	UMSRV_CALLS
		MaxFaxCallsAllowed	specifies the maximum number of concurrent fax calls that the Unified Messaging server will allow.	UMSRV_FAX
		MaxTTSSessionsAllowed	specifies the maximum number of concurrent Text-to-Speech (TTS) sessions that the Unified Messaging server will allow.	UMSRV_TTS
		MaxASRSessionsAllowed	specifies the maximum number of concurrent Automatic Speech Recognition (ASR) sessions.	UMSRV_ASR
		Status	Status lets the administrator manipulate the Unified Messaging server status. Enabled, Disabled, and NoNewCalls are the available options.	UMSRV_STATUS

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