HP OpenView Operations OS/400 Management

Administrator's Reference

Software Version: A.05.00

HP OpenView

February 2005

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Contents

Table of Contents

Contents **5**

Conventions **9**

Documentation **11**

OV OS/400 Printed Manuals 11

OV OS/400 Online Information 12

Configuring OV OS/400 ..... **13**

Phase 1: Retrieve Existing Agent Parameters 14

Get Existing Agent Parameters 14

Get Existing Agent Messages Queues and Message Filters 15

Phase 2: Add, Modify, and Distribute Agent Parameters and Filters 15

Starting the AS/400 Configuration Interface 15

Add AS/400 Nodes and Runtime Parameters 16

Phase 3: Add, Modify, and Distribute Message Queues and Message IDs 26

Configure Message Queues 26

Configure Message ID Filters 29

Message Queue Filters 29

Phase 4: Identify Job Log Messages 32

Phase 5: Assigning and Distributing the OV OS/400 Templates 34

To Assign OV OS/400 Templates 35

Phase 6: Assigning the OV OS/400 Administrator Profile 37

Phase 7: Assigning the OV OS/400 Applications to OVO Users 37

Phase 8: Adding Existing Nodes to the 400 Node Group 38

Phase 9: Starting the OV OS/400 Processes 38

Stopping the OV OS/400 Processes 38

Phase 10 - Configuring Nodes for Performance Data Collection 39

Using OV OS/400 41

About the OV OS/400 Java Applet 42

Updating the Java Security Policy 42

Using the OV OS/400 Java Interface 44

To Monitor Active Jobs 44

To Manage Output Queues 45

To Work With Selected Output Queue 46

To Manage Job Queues 48

To Work With Selected Job Queue 49

To Monitor System Status 50

To Manage Outstanding Inquiry Messages 51

About the OV OS/400 Node Group 52

About the OV OS/400 Application Group: AS400(iSeries) Tools 53

About OV OS/400 Templates 54

To Add or Modify Actions 54

Intercepting Messages 55

Message Formats 55

Using Monitors 56

Discovering Resources 59

About Status Names and Colors 59

To Change Status Names and Colors 59

Customizing the Discovery Process 59

To Start the Discovery Process 61

About the OV OS/400 Map Application 61

Designating OV OS/400 Map Administrators 61

Accessing OV OS/400 Submaps 62

Deleting Objects from the OV OS/400 Map 62

To Delete AS/400 Objects from the Edit Toolbar Menu 63

To Delete AS/400 Objects using “Delete Objects” in the Application Bank .. 63

Using Command Applications 64
To Use the Predefined Applications (Motif) 64
To Use the Predefined Applications 64
To Use the Command Interface Application 65
Using the EVJLSCAN Program 66
Using the OV OS/400 Agent Interface to System APIs 67
01 Active Job Listing 67
02 Job Attributes 68
07 Job Queue Request 68
08 Output Queue Request 69
09 Output Queue Listing 69
16 Job Queue Listing 70
20 System Statistics 70
21 System Pools Request 71
22 System CPU Utilization 71
27 Active Job Log 72
28 QSYSOPR Inquiry Messages 73
30 Data Queue Information 74
31 ASP Statistics 75

Troubleshooting OV OS/400 77

General Troubleshooting 78
To Verify Your OV OS/400 Environment 78
If Verification Does Not Solve the Problem 78
Specific Troubleshooting 78
If No Messages are on the OVO Management Server 80
If Automatic or Operator-initiated Commands Do Not Complete 80

Appendix A 81

OV OS/400 AS/400 Messages 82

Appendix B 83

OV OS/400 Management Server Messages 84

Appendix C 93

EView Subsystem (EVSBS) 94

Glossary 95

1

Conventions

The following typographical conventions are used in this manual.

Table 1: Typographical Conventions

Font	Meaning	Example
Italic	Book or manual titles, and man page names	See the *EView/400 Management for OVO Windows* for more information.
	Provides emphasis	You *must* follow these steps.
	Specifies a variable that you must supply when entering a command	At the prompt, enter rlogin *your_name* where you supply your login name.
	Parameters to a function	The *oper_name* parameter returns an integer response.
Bold	New terms	The **monitor agent** observes...
`Computer`	Text and items on the computer screen	The system replies: Press `Enter`
	Command names	Use the `grep` command ...
	Function names	Use the `opc_connect()` function to connect...
	File and directory names	`/opt/OV/bin/OpC/`
	Process names	Check to see if opcmona is running.
	Window/dialog box names	In the `Add Logfile` window...
`Computer Bold`	Text that you must enter	At the prompt, enter **`ls -l`**
`Keycap`	Keyboard keys	Press **Return**.
[Button]	Buttons on the user interface.	Click [Operator]. Click the [Apply] button.

Font	Meaning	Example
Menu Items	A menu name followed by a colon (:) means that you select the menu, then the item. When the item is followed by an arrow (->), a cascading menu follows.	Select Actions:Utilities->Reports ...

2

Documentation

HP OpenView Operations OS/400 Management (OV OS/400) provides a set of manuals that help you use the product and understand the concepts underlying the product. This section describes what information is available and where you can find it.

In addition to OV OS/400 documentation, related OpenView products provide a comprehensive set of manuals that help you use the products and improve your understanding of the underlying concepts.

OV OS/400 Printed Manuals

This section provides an overview of the printed manuals and their contents.

HP OpenView Operations OS/400 Management Concepts Guide

Explains OV OS/400 features, functions, architecture, and data flow. Describes OV OS/400 agent and server components, process management, SNA discovery process, network topology, and message windows.

HP OpenView Operations OS/400 Management Installation Guide

Explains how to install, de-install, and configure OV OS/400. Also includes how to upload installation files from the OVO management server, and start and stop OV OS/400. Also describes OS/400 console commands.

HP OpenView Operations OS/400 Management Administrator's Reference

Explains how to customize and use OV OS/400. Also includes detailed troubleshooting procedures and explanations of OV OS/400 system messages.

OV OS/400 Online Information

The following information is available online.

- *HP OpenView Operations OS/400 Management Concepts Guide*
- *HP OpenView Operations OS/400 Installation Guide*
- *HP OpenView Operations OS/400 Administrator's Reference*
- *HP OpenView Operations OS/400 Software Release Notes*

3

Configuring OV OS/400

This chapter describes how to configure OV OS/400 from the OVO server and distribute the configurations to the AS/400 agents.

Phase 1: Retrieve Existing Agent Parameters

This section collects the AS/400 runtime parameters from existing AS/400 agents and updates them for Version 5. Use this section only if you have AS/400 agent(s) that are being upgraded from an OV OS/400 Version A.04.00. If this is a new installation, continue to Phase 2.

Get Existing Agent Parameters

Use the vp400getglobals program to collect startup parameters from the existing OV OS/400 Version 4 agent AS/400(s) and update them with new Version 5 parameters.

```
/opt/OV/vp400/bin/vp400getglobals as400name [-u user] [-p pswd] [-r|-l]
```

where:

as400name	The IP name of the monitored AS/400 agent
user	Valid user ID on the AS/400 agent that has the authority to retrieve existing parameter files from the AS/400's EVIEW library. If a user ID is not given on the command line, the program will prompt you to enter it.
pswd	The password for the named user ID. If a password is not given on the command line, the program will prompt you to enter it.
-r	If any conflict is found between the local OVO default parameters and the remote AS/400 agent, the parameters from the remote AS/400 agent will take precedence. This is the default operation.
-l	If any conflict is found between the local OVO default parameter and the remote AS/400 agent, the local OVO default parameters will take precedence.

Get Existing Agent Messages Queues and Message Filters

Use the vp400getmsgqinfo program to collect the names of the existing message queues and the message IDs that are monitored on the AS/400 agent.

```
/opt/OV/vp400/bin/vp400getmsgqinfo as400name [-u user] [-p pswd]
```

where:

as400name	The IP name of the monitored AS/400 agent
user	Valid user ID on the AS/400 agent that has the authority to retrieve existing parameter files from the AS/400's EVIEW library. If a user ID is not given on the command line, the program will prompt you to enter it.
pswd	The password for the named user ID. If a password is not given on the command line, the program will prompt you to enter it.

Phase 2: Add, Modify, and Distribute Agent Parameters and Filters

In this section, AS/400 nodes are defined to the OVO component of OV OS/400. New nodes are added to the OVO Node Bank. Agent parameters are distributed to the AS/400 via ftp.

Starting the AS/400 Configuration Interface

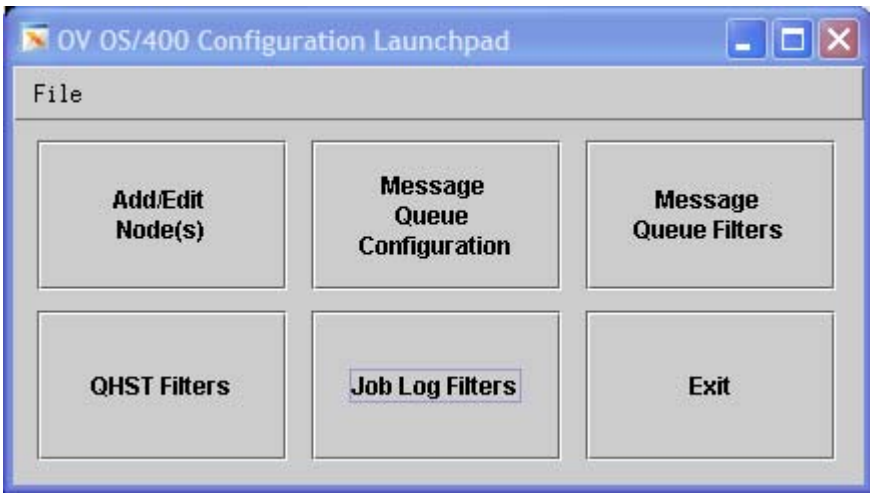
The AS/400 node configuration interface provides a launching pad for all AS/400 configuration utility programs (See Figure 3-).

1. Start the "AS/400 Config Utils" application from the "AS/400 Tools Configuration" group in the OVO Applications Bank or from a Unix command line:

   ```
   /opt/OV/vp400/bin/vp400configurator
   ```

   When starting from the Unix command line, the DISPLAY variable must be set to the address or hostname where the window output will be displayed.

Figure 3-1: OV OS/400 Configuration Launchpad

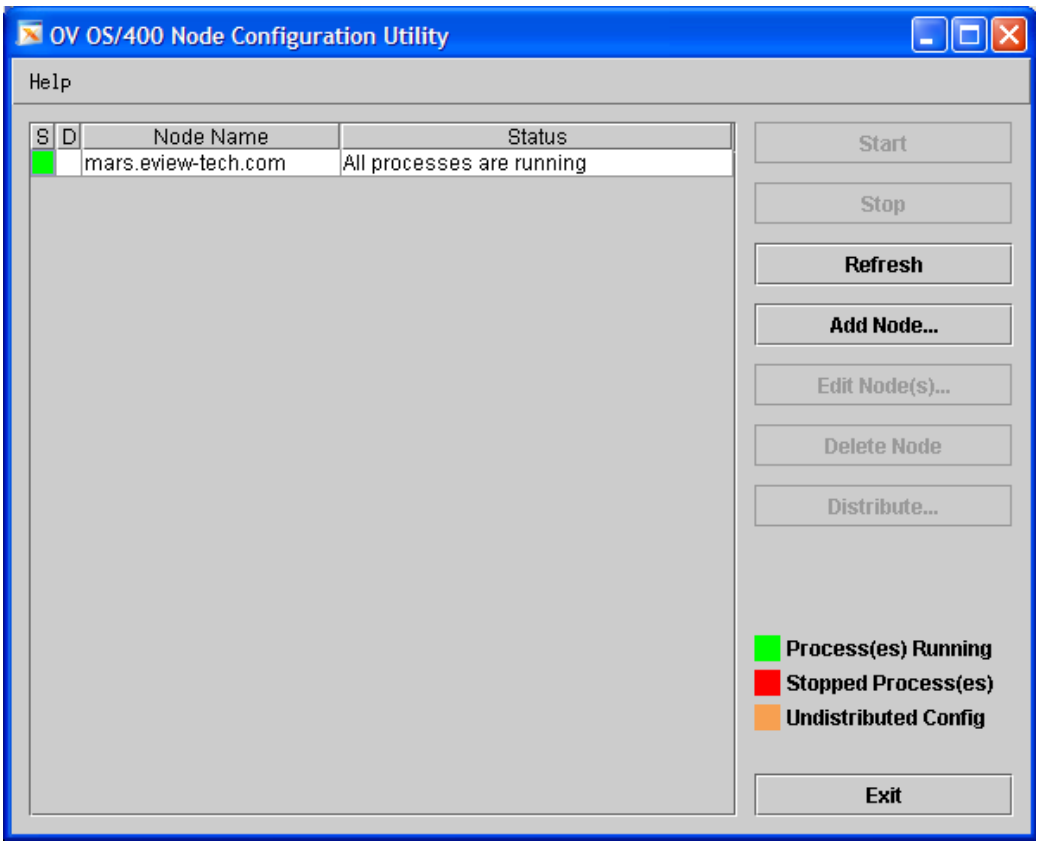


Add AS/400 Nodes and Runtime Parameters

The "Add/Edit Node" utility will define an AS/400 node to be monitored by OV OS/400 and adds it to the OVO Node Bank.

1. Start the "Add/Edit Node" application by clicking on the button in the configuration launch (Figure 3-1) pad window.

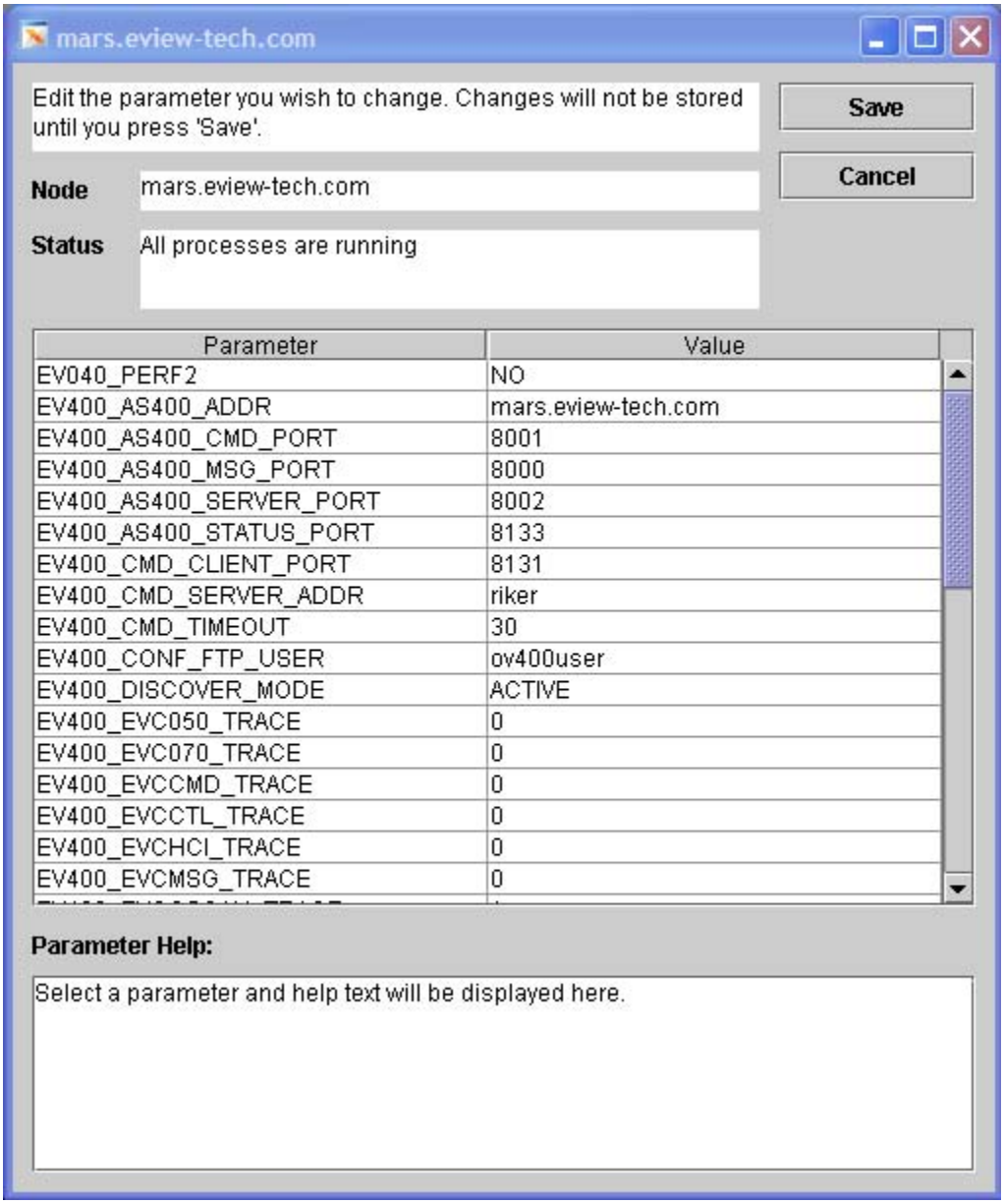
Figure 3-2: OV OS/400 Node Configuration Utility



2. Select “Add Node” and enter the fully qualified name of the AS/400 node to be monitored. The name must be able to be resolved through the existing name service (for example, DNS or an entry in the /etc/hosts file).

3. Modify any of the configuration parameters in the next windows.

Figure 3-3: OV OS/400 Node Configuration Parameters



The standard configuration parameters are:

EV400_AS400_ADDR

Fully qualified network name of AS/400 where the OVO agent component is installed.
Default Value
None
Valid Values
Name of OVO managed node

EV400_AS400_CMD_PORT

TCP port number assigned to the OV OS/400 Command Server process.
Default Value
8001
Valid Values
Any unused port number on the AS/400 agent between 1025 and 65535.

EV400_AS400_MSG_PORT

TCP port number assigned to the OV OS/400 Master Message Server process.
Default Value
8000
Valid Values
Any unused port number on the AS/400 agent between 1025 and 65535.

EV400_AS400_SERVER_PORT

A TCP port number reserved for inter-process communications on the AS/400 agent.
Default Value
8002
Valid Values
Any unused port number on the AS/400 agent between 1025 and 65535.

EV400_AS400_STATUS_PORT

A TCP port number assigned to the OV OS/400 Status Manager. This port number must be unique on the server where the Status Manager is running.
Default Value
8005. This number will be incremented automatically when new nodes are added so that the port numbers remain unique.
Valid Values
Any unused port number on the OVO server between 1025 and 65535.

EV400_CMD_CLIENT_PORT

A TCP port number used by the Command Server process to communicate with the Master Message Server process. This port number must be unique on the OVO server where the Command Server and Master Message Server processes are running.
Default Value
8003. This number will be incremented automatically when new nodes are added so that the port numbers remain unique.
Valid Values
Any unused port number on the OVO server between 1025 and 65535.

EV400_CMD_SERVER_ADDR

The name of the UNIX server where the Command Server process is to run.
Default Value
The OVO server name.
Valid Values
A UNIX server name.

EV400_CMD_TIMEOUT

The amount of time to wait for an AS/400 command response (in seconds).
Default Value
30
Valid Values
An integer greater than or equal to 1 (second).

EV400_CONF_FTP_USER

A user ID on the AS/400 agent that has the authority to store files in the EVIEW library. If this field is left blank, the OV OS/400 configuration utility will prompt you for a user ID when it is making its ftp connection to the AS/400.
Default Value
ov400user
Valid Values
An AS/400 user ID (up to 10 characters) or blank.

EV400_DISCOVER_MODE

Determines the type of resource discovery used by OV OS/400.
Default Value
ACTIVE
Valid Values
ACTIVE - OV OS/400 queries the AS/400 with commands to discover the AS/400 resource environment (lines, controllers, and devices) when the Discovery application is executed.
PASSIVE - OV OS/400 allows the Status Manager to passively discover the environment. The Status Manager receives status changes and adds resources as they are encountered. Set the UPDATE_DB_W_NEWNODES parameter to “YES” for the passive discovery to function properly.

EV400_KEEP_DISCOVER_FILES

Indicates whether the OV OS /400 Discovery process retains a log on the OVO server of AS/400 resources (lines, controllers, and devices) that were discovered and added to OpenView’s NNM database
Default Value
YES
Valid Values
YES or NO

EV400_MONITOR_QHST

Indicates whether the OV OS/400 agent should monitor for messages that are sent to the AS/400 QHST system history log. If set to “YES”, then verify that the EV400_QHST_MON_FREQ field is greater than 0.
Default Value
YES
Valid Values
YES or NO

EV400_MON_RESOURCES

Indicates whether the OV OS/400 agent should monitor the status of AS/400 resources (lines, controllers, and devices). If set to “YES”, then verify that the EV400_MON_RSRCE_FREQ field is greater than 0.
Default Value
YES
Valid Values
YES or NO

EV400_MON_RESRCE_FREQ

Frequency (in seconds) that OV OS/400 agent polls the status of the AS/400 agent’s resources (lines, controllers, and devices). Only necessary when the EV400_MON_RESOURCES parameter is “YES”.
Default Value
30
Valid Values
An integer greater than or equal to 1 (second)

EV400_MSG_DISTRIB

Should the AS/400 agent send its collected messages to all OVO servers that are in contact with it? (If “NO”, then specify in the EV400_PRIMARY_SERVER field which OVO server is the primary recipient of messages.)
Default Value
YES
Valid Values
YES - Send unsolicited AS/400 messages to all OV OS/400 servers that are in contact with this agent.
NO - Send unsolicited messages only to the primary server.

EV400_MSG_SERVER_ADDR

The name of the UNIX server where the Master Message Server process is to run.
Default Value
The OVO server
Valid Values
A UNIX server name

EV400_PATH

The OV OS/400 installation directory on the OVO server.
Default Value
`/opt/OV/vp400`
Valid Values
OV OS/400 home directory

EV400_PERF1

Specifies whether the performance gathering function will be activated on the AS/400 agent to gather the data for performance group 1. See the appendices of the *OV OS/400 Administrator's Reference* for the list of metrics collected in group 1.
Default Value
NO
Valid Values
YES – Activate the performance gathering function on the AS/400 agent. See the *OV OS/400 Administrator's Reference* for information on how to receive the performance data on the OVO server and send it to OpenView.
NO – Do not activate performance data gathering for group 1.

EV400_PERF1_INT

The interval, in minutes, at which group 1 performance data is collected on the AS/400 agent and forwarded to the OVO server. This field is only needed if EV400_PERF1 is set to "YES".
Default Value
5
Valid Values
An integer greater than or equal to 1 (minute).

EV400_PERF2

Specifies whether the performance gathering function will be activated on the AS/400 agent to gather the data for performance group 2. See the appendices of the *OV OS/400 Administrator's Reference* for the list of metrics collected in group 2.

Default Value
NO
Valid Values
YES – Activate the performance gathering function on the AS/400 agent. See the *OV OS/400 Administrator's Reference* for information on how to receive the performance data on the OVO server and send it to OpenView.
NO – Do not activate performance data gathering for group 2.

EV400_PERF2_INT

The interval, in minutes, at which group 2 performance data is collected on the AS/400 agent and forwarded to the OVO server. This field is only needed if EV400_PERF2 is set to "YES".
Default Value
30
Valid Values
An integer greater than or equal to 1 (minutes).

EV400_PRIMARY_SERVER

The fully qualified name of the primary OVO server to receive messages from this agent. Although multiple OVO servers may be connected to the AS/400 agent at one time, only the server named here will receive unsolicited AS/400 messages. This field is only necessary when the EV400_MSG_DISTRIB parameter is “NO”.
Default Value
null
Valid Values
An OV OS/400 UNIX server name

EV400_QHST_MON_FREQ

Frequency (in seconds) that the OV OS/400 agent collects new messages from the QHST system history log. This field is only necessary when the EV400_MONITOR_QHST parameter is “YES”.
Default Value
5
Valid Values
An integer greater than or equal to 1 (second)

EV400_STAT_SERVER_ADDR

The name of the UNIX server where the Status Manager process is to run. Leave this field blank if the Status Manager process in not needed, i.e., OVO will not be monitoring the status of the AS/400 lines, controllers, and devices.
Default Value
The OVO server
Valid Values
A UNIX server name or blank.

EV400_UPDATE_DB_W_NEWNODES

Determines if OV OS/400 adds new resources to the management database as they are encountered. When you set the parameter to “YES”, the Status Manager will keep track of new lines, controllers or devices.
Default Value
YES
Valid Values
YES - As new resources are encountered by OV OS/400, they are dynamically added to the management database.
NO - Any new resources encountered following the initial map build are not added to the management database. Only current nodes are monitored.

EV400_WORK_AREA

Specifies where OV OS/400 places temporary work files on the OVO server.
Default Value
`/var/opt/OV/share/tmp/vp400`
Valid Values
Any existing directory on the OVO server

EV400_VP400MMS_TRACE

Set tracing level for the master message server (vp400mms)
Default Value
0 - No tracing output enabled
Valid Values
0001 - general program tracing enabled
0002 - internal tracing enabled
0004 - program detail tracing enabled
0008 - warning messages enabled
0010 - error tracing enabled
0020 - dump output enabled
0040 - loop tracing enabled
0080 - verify tracing enabled
0100 - log messages sent to OVO
0200 - log performance records

EV400_VP400CS_TRACE

Set tracing level for the command server (vp400cs)
Default Value
0 - No tracing output enabled
Valid Values
0001 - general program tracing enabled
0002 - internal tracing enabled
0004 - program detail tracing enabled
0008 - warning messages enabled
0010 - error tracing enabled
0020 - dump output enabled
0040 - loop tracing enabled
0080 - verify tracing enabled

EV400_VP400SM_TRACE

Set tracing level for the status manager (vp400sm)
Default Value
0 - No tracing output enabled
Valid Values
0001 - general program tracing enabled
0002 - internal tracing enabled
0004 - program detail tracing enabled
0008 - warning messages enabled
0010 - error tracing enabled
0020 - dump output enabled
0040 - loop tracing enabled
0080 - verify tracing enabled

EV400_VP400HOSTCMD_TRACE

Set tracing level for the host command client (vp400hostcmd)
Default Value
0 – disable tracing
Valid Values
0001 - general program tracing enabled
0002 - internal tracing enabled
0004 - program detail tracing enabled
0008 - warning messages enabled
0010 - error tracing enabled
0020 - dump output enabled
0040 - loop tracing enabled
0080 - verify tracing enabled

EV400_EVCMSG_TRACE

Set tracing level for the agent message TCP task (EVCMSG)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVCHCI_TRACE

Set tracing level for the agent message transfer process (EVCHCI)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVC050_TRACE

Set tracing level for the agent command processor (EVC050)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVCQSCAN_TRACE

Set tracing level for the agent message queue monitor (EVCQSCAN)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVCCTL_TRACE

Set tracing level for the API interface process (EVCCTL)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVPERFM_TRACE

Set tracing level for the agent performance monitor process (EVPERFM)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVC070_TRACE

Set tracing level for the agent resource monitor (EVC070)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVCCMD_TRACE

Set tracing level for the agent command TCP process (EVCCMD)
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_EVHSTPGM_TRACE

Set tracing level for the agent history log (QHST) monitor
Default Value
A value of 0 disables tracing
Valid Values
A value of 1 enables tracing

EV400_VP400MMS_LOGSIZE

Set the maximum log size in 1K increments for the master message server (vp400mms)
Default Value
3000
Valid Values
1-99999

EV400_VP400CS_LOGSIZE 3000

Set the maximum log size in 1K increments for the command server (vp400cs)
Default Value
3000
Valid Values
1-99999

EV400_VP400SM_LOGSIZE

Set the maximum log size in 1K increments for the status manager (vp400sm)
Default Value
3000
Valid Values
1-99999

4. Save the parameters for this agent. The `vp400nodecfg` program will save the parameters locally on the OVO server and add the AS/400 node to the OVO Node Bank.

The new node is placed into the Holding Area and must be moved up to the Node Bank manually.

5. Multiple nodes may be edited at once to the same parameters that are not required to be unique. Select the node names while holding down the **Shift** key then click the [Edit Node(s)] button.

6. Select any nodes in the list of defined nodes that have the Undistributed box marked and click the [Distribute...] button to send the configuration parameters to the AS/400 agents. Multiple lines may be selected at one time. If the EV400_CONF_FTP_USER field for a node has not been filled in, you will be prompted to enter it.

Any time a node's configuration parameters are changed using the [Add Node] or [Edit Node] functions of the vp400nodecfg program, the Undistributed field will be marked to remind you that there are changes that need to be distributed to the AS/400 agent.

7. If a node is deleted using the [Delete Node] button, the node will be removed from the OV OS/400 list of defined nodes, but it will remain in the OVO Node Bank. Use the `Actions:Node->Delete` menu item from the OVO Node Bank window to remove a node from OVO.

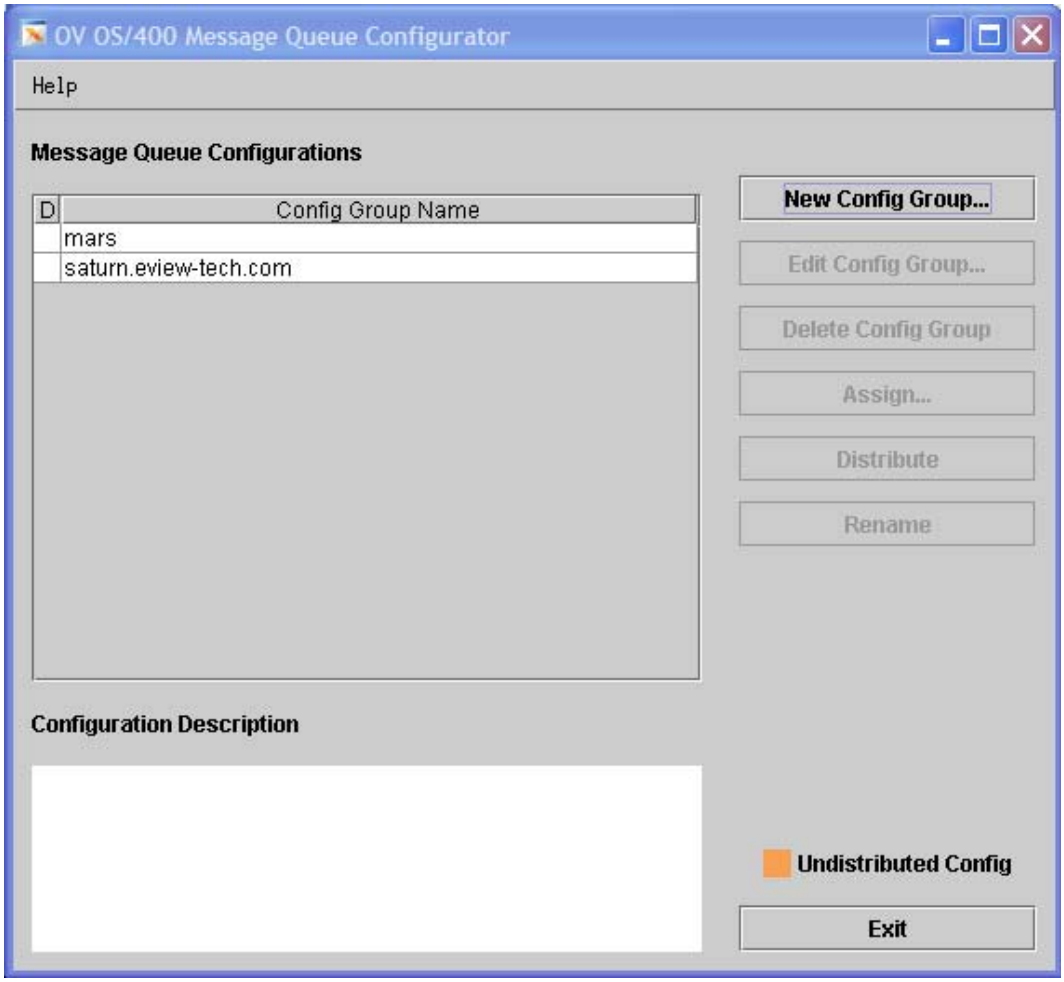
Phase 3: Add, Modify, and Distribute Message Queues and Message IDs

AS/400 messages can be captured from any AS/400 message queue or the QHST message log. This section explains how to identify which queues are to be monitored and which messages should be captured and passed from the OV OS/400 agent to the server.

Configure Message Queues

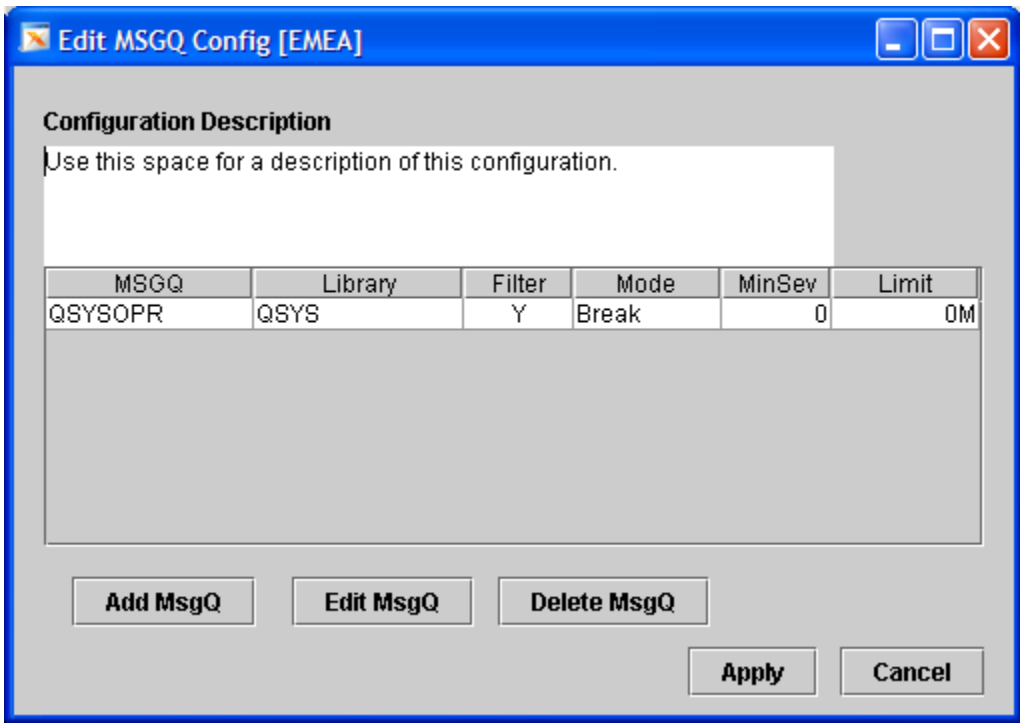
1. Start the Message Queue Configuration utility from the OV OS/400 Configuration launchpad (Figure 3-1) by clicking on the "Message Queue Configuration" button.

Figure 3-4: Message Queue Configurator



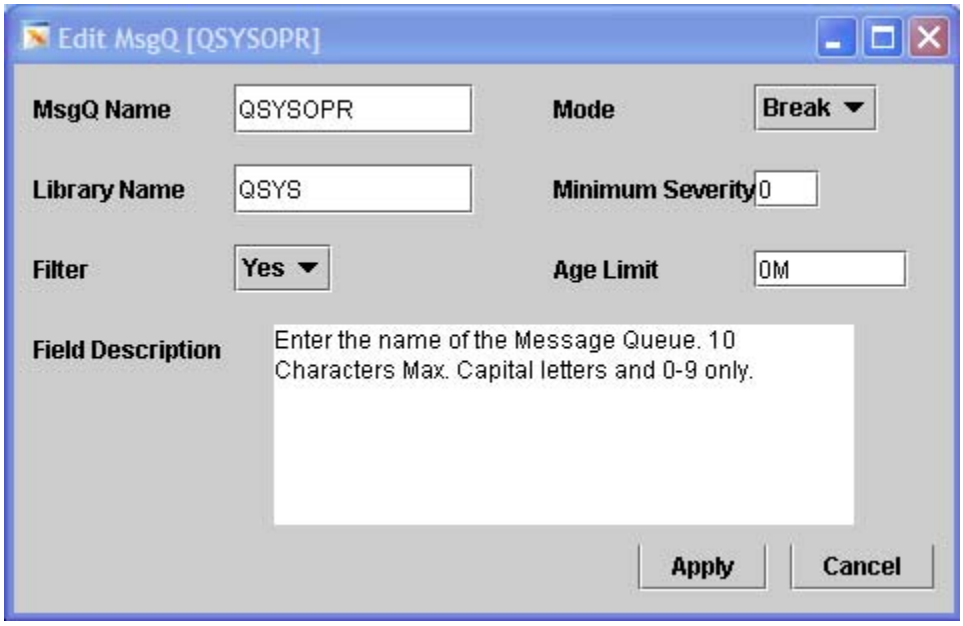
2. To change the message queues being monitored, add a new configuration group using the [New Config] button or edit an existing one using the [Edit Config] button.

Figure 3-5



3. To add or edit message queues in this configuration, use the [Add MsgQ] or [Edit MsgQ] buttons.

Figure 3-6: Edit Message Queue Options



- In the **MSGQ Name** field, enter the name of the message queue to be monitored.
- In the **Library Name** field, enter the name of the library where the message queue resides.

- Set the **Filter** option to “Yes” if the message ID filters should be applied to messages coming from this queue, restricting which messages will be forwarded to the OVO server. Set the option to “No” to allow messages to be passed on to OVO regardless of their message ID.
- Set the **Mode** option to “Break” to allow OV OS/400 to set the queue in *BREAK mode. OV OS/400 provides a break message-handling program that will be called each time a new message is written to the queue. Set the option to “Scan” to have OV OS/400 scan the queue on the interval (by default, every 5 seconds) to check for new messages.
  - Break Mode advantage: instant processing of incoming messages
  - Scan Mode advantage: does not require a lock on the message queue and can coexist with other message queue monitoring programs.
- Set the **Minimum Severity** field to a numeric value indicating the necessary minimum severity of an incoming message. Messages with a lower severity will not be passed on to OVO, even if a message filter matches. Enter “0” to allow all messages to be processed, regardless of severity.
- In the **Age Limit** field, enter a time limit of how old a message can be and still be passed on to the OVO server. This is useful in cases where the communication link between the OVO server and AS/400 agent is broken for an extended period of time, and messages may accumulate on the queue. When the communication link is restored, the Age Limit prevents the agent from sending a flood of old unnecessary messages to the OVO server.

4. Click the [Apply] button when all message queues are added to the configuration group.
5. Click the [Assign] button to assign queue configuration groups to AS/400 agents. The same configuration group may be assigned to multiple agents. Adding agents to the list will highlight the Distribution box, indicating that assignments have been made but not yet sent to the agents.
6. Select a queue configuration and click the [Distribute] button to send the list of monitored queues to the AS/400 agent. The transfer uses ftp; you will be prompted to enter the ftp user ID and password for each of the agents if this information was not given when the node was defined.

When the OV OS/400 agent subsystem is running, it will begin monitoring message queues defined with Scan mode immediately after the distribution is completed; queues defined with Break mode monitoring will begin monitoring after the next time the subsystem is restarted.

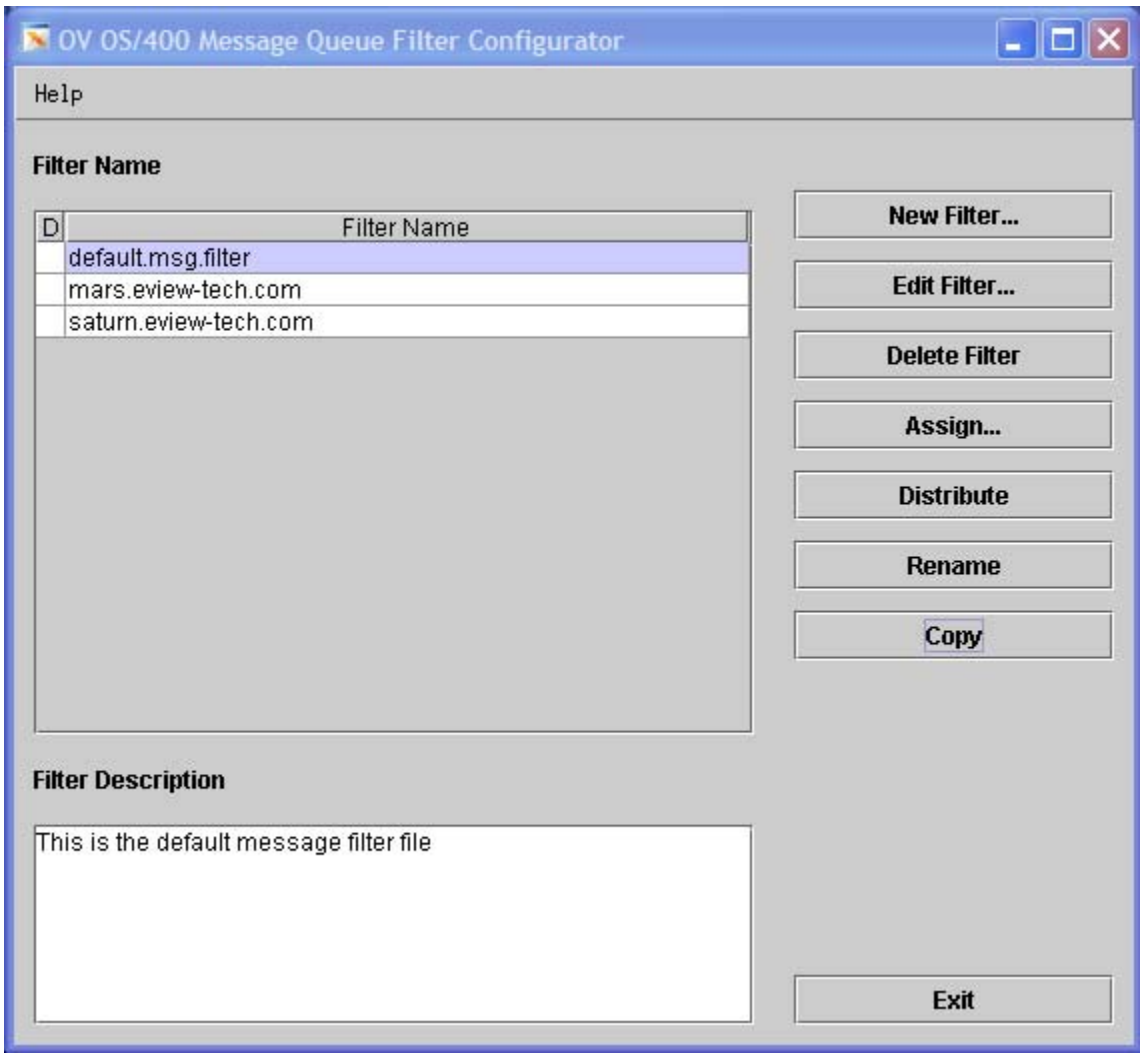
Configure Message ID Filters

Message ID filters restrict the number of messages that are sent from the AS/400 agent to the OVO server and save the OVO server from receiving a flood of unnecessary messages. Each AS/400 agent has two message filters, one for message queues and one for the QHST message log.

Message Queue Filters

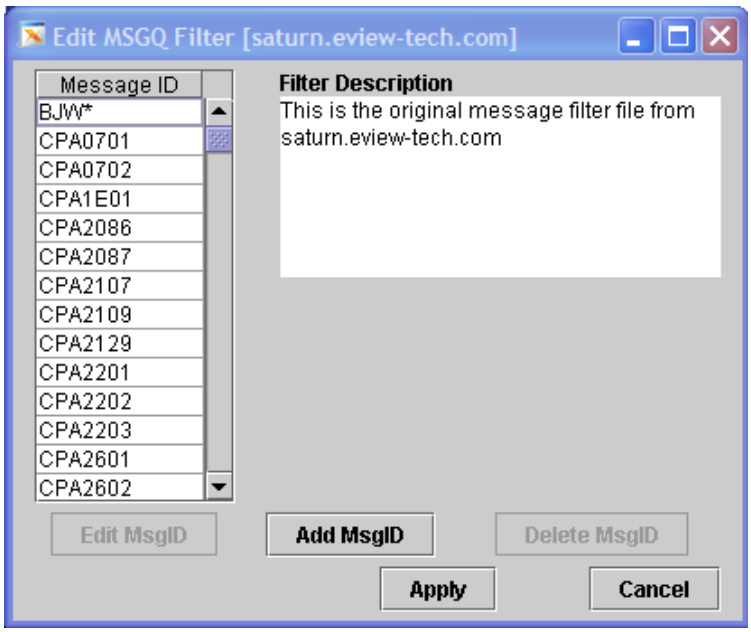
Start the Message Queue Filters application from the OV OS/400 Configuration launchpad (Figure 3-1) by clicking on the “Message Queue Filters” button

Figure 3-7: Message Queue Filter Application



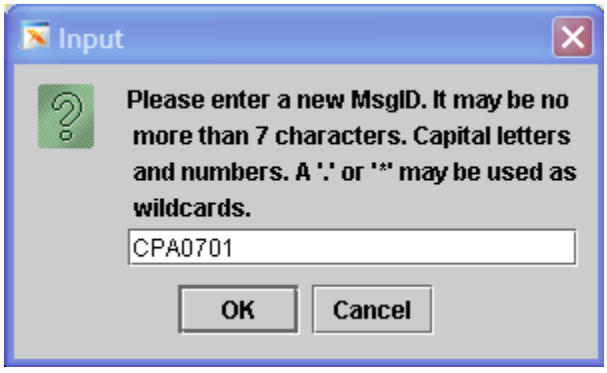
1. To change the list of message IDs that are sent to the OVO server, add a new filter group using the [New Filter] button or edit an existing one using the [Edit Filter] button. New filters may also be created by copying an existing filter or the supplied default filter (default.msg.filter) by selecting an existing filter and using the [Copy] button.

Figure 3-8: Message Queue Filter



2. To add or edit message IDs in this group, use the [Add MsgID], [Edit MsgID], and [Delete MsgID] buttons.

Figure 3-9: Edit Message IDs



Any message ID entered can contain the special period character (.) to indicate that any character in that position should match. If the message ID is terminated with an asterisk (*), matching will only occur on characters preceding the asterisk. See the following examples:

Table 3-1: Message Filter Examples

To forward the following messages:	Enter the following in the list of Message IDs:
All messages	*
ABC1234	ABC1234
All messages beginning with “ABC”	ABC*
Any message beginning with “ABC” and ending with “9”	ABC…9

3. Click [Apply] button when all message IDs are added to the filter group.

4. Click the [Assign] button to assign filter groups to AS/400 agents. The same filter group may be assigned to multiple agents. Adding agents to the list will highlight the Distribution box, indicating that assignments have been made but not yet sent to the agents

5. Select a filter group name and click the [Distribute] button to send the list of message IDs to the AS/400 agent. The transfer uses ftp; you will be prompted to enter the ftp user ID and password for each of the agents if this information was not given when the node was defined.

When the OV OS/400 agent subsystem is running, it will begin monitoring with the new message ID filters immediately after the distribution is completed.

QHST Filters

Start the QHST Filters utility from the OV OS/400 Configuration launchpad by clicking on the QHST filters button.

1. To change the list of message IDs that are sent to the OVO server, add a new filter group using the `[New Filter]` button or edit an existing one using the `[Edit Filter]` button.

2. To add or edit message IDs in this group, use the `[Add MsgID],` and `[Delete MsgID]` buttons.

3. Click the `[Apply]` button when all message IDs are added to the filter group.

4. Click the `[Assign]` button to assign filter groups to AS/400 agents. The same filter group may be assigned to multiple agents. Adding agents to the list will highlight the Distribution box, indicating that assignments have been made but not yet sent to agents.

5. Select a filter group name and click the `[Distribute]` button to send the list of message IDs to the AS/400 agent. The transfer uses ftp; you will be prompted to enter the ftp user ID and password for each of the agent if this information was not given when the node was defined.

When the OV OS/400 agent subsystem is running, it will begin monitoring with the new message ID filters immediately after the distribution is completed.

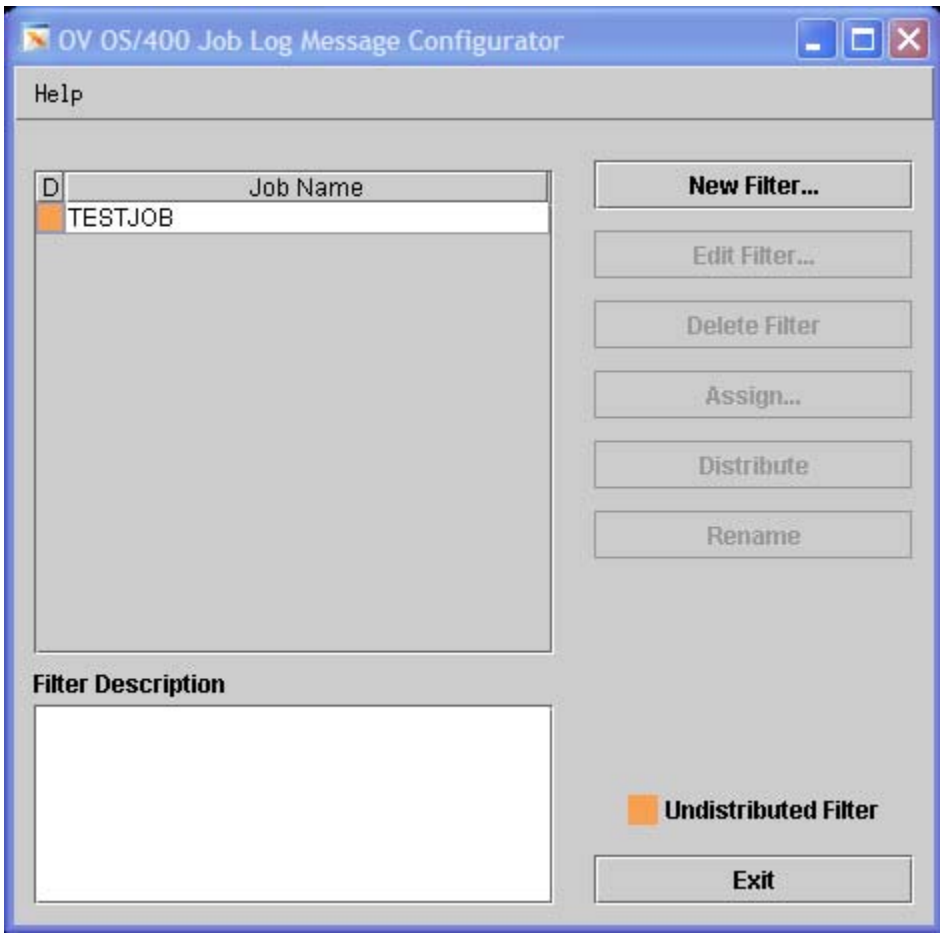
Phase 4: Identify Job Log Messages

The Job Log message filter allows you to set up a file of message IDs that will be searched by the EVJLSCAN job log-scanning program on the AS/400 agent. Any matching messages found in specified jobs will be returned. This can be useful in scanning the job log of a completed program for error messages.

It is important to know the name of the job that is being scanned because the EVJLSCAN program reads in message ID filters based on the job name.

1. Start the Job Log Message Configurator utility from the OV OS/400 Configuration launchpad (Figure 3-1) by clicking on the “Job Log Filters” button.

Figure 3-10: Job Log Filter Window

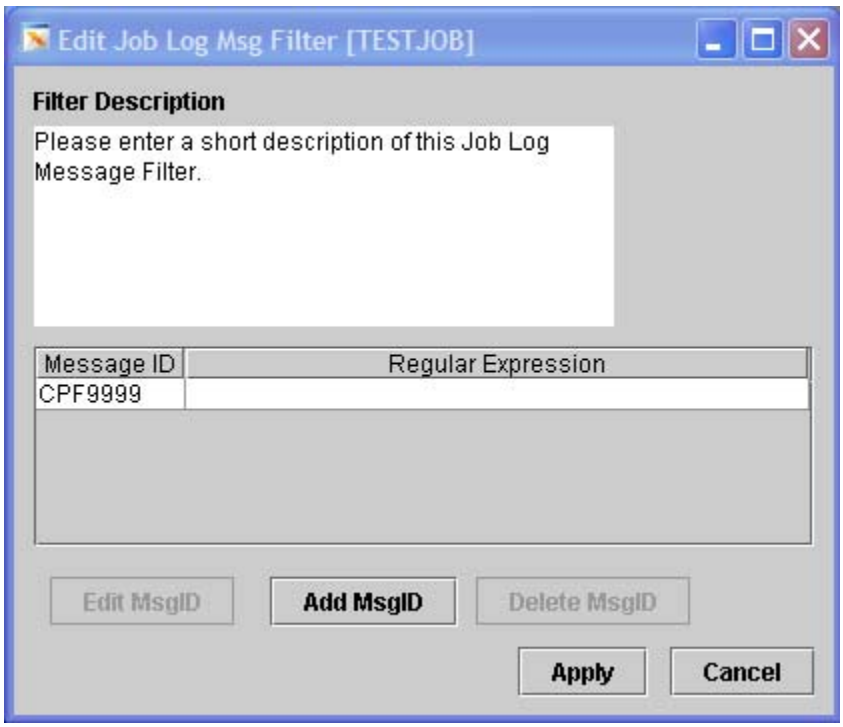


2. To change the list of message IDs that scanned from a specific job's log, add a new filter group using the `[New Filter]` button or edit an existing one using the `[Edit Filter]` button.

The name of the filter must match the job name that will be scanned on the AS/400.

3. To add or edit message IDs in this group, use the `[Add MsgID],` and `[Delete MsgId]` buttons. Enter the message ID in the MSGID field. Optionally, enter a Unix-style regular expression to search for in the text of the message. For example, in the entry below, the joblog for the RUNJDE job will be scanned for message "AAA1234" that has the word "ERROR" at the beginning of the message.

Figure 3-11: Message Edit Job Log Message Criteria



4. Click [Apply] button when all message criteria are added to the filter group.
5. Click the [Assign] button to assign job name groups to AS/400 agents. The same job name may be assigned to multiple agents. Adding agents to the list will highlight the Distribution box, indicating that assignments have been made but not yet sent to the agents.
6. Select a job name group and click the [Distribute] button to send the list of message criteria to the AS/400 agent. The transfer uses ftp; you will be prompted to enter the ftp user ID and password for each of the agents if this information was not given when the node was defined.

After the job log group is distributed, it will be used the next time the EVJLSCAN program is called on that agent. See “Using the EVJLSCAN Program” on page 65 for information on how to scan job logs.

Phase 5: Assigning and Distributing the OV OS/400 Templates

In this phase of the OV OS/400 configuration process, you assign and distribute the OV OS/400 templates to the agent component of the OVO management server, which then acts as the agent for the AS/400.

You must assign OV OS/400 templates to the agent component of the OVO management server before you can distribute them.

To Assign OV OS/400 Templates

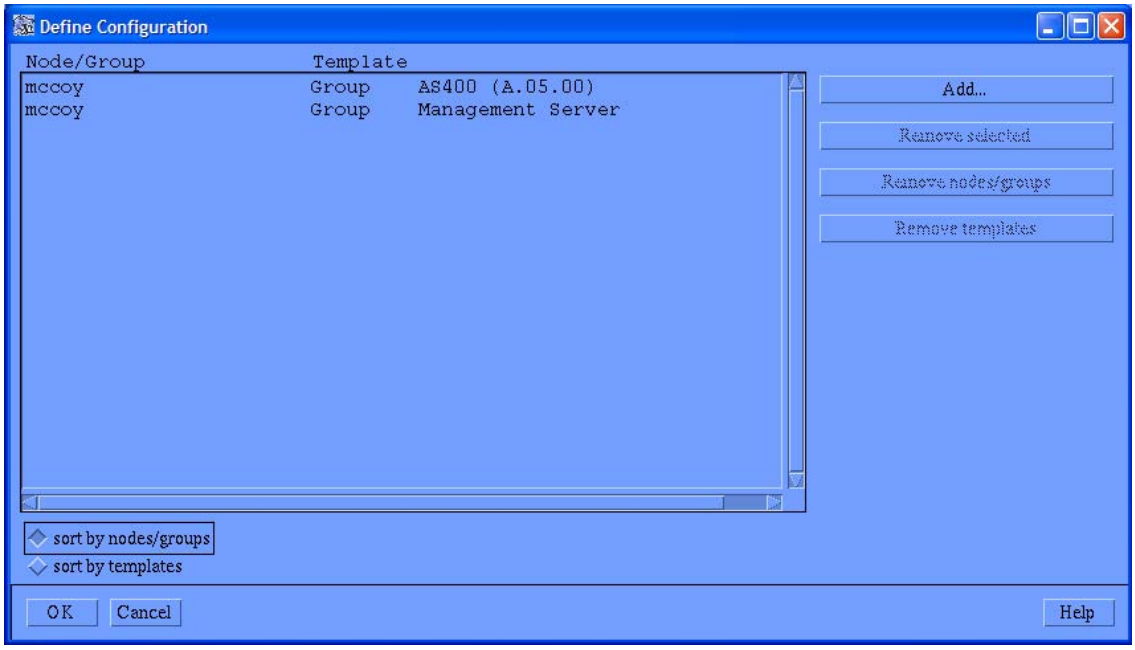
To assign OV OS/400 templates to the agent component of the OVO management server, follow these steps:

1. Start the OVO GUI.
2. In the Node Bank window, select the OVO Management Server and then select the following menu option:

   `Actions: Agents->Assign Templates`

   The Define Configuration window opens (see Figure 3-12)

Figure 3-12: Assigning the OV OS/400 Templates



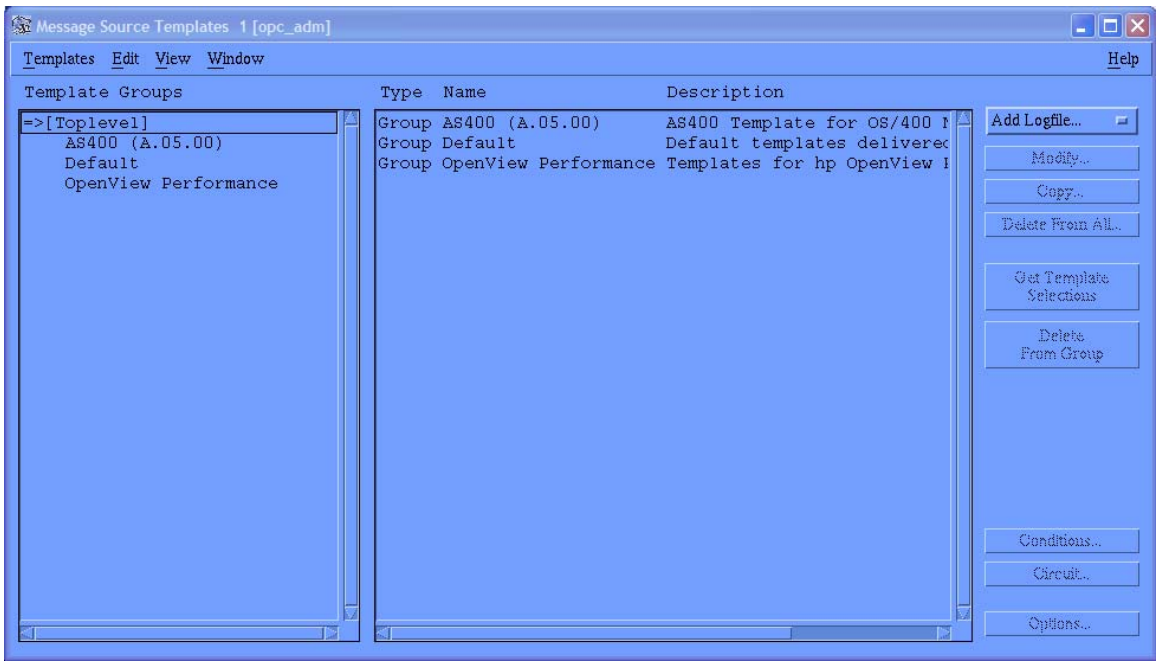
3. In the Define Configuration window, click `[Add…]`.

   The Add configuration window opens.

4. In the Add Configuration window, click `[Open Template Window…]`

   The Message Source Template window opens (Figure 3-13)

Figure 3-13 Message Source Template Window



5. In the left pane of the Message Source Templates window, click the AS400 template group.
6. In the Add Configuration window, click `[Get Template Selections]`.
7. Make sure that the AS/400 A.05.00 template group appears in the Templates list, and then click [OK].
8. In the Define Configuration window, make sure that the correct templates appear, click `[OK]`.
9. Close the Message Source Templates window.

To Distribute OV OS/400 Templates

Before you distribute OV OS/400 templates, the OVO agent software must be installed and active on the management server. To find out how to install the OVO agent, see the *HP OpenView Operations for UNIX Administrator's Reference Volume 1*.

To distribute OV OS/400 templates to the agent component of the OVO management server, follow these steps:

1. In the Node Bank window, select the OVO Management Server and then select the following menu option:

   ```
   Actions:Agents-> Install/Update S/W & Config...
   ```

   The Install/Update S/W & Config... window opens.
2. Verify that the management server node appears in the Target Nodes list and select it.
3. In the left pane of the Install/Update S/W & Config... window, check the items to distribute:
   - Templates
   - Actions
   - Monitors

Then click [OK].

4. Verify that the distribution was successful.

When the assigned templates are distributed to the management server node, a message appears in the Message Browser window indicating whether the operation completes successfully.

From the menu bar, select `Window:Message Browser` to open the OVO Message Browser.

Phase 6: Assigning the OV OS/400 Administrator Profile

Assigning the OV OS/400 administrator profile to the opc_adm user ensures that opc-adm has the authority to execute all OV OS/400 commands.

1. Open the User Bank and User Profile Bank windows.
2. In the User Bank window, right-click the opc_adm icon and select Modify.
3. In the Modify User window, click the `[Profiles]` button.

   The Profiles of User window opens.
4. Drag the AS400_adm profile from the User Profile Bank window and drop it into the Profiles of User window.
5. Close the Profiles of User Window.
6. Click `[OK]` in the Modify User window.
7. From the menu bar, select `Map:Restart Session`.

Phase 7: Assigning the OV OS/400 Applications to OVO Users

OVO users can see only those applications that are assigned to their user group. The installation of the OV OS/400 software bundle automatically assigns the entire AS/400 Tools Application Group to the AS400_adm user profile. Only the Display applications are assigned to the AS400_op user profile. You should assign your OVO users to the group that matches their authority on the AS/400.

To assign the OV OS/400 applications to OVO users follow these steps:

1. Open the User Bank and User Profile Bank windows.
2. Right-click the OVO operator id and select Modify.
3. In the Modify User window, click the `[Profiles]` button.

   The Profiles of User window opens.
4. Drag the AS400_adm or AS400_op profile from the User Profile Bank window and drop it into the Profiles of User window.
5. Close the Profiles of User Window.
6. Click `[OK]` in the Modify User window.

Phase 8: Adding Existing Nodes to the 400 Node Group

This section is only needed if you are upgrading from a previous version of OV OS/400. If this is a new installation on the OVO server, continue with Phase 9.

The installation process re-creates the "400" node group, which causes any nodes previously associated with that node group to drop their pointer to that group. Open the OVO Node Bank and identify any existing AS/400 managed nodes that had been configured. Open the Node Group Bank window and re-apply these nodes to the new "400" node group.

Phase 9: Starting the OV OS/400 Processes

After the AS/400 agent configuration parameters have been customized and distributed to the agents, start the OV OS/400 processes on the OVO server and the EVSBS subsystem on the AS/400 agent:

1. On the AS/400, enter the following command to start the "EVSBS" subsystem for OV OS/400:

   `CALL EVIEW/EVINIT`

   Use the WRKACTJOB command to verify that the EVSBS subsystem is active.

   To clear the agent internal data queues before starting the agent subsystem EVSBS enter the command:

   ```
   CALL EVIEW/EVINIT PARM('CLEARQ')
   ```

   Using the CLEARQ option will clear any buffered messages that have not been received by the OVO management server. The CLEARQ parameter must entered in uppercase letters.

2. On the OVO Unix server, use the "Add/Configure Node" application to start the server processes for the AS/400 nodes, or enter the following Unix command:

   `/opt/OV/vp400/bin/vp400sv -start domain`

Where domain is the name of the AS/400 node. If you use the AS/400 short name, the vp400sv command will attempt a lookup to obtain the fully qualified name. If the managed AS/400 node uses a different domain than the domain name configured for the name service, the fully qualified name must be used. If you omit domain, vp400sv will start the OV OS/400 servers for all configured AS/400 nodes.

To verify that OV OS/400 processes are running, click the `[Refresh]` button of the Add/Configure Node application, or enter the following Unix command:

`/opt/OV/vp400/bin/vp400sv -status`

Stopping the OV OS/400 Processes

1. To stop the Unix processes for an AS/400 node, run the vp400nodecfg program and select the node(s) to stop, then click the `[Stop]` button, or enter the following Unix command:

```
/opt/OV/vp400/bin/vp400sv -stop [domain]
```

Where domain is the fully qualified name of the AS/400 node to stop. If no domain is specified, all processes for all AS/400 nodes are stopped.

Scripts written to automatically stop (kill) the management servers must be in the following order:

```
opcagt -kill
vp400sv -stop
ovstop –v
```

The reverse order should be used to restart the management servers.

2. To terminate a running OV OS/400 subsystem on the AS/400 agent, execute the command:

```
ENDSBS EVSBS *IMMED
```

The OV OS/400 subsystem (EVSBS) must be ended prior to executing any save commands that would allocate an OV OS/400 object, such as performing a backup.

Phase 10 - Configuring Nodes for Performance Data Collection

Before performing this configuration you must have the “HP OpenView Smart Plug-ins DSI-to-DDF wrapper utilities” (DSI2DDF) component installed. This component is available on the HP OpenView Smart Plug-in CD.

Collecting performance metrics for AS/400 nodes is an optional task and requires configuration steps to be performed on theAS/400 agent and the OVO management server. Collection of performance data requires either the CODA performance sub-agent (OVO 7.0 or higher) or the OpenView Performance Agent to be running. The AS/400 agent must be running with the performance gathering job running under the OV OS/400 subsystem.

There are two sets of performance data metrics that can be collected at different intervals. The class specification files for these sets are listed in Appendix D. Browse these class specifications to determine which set(s) you want to collect.

The `vp400addperf.pl` script creates a performance class specification file for an AS/400 node and updates either the CODA performance sub-agent or the OpenView Performance Agent (OVPA) for the collection of AS/400 performance metrics. If OVPA is available, it will be used by default. If you wish to use CODA performance sub-agent instead of the OpenView Performance Agent, you must create an empty file named nocoda.opt. It must be located in

```
/var/opt/OV/conf/dsi2ddf/nocoda.opt
```

To configure an AS/400 node for performance data collection, follow these steps:

1. From the Node Bank, select the AS/400 node to be configured. From the Applications Bank, select `VP400 Tools`, in the `AS/400 Config` group, then select and execute "`Configure Perf Set1`" or "`Configure Perf Set 2`", or from the UNIX command line, enter the following command:

   `/opt/OV/vp400/bin/vp400addperf.pl <node> {1|2}`

Where the node is the fully-qualified name of the AS/400 system, and "1" or "2" represent whether to configure performance data set 1 or data set 2. The `vp400addperf` script will create a class specification file for the AS/400 node, and update either the CODA performance sub-agent or the OpenView Performance agent. The script can be run twice to initialize both data set 1 and data set 2.

2. If the OpenView Performance agent is installed, the OVPA processes must be restarted to activate the new configuration using the command:

   `/opt/perf/bin/mwa restart`

3. The OV OS/400 server processes must be restarted to activate the interface to either the CODA sub-agent or the OpenView Performance agent. To restart the OV OS/400 server processes for an AS/400 node, enter the commands:

   `/opt/OV/vp400/bin/vp400sv -stop <node>`

   `/opt/OV/vp400/bin/vp400sv -start <node>`

4. Uses the vp400nodecfg program as explained in Phase 2 on page 15 to select an AS/400 node, and then change the EV400_PERF1 and/or the EV400_PERF2 parameters to "YES". Change the EV400_PERF1_INT and/or the EV400_PERF2_INT parameters to the frequency (in minutes) that each of the data sets will be collected. Save the configuration parameters and distribute to the AS/400 node. After the configuration parameters have been distributed, you must stop and restart the OV OS/400 agent subsystem to activate the new configuration.

4

Using OV OS/400

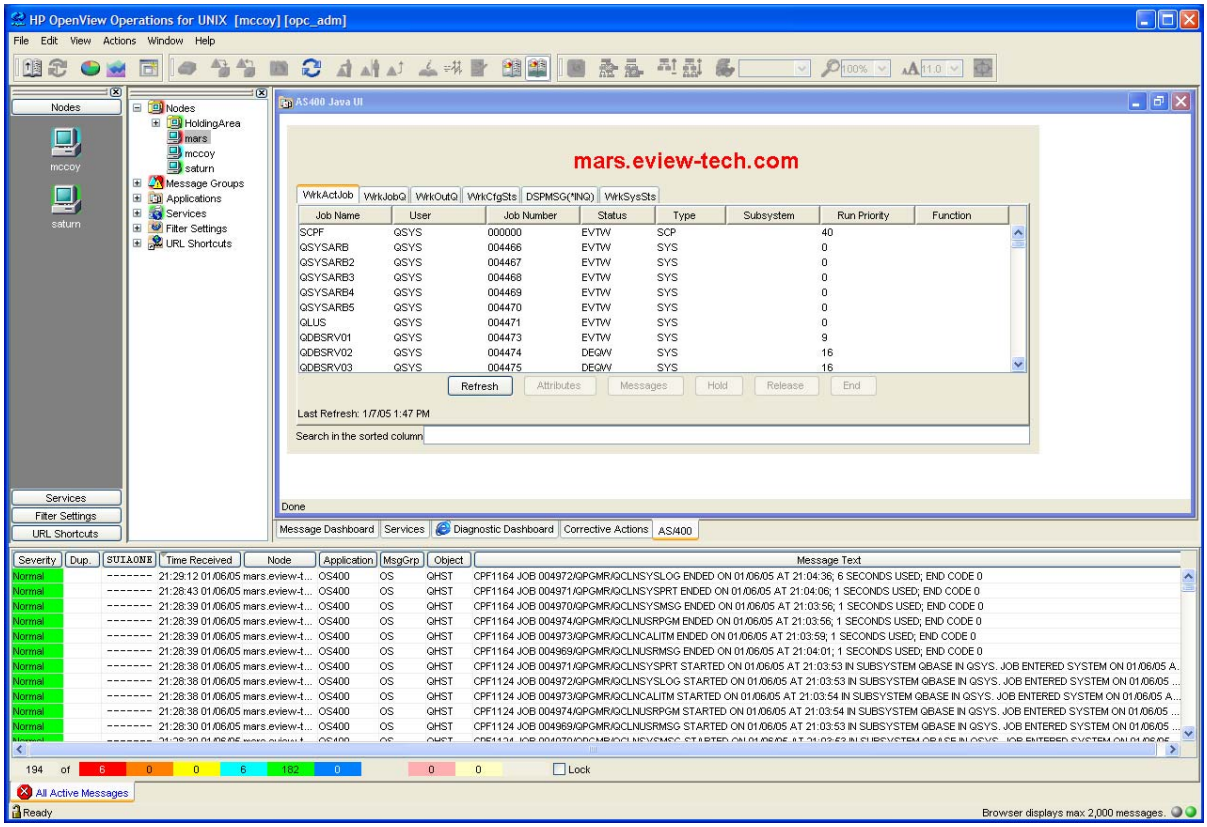
This chapter describes how to use HP OpenView OS/400 Management (OV OS/400) to perform daily tasks.

About the OV OS/400 Java Applet

The OV OS/400 Java Applet is an interactive tool that enables the operator to manage job queues, output queues, active jobs, and to monitor the system status.

Figure 4-1 shows the Java Applet.

Figure 4-1: Java Applet



Updating the Java Security Policy

To allow the EView/400 Java applets to connect to the Management Server, the following line must be added to the `java.policy` file:

```
permission java.net.SocketPermission "<OVOW MgtServer>:<port>",
"Connect";
```

Where:

`<OVOW MgtServer>` is the host name or IP address of the OVOW Server. If there are backup servers, add an additional permission statement for each server.

`<port>` is the TCP port number used for the connection. The default port number is 6200.

Each Java Runtime Environment (JRE) has a `java.policy` file. Update the policy files for any JRE's, which will be used to run the EView/400 Java applets. The default location of the `java.policy` file on Windows is:

```
\Program Files \Java\<jre_version>\lib\security\java.policy
```

Using the OV OS/400 Java Interface

1. Start the OVO Java Console.
2. In the Objects pane, expand the Nodes folder in the Object tree.
3. Right click on the AS/400 node to be monitored, then:
   - Select Start
   - Select AS400(iSeries) Tools (A.05.00)
   - Select AS400(iSeries) Java UI
4. If you are using the embedded browser the applet will start in the current workspace. If using an external browser a new browser window will open.

If you are using an external browser, it must have the Java 1.3 plug-in installed.

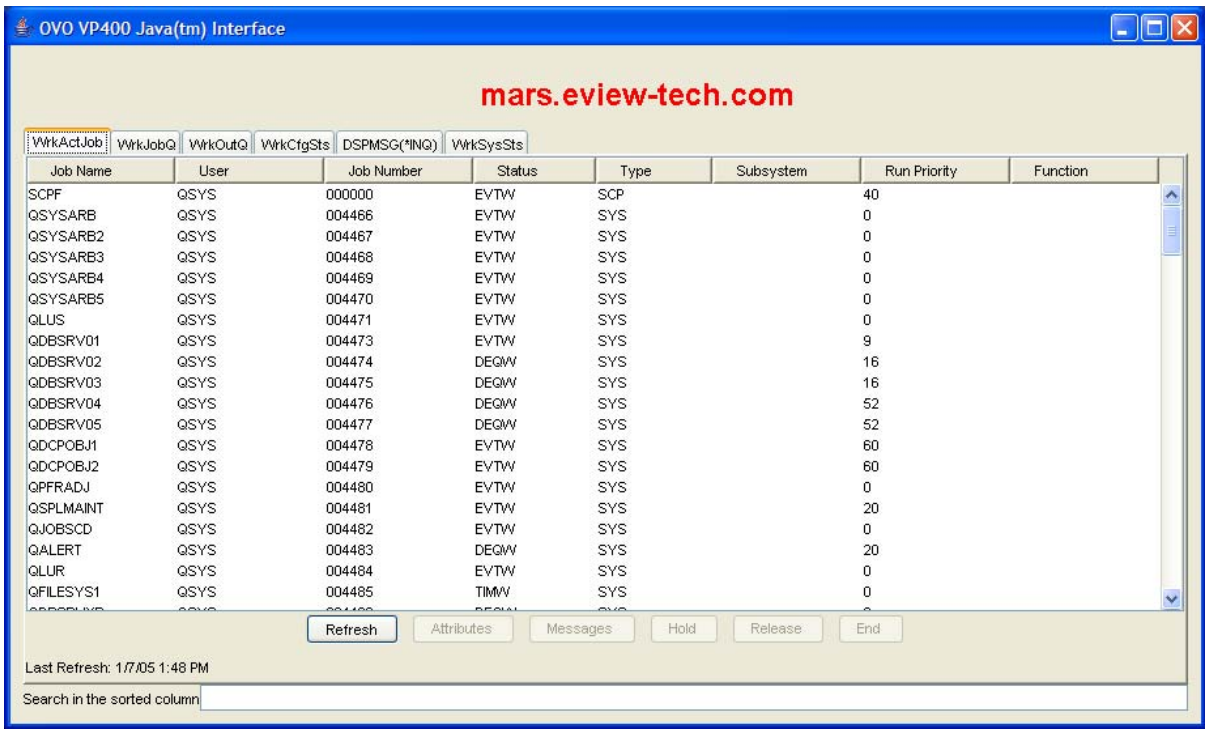
To Monitor Active Jobs

1. Select the "`WrkActJob`" tab.
2. To perform actions on a specific job select the job. By clicking the appropriate button you may perform the following:
   - `[Attributes]` – Displays attributes of the selected active job
   - `[Messages]` – Displays the last 500 lines of the active job log
   - `[Hold]` – Places the selected active job in hold status
   - `[Release]` – Removes the selected job from hold status
   - `[End]` – Ends job processing. A pop-up window will be displayed to confirm ending the job via a `[Controlled]` or `[Immediate]` option.

Status changes in the display will not be updated until the `[Refresh]` button is pressed.

The output can be sorted by clicking on the column header. The initial sort direction is ascending. Subsequent clicking on the column header will reverse the sort direction.

Figure 4-2: Active Jobs



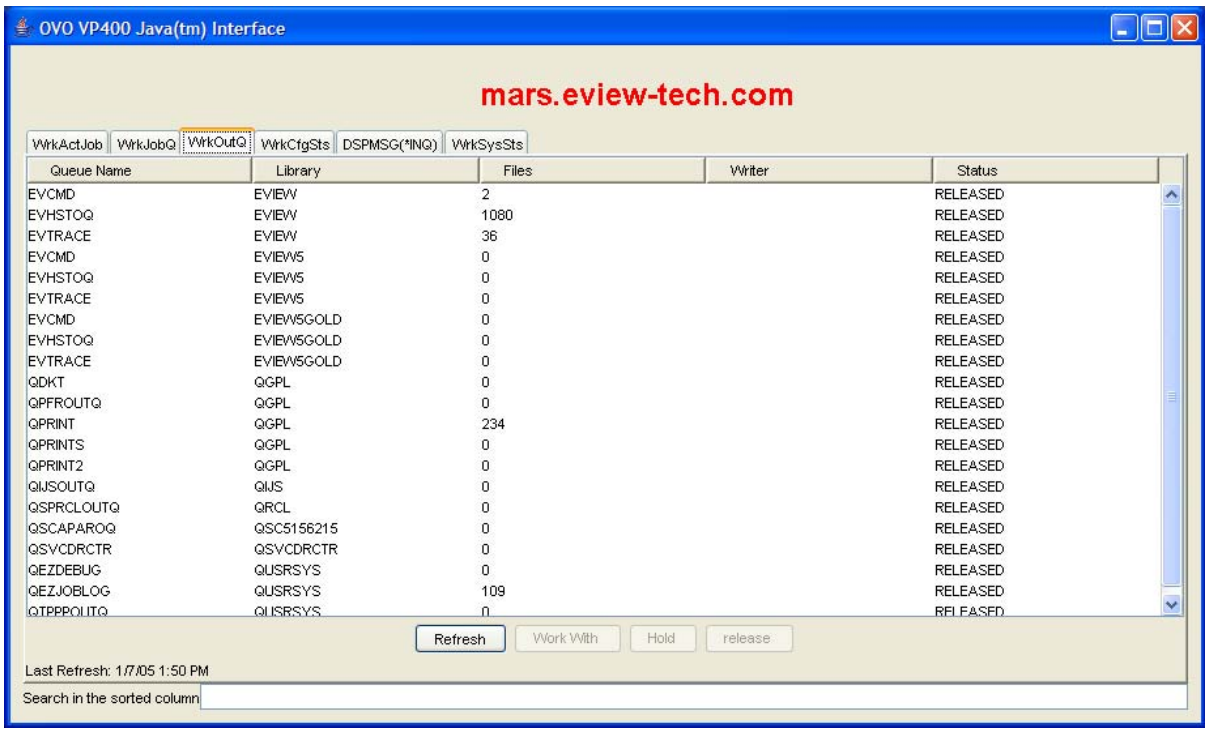
When a button is gray the action is not available for the selected active job.

To Manage Output Queues

1. Click on the "`WrkOutQ`" tab.
2. Select the Output Queue you wish to monitor.
3. By clicking the appropriate button you may perform the following:
   - `[Work With]` – Displays a list of files on the output queue.
   - `[Hold]` – Places the selected output queue in hold status
   - `[Release]` – Removes a hold that was placed on the selected output queue.

Status changes in the display will not be updated until the `[Refresh]` button is pressed.

Figure 4-3: Output Queues



When a button is gray the action is not available for the selected submitted job.

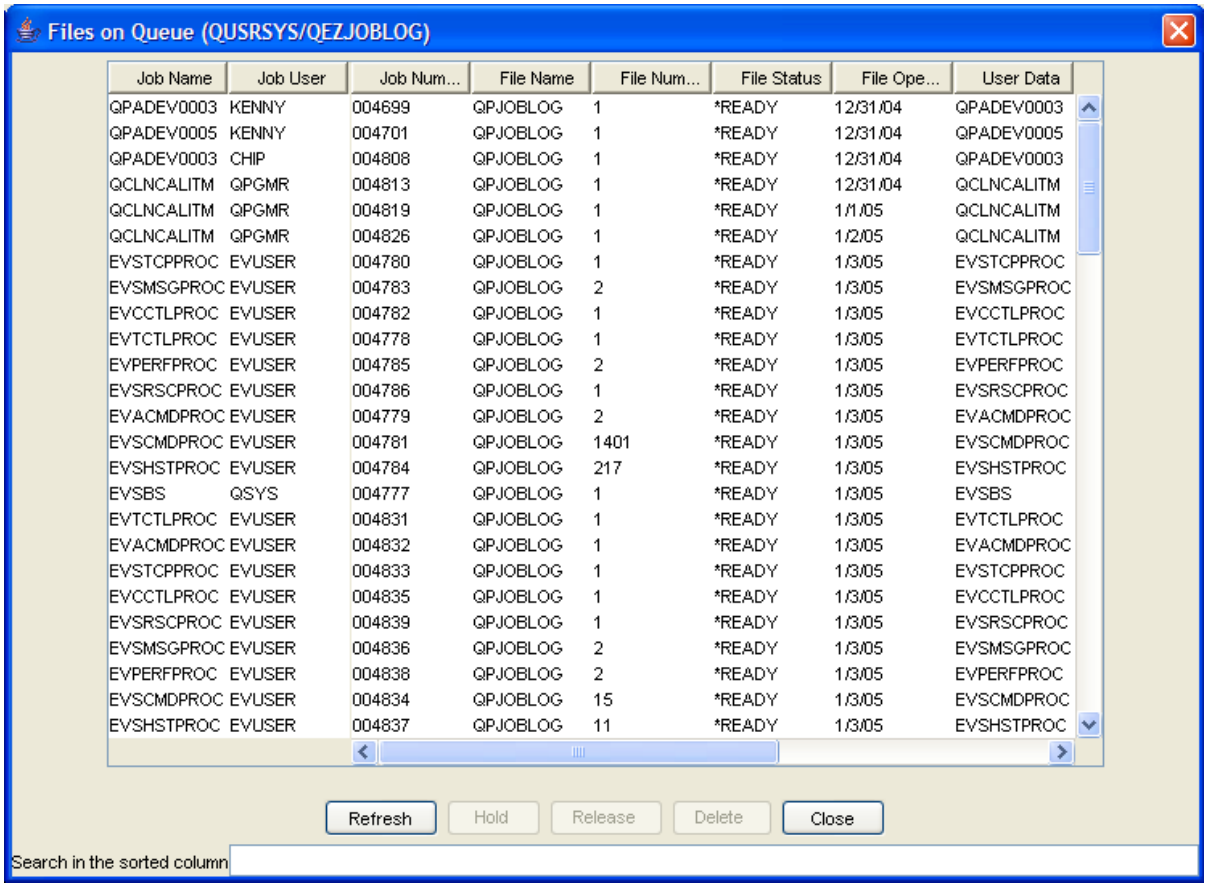
To Work With Selected Output Queue

1. Select the Output Queue you wish to work with.
2. Click the `[Work With]` button.
3. The Work With Output Queue window appears in the Workspace pane with a list of spool files for the selected output queue.
4. Select the job you wish to manipulate.
5. By clicking the appropriate button you may perform the following:
   - `[Hold]` – Places the selected spool file in a hold status.
   - `[Release]` – Removes the hold that was placed on the selected spool file.
   - `[Delete]` – Causes the selected spool file to be deleted.

Status changes in the display will not be updated until the `[Refresh]` button is pressed.

6. The output can be sorted by clicking on the column header. The initial sort direction is ascending. Subsequent clicking on the column header will reverse the sort direction.

Figure 4-4: Work With Output Queues



When a button is gray the action is not available for the selected active job.

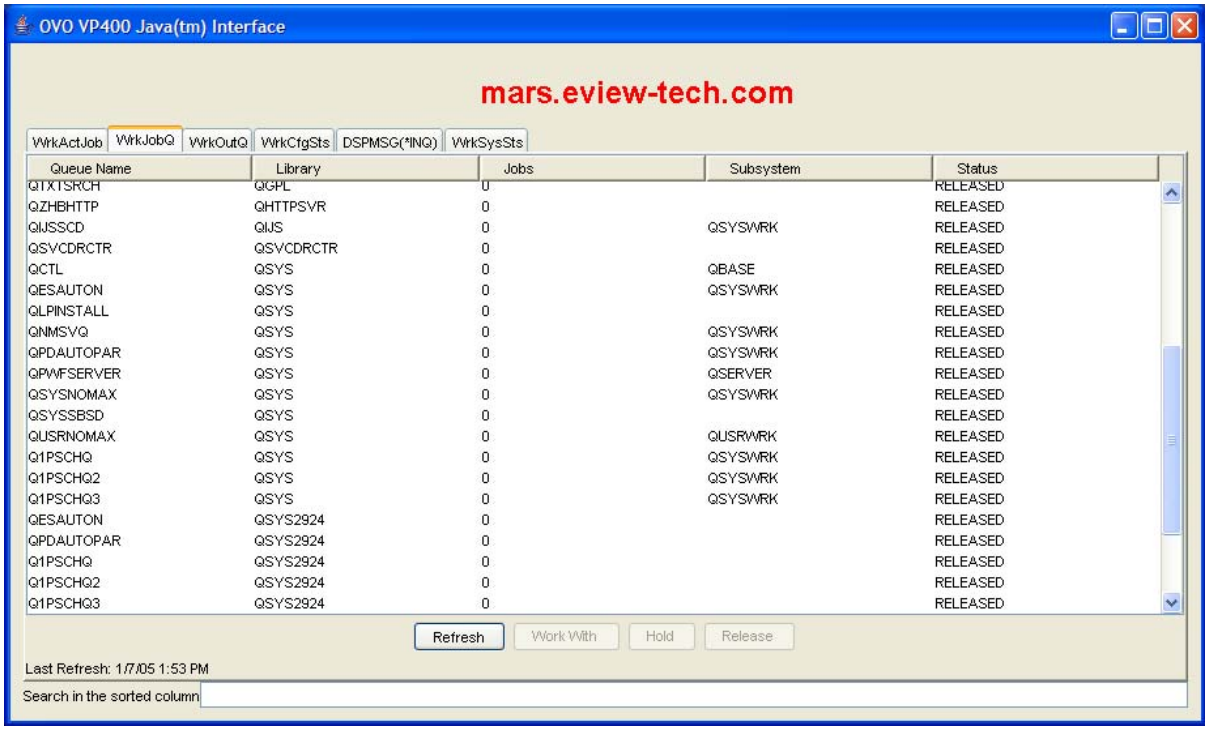
To Manage Job Queues

1. Select the "Wrkjobq" tab.
2. Select the Job Queue you wish to monitor.
3. By clicking the appropriate button you may perform the following:
   - [Work With] – Displays a list of jobs on the selected queue.
   - [Hold] – Places the selected job queue in a hold status.
   - [Release] – Removes the hold that was placed on the selected job queue.

Status changes in the display will not be updated until the [Refresh] button is pressed.

4. The output can be sorted by clicking on the column header. The initial sort direction is ascending. Subsequent clicking on the column header will reverse the sort direction.

Figure 4-5: Job Queues



When a button is gray the action is not available for the selected submitted job.

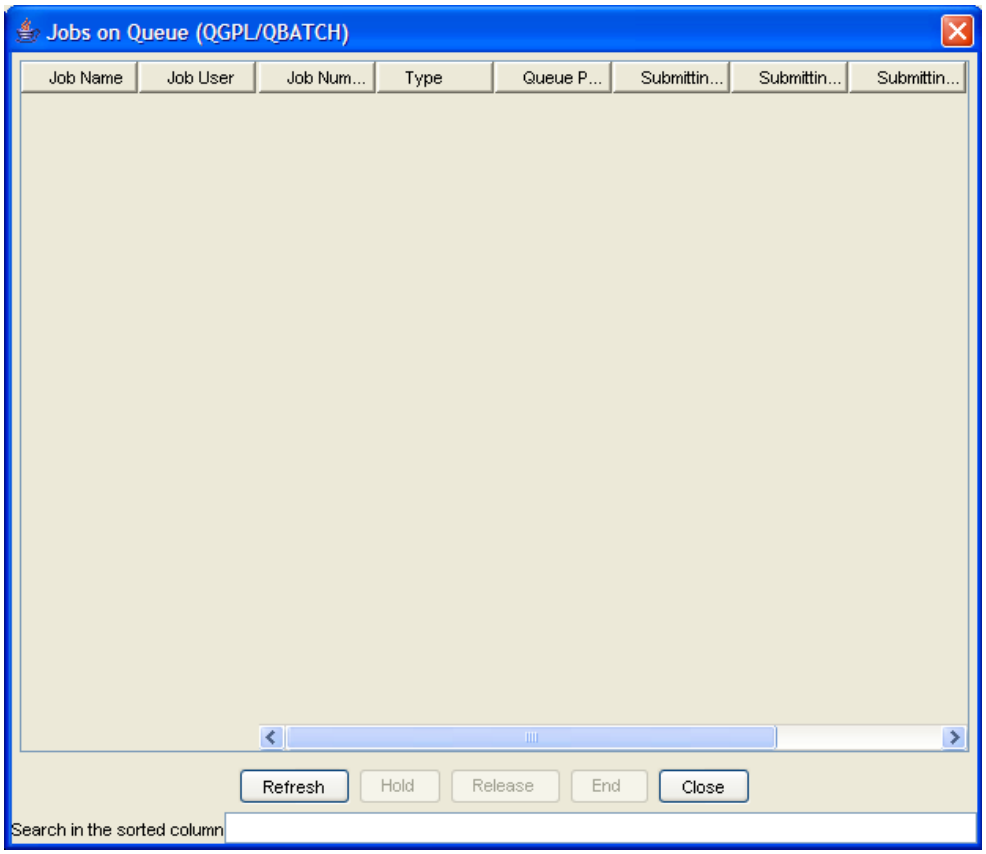
To Work With Selected Job Queue

1. Select the Job Queue you wish to work with.
2. Click the `[Work With]` button.
3. A list of jobs in that queue will be displayed.
4. Select the job you wish to manipulate.
5. By clicking the appropriate button you may perform the following:
   - `[Hold]` – Places the selected job in a hold status.
   - `[Release]` – Removes the hold that was placed on the selected job.
   - [End] – Causes the selected job to end.

Status changes in the display will not be updated until the `[Refresh]` button is pressed.

6. The output can be sorted by clicking on the column header. The initial sort direction is ascending. Subsequent clicking on the column header will reverse the sort direction.

Figure 4-6: Work With Job Queue

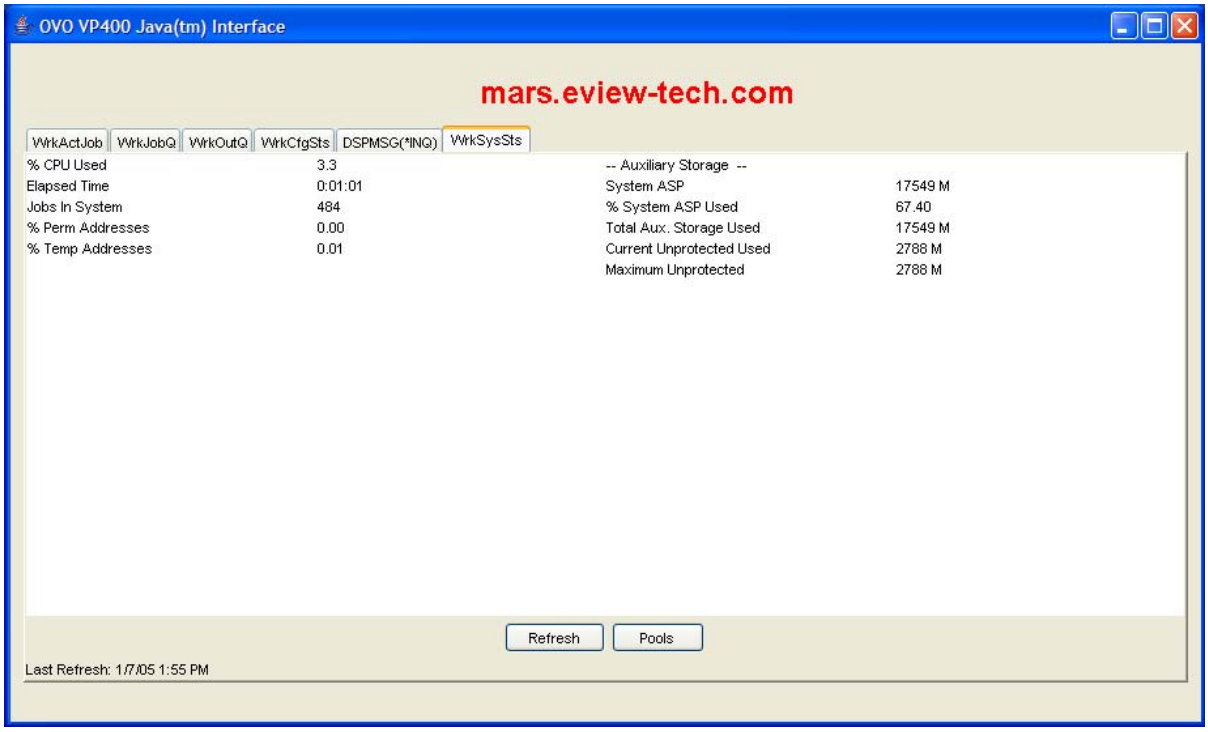


When a button is gray the action is not available for the selected active job.

To Monitor System Status

1. Select the "WrkSysSts" tab.
2. By clicking the appropriate button you may perform the following:
   - [Pools] – Displays system pool information.
   - [Refresh] – Refreshes the system status data as shown in Figure 4-7.

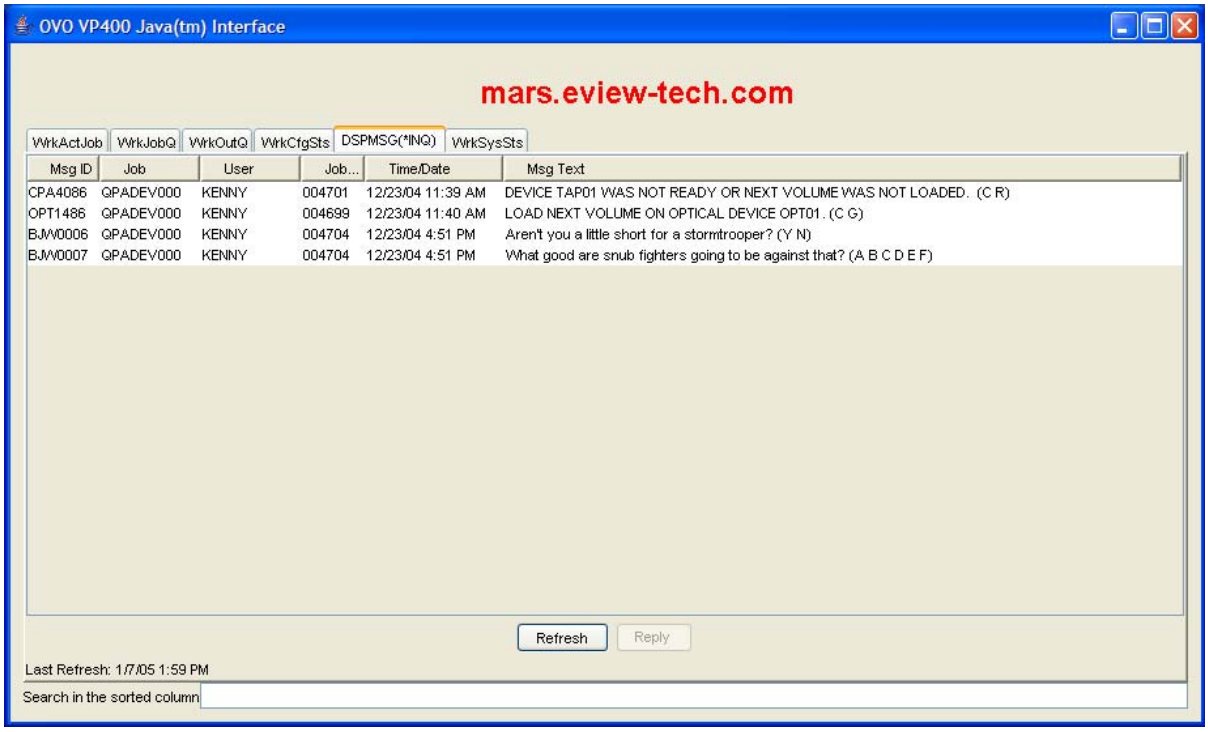
Figure 4-7: Monitor System Status



To Manage Outstanding Inquiry Messages

1. Select the "DSPMSG(*INQ)" Tab
2. By clicking the appropriate button you may perform the following:
   - `[Refresh]` – Refreshes the list of outstanding inquiry messages
   - `[Reply]` – Reply to the currently selected message. A dialogue window as shown in Figure 4-8 will be displayed to accept the reply input

Figure 4-8 Display Outstanding Inquiry Message

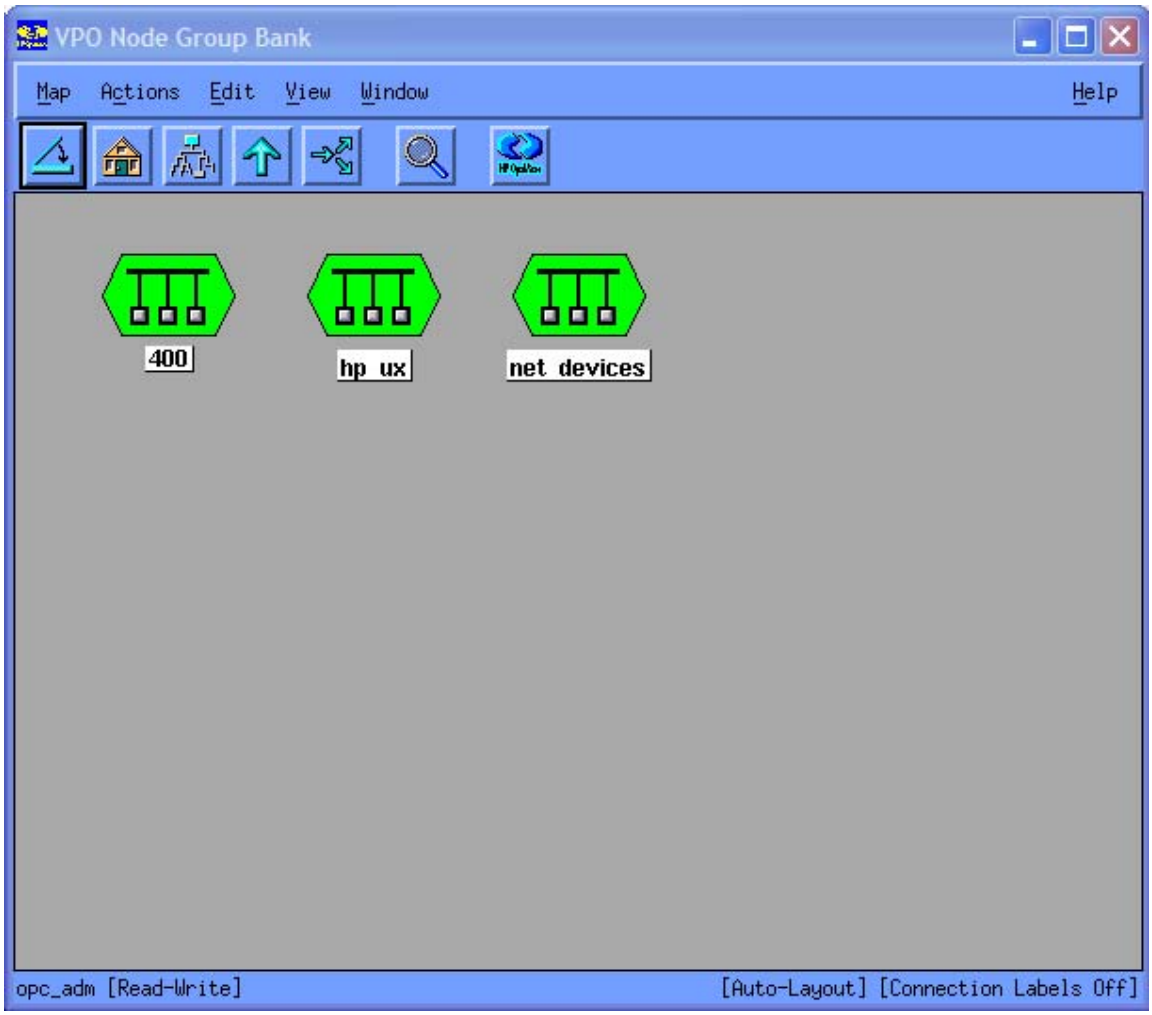


About the OV OS/400 Node Group

The installation of OV OS/400 creates a node group, 400, which should be used to hold all AS/400 systems in the OV OS/400 environment.

Figure 4-9 shows the 400 node group in the Node Group Bank.

Figure 4-9: 400 Node Group



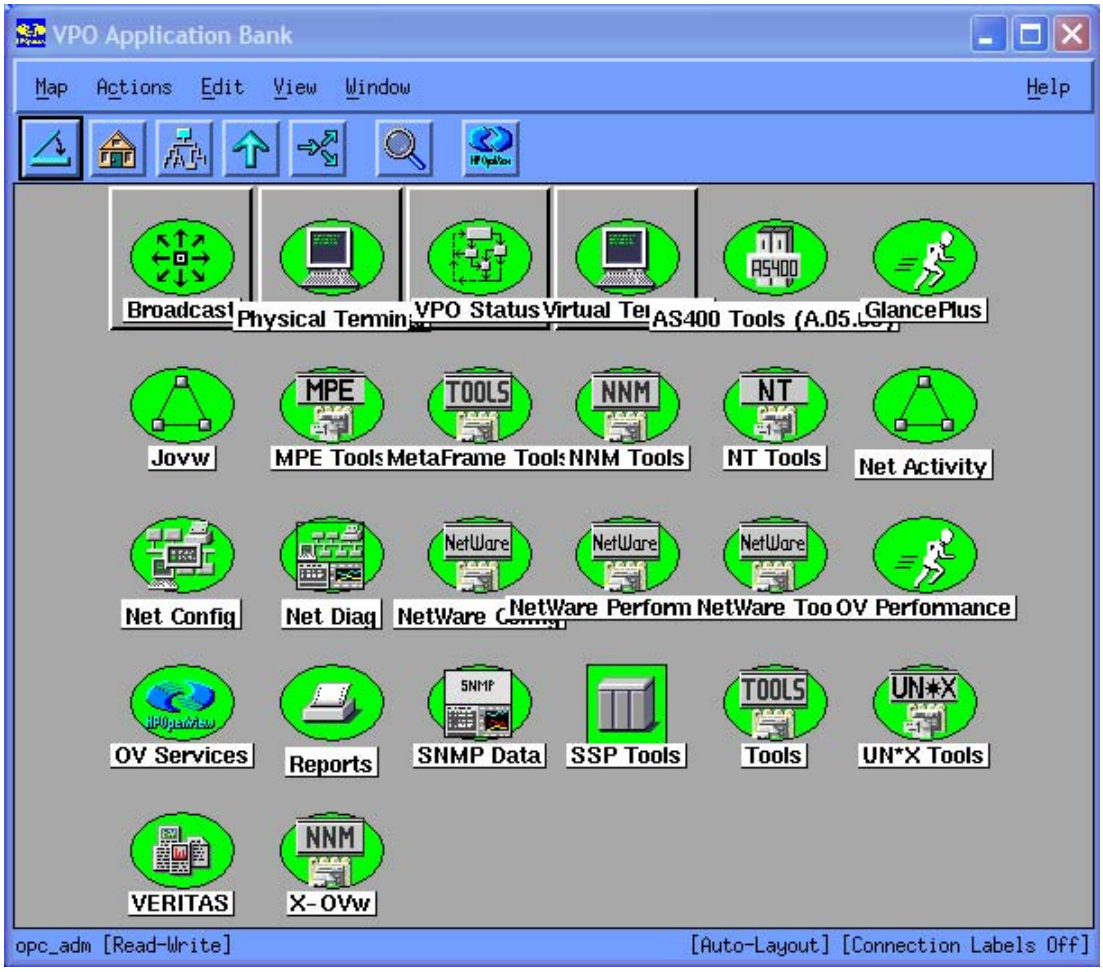
By assigning the “400” node group and the OS and Network message groups to the OVO operator responsible for the OV OS/400 environment, you ensure that messages relating to errors and potential problems with AS/400 systems appear in the appropriate operator’s Message Browser.

About the OV OS/400 Application Group: AS400(iSeries) Tools

The installation of OV OS/400 creates an Application Group named AS400(iSeries) Tools, which contains applications designed to help OVO operators manage and monitor the AS/400 environment. From the main Application Bank, double-click `[AS400(iSeries)Tools]` to display the Application Group: AS400(iSeries) Tools.

Figure 4-10 shows the AS400(iSeries) Tools Application Bank.

Figure 4-10: OV OS/400 Application Bank



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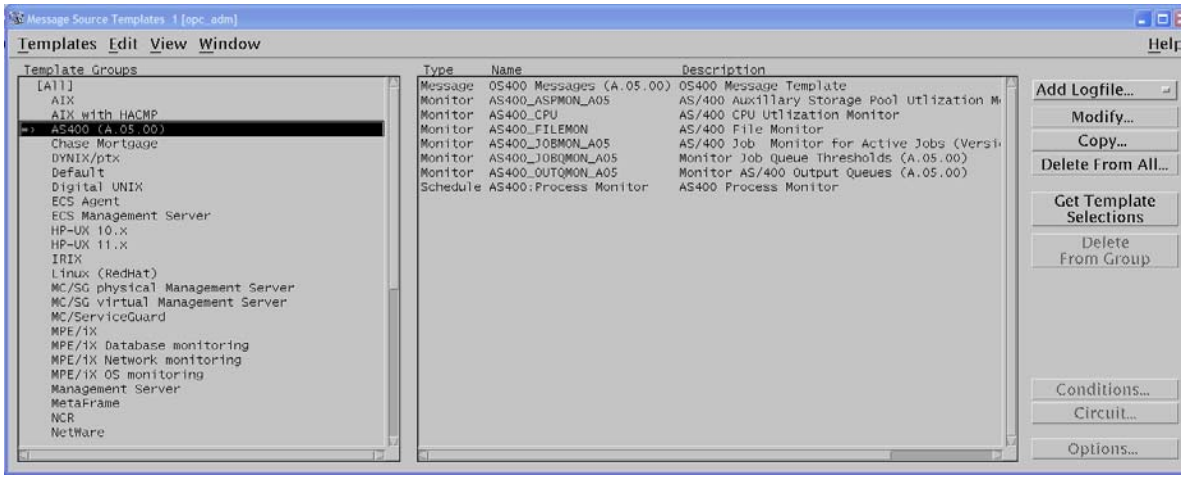
About OV OS/400 Templates

One template group, AS400, contains all the default templates provided with OV OS/400, as shown in Figure 4-11.

Figure 4-11: Default OV OS/400 Message Source Templates



To Add or Modify Actions

To add or modify automatic or operator-initiated actions, follow these steps:

1. From any OVO GUI menu bar, select `Window: Message Source Templates`.
2. In the left pane of the Message Source Template window, click AS400.
3. Click any Message Group.
4. Click `[Conditions]`.
5. Click any Message ID.
6. Click `[Modify]`.

The Condition Template window opens. From here, you can add or modify automatic and operator-initiated actions.

Intercepting Messages

The OV OS/400 message source templates intercept messages that are generated on the AS/400 managed node.

OV OS/400 is shipped with one default message template:

- AS400 (A.05.00)

Use the default messages listed as a guide for creating automatic and operator-initiated actions for other messages.

Any message listed must also exist in the message filter table on the AS/400 managed node.

Message Formats

Messages received from the AS/400 system are passed through the OVO message stream interface. The format of the original message is:

```
<Msgid> <Severity> <Jobname> <User> <MsgText>
```

Table 4-1

Msgid	the 7 character AS/400 message ID
MsgType	A two-character AS/400 code referencing the message type (ie. Completion, informational, etc.)
Severity	The 2 character AS/400 severity code (00-99)
Jobname	The name of the job that generated the message
User	The user name that *Jobname* is running as
MsgText	The actual text of the message

In addition to the original message text, the following OVO fields and variables are passed along with the message:

Table 4-2

$MSG_OBJECT	The queue name that the message was received from
$OPTION(msgkey)	The unique message key assigned to the message on the AS/400
$OPTION(netid)	The AS/400 netid
$OPTION(location)	The AS/400 location (system) name
$OPTION(msgdate)	The AS/400 system date when the message was created, formatted MM/DD/YY
$OPTION(msgtime)	The AS/400 system time when the message was created, formatted HH:MM:SS
$OPTION(msgid)	The 7 character AS/400 message ID

$OPTION(severity)	The 2 character AS/400 severity code (00-99)
$OPTION((jobname)	The name of the job that generated the message
$OPTION(user)	The username that “jobnamT” is running as

These variables can be used in displayed message test as well as passed as arguments to automatic or operator-initiated commands.

Automatic and operator initiated commands may consist of native OS/400 commands as well as scripts or programs. When sending native OS/400 commands that do not produce a response, the command must be prefixed with a “!”. For example:

```
!VRYCFG <device> *DEV *ON
```

Without the prefix “!” the action interface will wait for a response up to the configured timeout value before processing additional requests.

OV OS/400 provides two methods for sending replies to inquiry messages generated on the AS/400 system. For automatic replies, the special command **REPLY** is used to send a reply. The format of the special reply command is:

```
*REPLY * <queue>:<msg_key> <reply>
```

Table 4-3

queue	The AS/400 message queue name where the message was received from by OV OS/400 ($MSG_OBJECT)
msg_key	The unique AS/400 key assigned to the message ($OPTION(msgkey))
reply	The reply to be sent to the AS/400

For operator replies to AS/400 inquiry messages the OV OS/400 utility **`vp400xreply`** can be used in the Operator Initiated Action field. When used in an operator initiated action the vp400xreply utility will provide an input dialog for the operator to enter a reply to be sent to the AS/400 in response to an inquiry message. See the `man` page for more details on the vp400xreply command.

Using Monitors

OV OS/400 provides four different monitors in the installed product, which can be used or modified to suit your needs. These monitor templates can also be used as samples for creating additional monitors needed in your environment. The monitors provided during installation are.

Table 4-4

CPU Monitor	Monitors CPU utilization on all As/400’s in the OVO node bank. The AS/400 node name is passed in the object field and can be used to perform pattern matching to create different conditions for specific nodes.

ASP Monitor	Monitors Auxiliary Storage Pool (ASP) utilization on all AS/400's in the OVO node bank. The AS/400 node name and ASP number are passed in the object field and can be used to perform pattern matching to create different conditions for specific nodes and Auxiliary Storage Pools. See the default condition in the ASP Monitor template for the format of the object field.
Job Queue Monitor	Monitors number of jobs in job queues. To initiate job queue monitor for an AS/400 managed node, enter the name of the managed node in the configuration file `/etc/opt/OV/share/conf/vp400/as400jobq.conf`. Each AS/400 node to be monitored should also specify a minimum threshold for the number of jobs, which will cause the job queue to be selected for monitoring and the value sent to the monitor. The AS/400 node name, Job Queue name and Library name are passed in the object field and can be used to perform pattern matching to create conditions for specific nodes and job queues. See the default condition in the monitor template for the format of the object field.

File Monitor	Monitors specified files for number of records and/or members. This monitor requires updating the configuration file `/etc/opt/OV/share/conf/vp400/filemon.conf to` include information on files to be monitored. There should be one line in the configuration file for each file to be monitored. The line must contain 3 parameters separated by one or more spaces or tabs in the format:
	`<library> <file> <AS400hostname>`
	where:
	`library` = the library where the file exists
	`file = the name of the file`
	`AS400hostname =` the AS/400 name which must match the name used when the AS/400 was added to OVO (as shown in the Host name field for the AS/400 node in the Node Bank). The AS/400 node name, file name and whether the value is for records or members is passed in the object field. See the sample conditions provided in the monitor template for the format of the object field.

Output Queue Monitor	Monitors number of spool files in output queues. To initiate output queue monitoring for an AS/400 managed node, enter the node name in the file `/etc/opt/OV/share/conf/vp400/as400outq.conf.` The entry should contain the name of the node and a minimum threshold number of spool files, which will cause the output queue to be selected for monitoring and the value sent to the monitor. The AS/400 node name and output queue and library name are passed in the object field and can be used to perform pattern matching to create conditions for specific nodes and output queues. See the default condition in the monitor template for the format of the object field.

Active Job Monitor	Monitors for subsystems, and jobs, which should be active. The jobs/subsystems to be monitored are specified in the configuration file `/etc/opt/OV/share/conf/vp400/as400jobmon.conf`. See the comments in this file for specific parameters that are available to control how jobs and subsystems are monitored. Jobs to be monitored must be configured in this file. Optionally the time frame in which the monitoring is to occur for each job can be specified in the configuration. In the configuration it is also possible to specify that specific jobs or subsystems should be monitored for message wait conditions or the total number of jobs in a message wait condition. The object field will contain the AS/400 node name and other data that is specific to the type of condition that is being reported to the monitor. See the default message conditions in the template for the format of the object field for different conditions.

AS/400 Severity Mapping

Mapping of the AS/400 Severity Code (00-99) to OVO severities is controlled by the file as400sev_map in the `/etc/opt/OV/share/conf/vp400` directory. This file maps the AS/400 severity codes (in ranges) to one of five OVO severities. The default assignments are:

Table 4-5 AS/400 Severity Mapping

AS/400 Code	OVO Severity
00-20	Normal
21-40	Warning
41-60	Minor
61-80	Major
81-99	Critical

To change mapping, edit this table and restart the Master Message server process(es) from the EV/400 Task Manager.

Filtering Messages

Initial message filtering is performed on the AS/400 agent. For details about message filtering, see the HP OpenView OS/400 Management Installation Guide.

Discovering Resources

OV OS/400 populates the OpenView database with line, controller and device information through the Discovery process. In OpenView Operations (OVO) each system resource is represented by an icon. The background color of the icon indicates the status of the line, controller, or device being managed by OV OS/400. Each possible status value has an associated color.

About Status Names and Colors

Table 4-6 shows the default OVO colors assigned to several common AS/400 resource statuses.

Table 4-6 OV OS/400 Color Status Representations

Resource Status	OpenView Status	Color
VARIED ON	Normal	Green
VARIED OFF	Disabled	Dark Brown
UNKNOWN	Unknown	Blue

To Change Status Names and Colors

You can change OpenView status names and colors before starting the Discovery process. To change status names and colors, edit the configuration file:

```
/etc/opt/OV/share/conf/vp400/as400_status.conf
```

Customizing the Discovery Process

To customize the functionality of the Discovery process, use the “Add/Edit AS/400 Node” application in the “AS/400 Configuration” group of the “AS/400 Tools” in the OVO Application Bank. The parameters to change are:

UPDATE_DB_W_NEWNODES

YES Default value. Updates the database with new objects. For a new discovery, use this parameter.

NO No attempt is made to add new objects. Simply updates the statuses of existing objects. When maps are stable and no new objects are desired, use this value.

DISCOVER_MODE OVO discovery process queries the AS/400 domain for resources and creates a mapped resource hierarchy.

ACTIVE — Default value. When discovery is run on previously mapped domain, OV OS/400 changes the status of all objects to UNKNOWN for that domain and then proceeds to re-discover the network, updating and adding new objects (if permitted). If an object is removed, the status remains UNKNOWN.

PASSIVE — Causes OV OS/400 to change the status of all objects to UNKNOWN for that domain and allows the Status Manager to reset the status of the objects as they are reported.

KEEP_DISCOVER_INPUT_FILES

yes — Default value. Keeps the discover files in the EV400WORK_AREA after the Discovery process is complete.

no — Does not keep the discover files in the EV400WORK_AREA after the Discovery process is complete.

To Start the Discovery Process

To start the Discovery process, click an AS/400 managed node in the Node Bank and drag it to the Discovery icon in the AS400(iSeries) Tools group of the Application Bank.

About the OV OS/400 Map Application

To provide a map (submap) display of discovered lines, controllers and devices, assign the OV OS/400 application from the AS400(iSeries) Tools application group following the procedure described in “Phase 5: Assigning OV OS/400 Applications to OVO Users”.

Designating OV OS/400 Map Administrators

The OV OS/400 Map application uses the concept of a map administrator to control which users are permitted to make permanent deletions from the OV OS/400 Map. The opc_adm user is designated as the OV OS/400 Map administrator during the installation of OV OS4/00. You can designate additional OVO operators as OV OS/400 Map administrators by adding the “AS400(iSeries) Map” and “Delete Objects” Applications to the operator’s Application Bank.

You must also add the new operator identifications to the map administrator’s configuration file, located at:

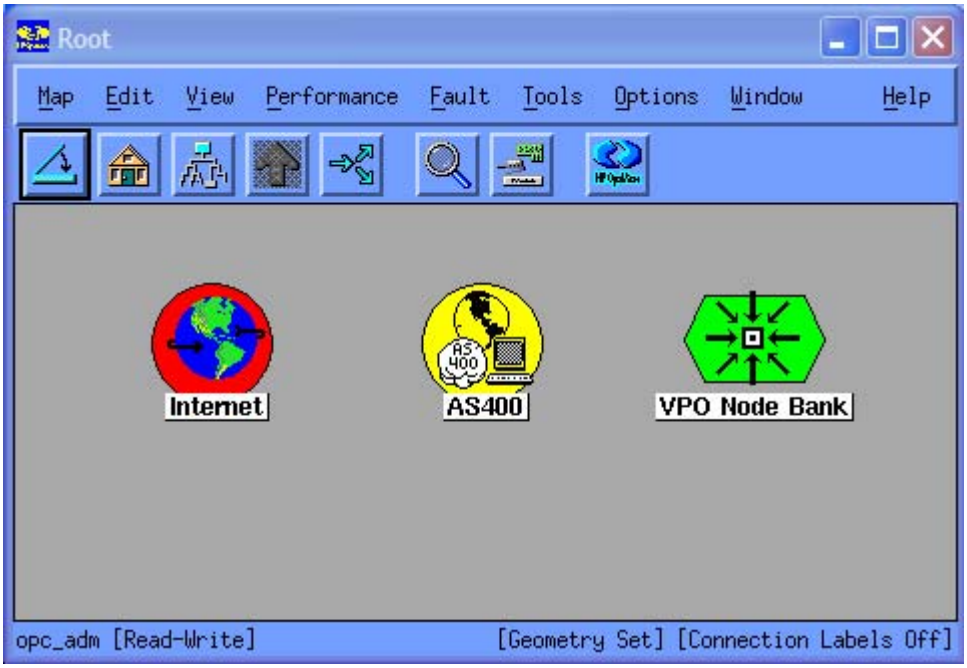
```
/etc/opt/OV/share/conf/vp400/mapadmin.conf
```

You must place the identification of each additional operator on a separate line in the file, and must start in column 1.

Accessing OV OS/400 Submaps

The “AS400(iSeries) Map” application builds hierarchical submaps for all discovered domains. You access the submaps by starting at the AS400 icon on the Root submap as shown in Figure 4-12.

Figure 4-12: AS400 Icon on the Root Submap



Deleting Objects from the OV OS/400 Map

Only operators designated as OV OS/400 Map administrators may make permanent deletions from the OV OS/400 map.

About Operator Rights

Each operator has a read-write map, and has the capability to delete icons from the read-write map. Operators who are not OV OS/400 Map administrators cannot flag objects for deletion. When an operator who is not an OV OS/400 Map administrator deletes icons, the OV OS/400 Map application re-adds the icons for the deleted objects the next time that operator logs in.

Methods for Deleting AS/400 Objects

OV OS/400 Map administrators can delete objects from one of two locations:

- **Edit Toolbar**

  OV OS/400 Map administrators can delete AS/400 objects from the Edit toolbar menu. The object and any child objects are removed from the operator’s map and also marked for deletion. Selected objects are not deleted from any other operator’s map until the operator closes the GUI session and restarts the GUI.

Application Bank

OV OS/400 Map administrators can delete AS/400 objects using the “Delete Objects” application in the Application Bank. This method deletes the object and any child objects. It also sends an event to any open OV OS/400 maps which deletes the object immediately.

With either method, objects are not permanently deleted from the database until the icons have been deleted from all operator maps that have the “AS400(iSeries) Map” application. Objects that are not deleted are renamed (the tag REMOVED: is added to the beginning of the selection name), and a delete flag is set for the object. As operator maps are opened objects flagged for deletion are then removed from the operator’s map. When the symbol is removed from the last map the object is permanently deleted.

To Delete AS/400 Objects from the Edit Toolbar Menu

To delete AS/400 objects from the Edit toolbar menu, follow these steps:

Selecting an object icon for deletion deletes the object, including any child objects on the child submaps.

1. Select the object icons to be deleted.
2. From the Edit toolbar menu, select Delete to remove the object.

The object and any child objects are removed from the operator’s map and also marked for deletion. Selected objects are not deleted from any other operator’s map until the operator closes the GUI session and restarts the GUI.

To Delete AS/400 Objects using “Delete Objects” in the Application Bank

To delete AS/400 objects from the Application Bank, follow these steps:

1. Select the object icons to be deleted.
2. Open the AS400(iSeries) Tools group in the Application Bank.
3. Execute the Delete Objects application.

This method deletes the object and any child objects. It also sends an event to any open OV OS/400 maps, which deletes the object immediately.

Using Command Applications

OV OS/400 enables you to execute commands and view their output in one of two ways:

- **Predefined Applications**

  The predefined applications provided in the Application Bank operate either on the entire domain or on a specific resource.

- **Command Interface**

  OVO operators can process user-specified commands with the Command Interface application if it has been assigned to them.

To Use the Predefined Applications (Motif)

To use the Predefined application, follow these steps:

1. Locate the domain or resource:

   - Domain

   If the command applies to the domain, locate the AS/400 icon in the Node Bank.

   - Resource

   If the command applies to individual resources (for example, a controller or device) then locate the resource on the OV OS/400 map.

   To locate the resource, select Find from the Edit menu.

2. Select the AS400(iSeries) Tools icon.

   The Application Group: AS400(iSeries) Tools window opens.

3. Select the AS400(iSeries) Status or Vary Command folder icon.

   The Application Group window opens.

4. Process the command on the domain or resource:

   - Domain

   Click and drag the AS/400 icon from the Node Bank window and drop it on the application that you want to process.

   - Resource

   Click and drag the Resource icon from the OV OS/400 submap and drop it on the application that you want to process.

The Output of Application window opens. This window contains the output from that command.

To Use the Predefined Applications

To use the Predefined application, follow these steps:

1. Locate the domain or resource by expanding the Nodes Folder in the Objects Tree of the Java GUI.

2. Locate the AS400(iSeries) Tools folder by expanding the Applications folder in the Objects Tree.
3. By expanding the AS400(iSeries) Tools folder you can locate and expand the AS400(iSeries) Status folder.
4. Click and drag the domain or resource from the Nodes folder onto the appropriate application found in the Status folder.

For more information on the interactive ability of these applications, see “About the OV OS/400 Java Applet” on page 42.

To Use the Command Interface Application

To use the Command Interface application, follow these steps:

1. Locate the AS/400 icon in the Node Bank.
2. Select the AS400(iSeries) Tools icon from the Application Bank.

   The Application Group: AS400(iSeries) Tools window opens.
3. Click and drag the AS/400 icon from the Node Bank window and drop it on the AS400(iSeries) Commands application.

   A window opens. You can enter OS/400 commands and view command output from this window

Using the EVJLSCAN Program

The EVJLSCAN program in the EVIEW library can be called to read the output job log from a completed job and scan the log for specified messages. The syntax for the program call is:

```
EVJLSCAN OUTQ (joboutq) OUTQLIB(outqlib) JOB(jobname)
JOBID(jobnum) USER(jobuser) MSGID1(id1 | *FILE) [MSGID2(id2)
...]
```

joboutq	The name of the output queue where messages are written for this job
outqlib	The library where the `joboutq` resides
jobname	The name of the completed job
jobnum	The job ID number
jobuser	The user (owner) of the job
id1	A message ID to scan for or "*FILE"
id2 – id5	Additional messages IDs to scan for

If the `id1` value is "*FILE", EVJLSCAN will look for a list of message ID criteria which is created by the AS/400 Job Log Filter application, which allows for more than five message IDs to search for and check for regular expressions in the text of the messages. See "Phase 4: Identify Job Log Messages" on page 31 for information on how to set up a job log filter criteria file, and use jobname as the name when setting up a job log criteria file.

This program will normally be called as part of an automatic action after a CPF1164 message arrives announcing the completion of a job. In this case, the `jobname`, `jobnum`, and `jobuser` values can be retrieved from the message text.

Any messages found by the EVJLSCAN will be sent to the standard output stream.

Using the OV OS/400 Agent Interface to System APIs

The EVCCTLPROC job of the OV OS/400 agent provides a direct interface to retrieving operating system information through the use of system APIs without the need to execute OS/400 commands. The output of information retrieved in this manner is presented in a format that can be parsed by a script on the OVO management server. Access to this API interface is requested using destination 86 of the `vp400hostcmd` utility program (See the man page for general syntax of the `vp400hoscmd`). The type of data requested is specified by a two-digit code followed by a vertical bar (|) and additional parameter information depending on the selected code. The syntax of the vp400hostcmd with destination 86 is:

```
vp400hostcmd 86 XX[|parameters].<as400hostname>
```

Keep in mind that if this command is entered on a Unix command line or script the vertical bar will need to be escaped with a backslash (\) character.

Output lines will be returned with values separated by a vertical bar. One line will be generated for each record found if applicable, for example, a line representing each job. The last line will be the text “EOF”.

The available codes are:

01 Active Job Listing

Retrieves a list of active jobs.

Parameters: None

Output: One line for each active job found, in the following format:

Job name
User name
Job Number
Internal Job ID (In printable hex)
Job Status (e.g. MSGW, DEQW, TIMW, EVTW, etc)
Job Type (e.g. B-batch, I-interactive)
Subsystem Name
Run priority
Function Type
Function Name

Sample Output:

```
QTFTP00349|QTCP          |043769|0050000100007B0087B67F222949C906|DEQW|B|QSYSWRK |25| |
EVSBS  |QSYS             |043983|0050000100009F0087CA970D21D49A70|DEQW|M|EVSBS   |0| |
EVSCMDPROC|EVUSER        |044053|005000010000AB0087D1AA0A8F3185A6|DEQW|B|EVSBS   |10|P|EVC050
QPADEV0005|CHIP          |044054|005000010000AF0087D201903D4598D0|DSPW|I|QBASE   |20|C|STRSEU
EVACMDPROC|EVUSER        |043984|005000010000CB0087CA970D4BB7DBD2|SELW|B|EVSBS   |10|P|EVCCMD
```

02 Job Attributes

Retrieves additional attributes of the requested job.

Parameters: Internal Job ID (in printable hex)

Output: One line with the following format:

System Pool ID
CPU Used (milliseconds)
Auxiliary IO Requests
Interactive Transactions Response Time
Thread Count
Date Entered System
  CYYMMDDHHMMSS, where:
    C – century, 0 indicates years 19xx and 1 indicates years 20xx.
    YY – Year
    MM- Month
    DD – Day
    HH – Hour
    MM – Minutes
    SS - Seconds
Date Job Active (CYYMMDDHHMMSS)
Job Description Name
Job Description Library
Submitter Job Name
Submitter User Name

Sample Output:

```
2|70793|23690|0|0|1|1040511011518|1040511011518|EVJOBD    |EVIEW   |EVJOBD  |EVUSER
```

07 Job Queue Request

Returns a list of job queues.

Parameters: None

Output: One line for each job queue, in the format:

Job queue name
Job queue library
Number of jobs in job queue
Subsystem Name
Job Queue Status

Sample Output:

```
EVJOBQ          |EVIEW   |0|EVSBS          |RELEASED
EVJOBQ          |EVREL2  |0|               |RELEASED
NTMAINQ         |MR1     |0|               |RELEASED
NTMAINQ         |MR1PT1  |0|               |RELEASED
EVJOBQ          |MR2_P41 |0|               |RELEASED
EVJOBQ          |OVREL   |0|               |RELEASED
Q1ABRMNET       |QBRM    |0|               |RELEASED
QDMT            |QDMT    |0|               |RELEASED
QDNNOTIFY       |QDMT    |0|               |RELEASED
QPGMR           |QDMT    |0|               |RELEASED
QBASE           |QGPL    |0|QBASE          |RELEASED
QBATCH          |QGPL    |0|QBASE          |RELEASED
```

08 Output Queue Request

Returns a list of output queues

Parameters: None

Output: One line for each output queue, in the format:

Output queue name Output queue library
Number of files
Writer
Output queue status

Sample Output:

```
EVCMD          |EVIEW   |2|      |RELEASED
EVCMD          |EVREL2  |0|      |RELEASED
NETTECH        |MR1     |0|      |RELEASED
NTCMD          |MR1     |0|      |RELEASED
EVCMD          |OVREL   |0|      |RELEASED
QDMT           |QDMT    |0|      |RELEASED
QDKT           |QGPL    |0|      |RELEASED
QPRINT         |QGPL    |0|      |RELEASED
QPRINTS        |QGPL    |0|      |RELEASED
QPRINT2        |QGPL    |0|      |RELEASED
QSPRCLOUTQ     |QRCL    |0|      |RELEASED
```

09 Output Queue Listing

Returns a list of jobs in the specified output queue

Parameters: (separated by |)

Output queue name
Output queue library

Output: One line for each spool file in the queue in the format:

Job Name
User Name
Job Number
Spooled File Number
Spooled File Number
Spooled File Status
Spooled File Open Date
Spooled File Open Time
User Data
Form Type
Total Pages
Number of Copies
Priority

Sample Output:

```
QPADEV0007|BRYAN   |020755|QPDSPLOG   |1|*READY   |1020913090127|          |*STD   |2|1| 5
QPADEV0007|BRYAN   |020755|QPDSPLOG   |2|*READY   |020913112248|           |*STD   |1|1| 5
EVINIT |BRYAN      |037258|EVINIT     |1|*READY   |1030806143553|          |*STD   |5|1| 5
QPADEV0005|BRYAN   |037284|EVCMSGM    |1|*READY   |1030807111424|CRTCMOD   |*STD   |40|1| 5
QPADEV0005|BRYAN   |037284|EVCMSGM    |5|*READY   |1030807140745|CRTCMOD   |*STD   |37|1| 5
EVINIT |BRYAN      |037306|EVINIT     |1|*READY   |1030807141530|          |*STD   |5|1| 5
QPADEV0006|BRYAN   |037411|EVCCMDM    |6|*READY   |1030811140323|CRTCMOD   |*STD   |19|1| 5
QPADEV0004|BRYAN   |040417|QPSUPRTF   |1|*READY   |1031211164959|          |*STD   |1|1| 5
QPADEV0004|BRYAN   |040417|QPSUPRTF   |2|*READY   |1031211164959|          |*STD   |4|1| 5
QPADEV0004|BRYAN   |040973|QPDSPLIB   |1|*READY   |1040224160919|          |*STD   |3|1| 5
QPADEV0004|BRYAN   |043918|EVC020     |1|*READY   |1040429075548|CRTBNDC   |*STD   |19|1| 5
```

16 Job Queue Listing

Returns a list of jobs in the specified job queue

Parameters: (separated by |)

Job queue name
Job queue library

Output: One line for each job in the queue in the format: Job Name

User Name
Job Number
Job Type
Job Queue Priority
Submitter Job Name
Submitter User Name
Submitter Job Number
Status on Job Queue
Date Entered System (CYYMMDDHHMMSS)

20 System Statistics

Returns one line of system statistics

Parameters: None

Output: One line in the following format:

Number of users currently signed on
Batch jobs waiting
Batch jobs running
Batch jobs held
Batch jobs held on job queue
Batch jobs on held on job queue
Jobs in System
Percent Permanent Addresses
Percent Temporary Addresses System ASP (in MB)
System ASP Utilization
Total Aux Storage
Current Unprotected Storage
Max Unprotected Storage
DB Capability
Main Storage Size
System Percent CPU (divide by 10 to get utilization in tenths)
Interval Start of Statistics
Interval End of Statistics

Sample Output:

```
1|0|48|0|0|0|142|13|64|8590|498126|8590|534|789|0|0|16|1084276165|1084276225
```

21 System Pools Request

Returns line for each memory pool

Parameters: None

Output: One line for each pool in the following format:

Pool Number
Pool Size
Reserved Size
Maximum Active Jobs
Database Faults
Database Pages
Non database Faults
Non database Pages
Active Wait
Wait Ineligible
Active Ineligible
Pool Name
Subsystem Name
Subsystem Library Name
Paging Option

Sample Output:

```
1|58804|32868|32767|0|0|0|0|137|0|0|*MACHINE |           |               |*FIXED
2|189268|8|52|0|0|0|0|654|0|0|*BASE     |        |               |*FIXED
3|13104|0|10|0|0|0|0|0|0|0|*INTERACT |   |           |*FIXED
4|968|0|1|0|0|0|0|0|0|0|*SPOOL |         |        |*FIXED
```

22 System CPU Utilization

Returns one line with current system CPU utilization

Parameters: None

Output: 1 line in the following format:

Percent CPU utilization (divide by 10 to get utilization in tenths)
Statistics interval start time
Statistics interval end time

Sample Output:

```
19|1084276285|1084276345
```

27 Active Job Log

Returns the last 500 lines from the active job log of the specified job.

Parameters: Internal Job ID (in printable hex)

Number of lines of job log output to display (the most recent output is returned).

Output: Job log output in the following format:

Message ID

Message Type

Message Severity

Message Time

Sending Program

Sending Text

Sample Output:

```
CPF2447|15|40|1050107144314|QMHLDISP  |NO ENTRIES EXIST IN CURRENT VERSION
OF LOG.

       |10|00|1050107144314|QCADRV    |  8700 - DLYJOB DLY(5)

       |10|00|1050107144319|QCLCLCPR  |  5300 - CALL PGM(EVIEW/EVHTIME)
/* THE CALL COMMAND CONTAINS PARAMETERS */

       |10|00|1050107144319|QCADRV    |  5600 - DSPLOG PERIOD((144314
010705) (144319 010705)) OUTPUT(*PRTWRAP)

CPF2447|15|40|1050107144319|QMHLDISP  |NO ENTRIES EXIST IN CURRENT VERSION
OF LOG.

       |10|00|1050107144319|QCADRV    |  8700 - DLYJOB DLY(5)

       |10|00|1050107144324|QCLCLCPR  |  5300 - CALL PGM(EVIEW/EVHTIME)
/* THE CALL COMMAND CONTAINS PARAMETERS */

       |10|00|1050107144324|QCADRV    |  5600 - DSPLOG PERIOD((144319
010705) (144324 010705)) OUTPUT(*PRTWRAP)

CPF2447|15|40|1050107144324|QMHLDISP  |NO ENTRIES EXIST IN CURRENT VERSION
OF LOG.

       |10|00|1050107144324|QCADRV    |  8700 - DLYJOB DLY(5)

       |10|00|1050107144329|QCLCLCPR  |  5300 - CALL PGM(EVIEW/EVHTIME)
/* THE CALL COMMAND CONTAINS PARAMETERS */

       |10|00|1050107144329|QCADRV    |  5600 - DSPLOG PERIOD((144324
010705) (144329 010705)) OUTPUT(*PRTWRAP)

CPF2447|15|40|1050107144329|QMHLDISP  |NO ENTRIES EXIST IN CURRENT VERSION
OF LOG.

       |10|00|1050107144329|QCADRV    |  8700 - DLYJOB DLY(5)

       |10|00|1050107144334|QCLCLCPR  |  5300 - CALL PGM(EVIEW/EVHTIME)
/* THE CALL COMMAND CONTAINS PARAMETERS */

       |10|00|1050107144334|QCADRV    |  5600 - DSPLOG PERIOD((144329
010705) (144334 010705)) OUTPUT(*PRTWRAP)
```

28 QSYSOPR Inquiry Messages

Returns outstanding (messages needing reply) inquiry messages from QSYSOPR.

Parameters: None

Output: Message ID

Message Key

Fully qualified job name (Jobname/User/JobID)

Message Queue Name (QSYSOPR)

Time Stamp of Message

Message Text

There are two lines of output for each outstanding message. The second line contains any message text that exceeds the output length of the first line.

Sample Output:

```
CPA4086|30128|QPADEV0005KENNY     004701|QSYSOPR   |1041223113920|DEVICE TAP01 WAS NOT
READY OR NEXT VOLUME WAS NOT LOADED.  (C R)


OPT1486|30416|QPADEV0003KENNY     004699|QSYSOPR   |1041223114031|LOAD NEXT VOLUME ON
OPTICAL DEVICE OPT01. (C G)


BJW0006|31648|QPADEV0006KENNY     004704|QSYSOPR   |1041223165127|Aren't you a little
short for a stormtrooper? (Y N)


BJW0007|31808|QPADEV0006KENNY     004704|QSYSOPR   |1041223165151|What good are snub
fighters going to be against that? (A B C D E F
```

30 Data Queue Information

Returns information about the specified data queue.

Parameters: Data queue Name

Data queue Library

Output: Data queue name

Data queue library

Message length

Key length

Sequence

Include Sender ID

Force Indicators

Type

Automatic Reclaim

Number of Messages

Maximum Number of Messages

Maximum Entries Allowed

Initial Number of Entries

Sample Output:

```
EVSENDQ    |EVIEW      |287|0|F|N|N|0|0|0|208|55184|16
```

31 ASP Statistics

Returns statistics on Auxiliary Storage Pools.

Parameters: None

Output: ASP Number

Number of disk units

ASP capacity – total

ASP capacity available total

ASP capacity protected

ASP capacity available protected

ASP capacity unprotected

ASP capacity available unprotected

ASP system storage

Overflow storage

Space allocated to error log

Space allocated to the machine log

Space allocated to the machine trace

Space allocated for main storage dump

Space allocated to the microcode

Storage threshold percentage

ASP type

Sample Output:

```
1|1|17549|5827|0|0|17549|5827|3|0|1|55|1|139|938|90|00
```

5

Troubleshooting OV OS/400

This chapter describes how to troubleshoot problems with HP OpenView Operations OS/400 Management (OV OS/400).

General Troubleshooting

Before you troubleshoot a particular problem you run into when installing, configuring, or using OV OS/400, you should verify that your OV OS/400 environment is correctly installed and configured.

Correct installation and configuration of OV OS/400 ensures, among other things, that messages are processed correctly:

- **Message Generation**

  Messages are generated by the OV OS/400 system.

- **Message Interception**

  Messages are intercepted by the EV/400 policies and monitors.

- **Message Browser**

  Messages appear in the OVOW Message Browser in the form you expect.

To Verify Your OV OS/400 Environment

To verify that your OVO software is installed and configured correctly, follow the steps outlined in “To Verify the OV OS/400 Server Status” on page 77.

If Verification Does Not Solve the Problem

If the steps outlined in “To Verify the OV OS/400 Server Status” on page xx do not or only partly solve the problem you have encountered, see “Specific Troubleshooting” below.

Specific Troubleshooting

This section explains how to solve specific problems you may encounter when using OV OS/400.

Verifying Connectivity and Agent Operation

When trouble shooting problems with the operation of the OV OS/400 product it is important to verify the correct operation of the server components and the agent processes. The following steps should be performed to verify correct operation.

On the OVO management server:

- Issue the command:

  ```
  vp400sv –status <as400nodename>
  ```

  Verify that all processes are running

- Check the status of the TCP ports used to connect to the agent, for example if the default ports are used issue the commands:

```
netstat –a|grep 8000
netstat –a|grep 8001
```

For correct operation both ports should be “established”.

- Check OV OS/400 log files in the /var/opt/OV/log/vp400 directory for any error messages.

On the AS/400 management node:

- Issue the command:

  ```
  WRKACTJOB SBS(EVSBS)
  ```

  The following display shows the minimum number of jobs that should be running and the typical job status:

```
EVSBS          QSYS        SBS      .0                  DEQW
     EVACMDPROC   EVUSER      BCH      .0  PGM-EVCCMD      SELW
     EVCCTLPROC   EVUSER      BCH      .0  PGM-EVCCTL      DEQW
     EVSCMDPROC   EVUSER      BCH      .0  PGM-EVC050      DEQW
     EVSMSGPROC   EVUSER      BCH      .0  PGM-EVC010      DEQW
     EVSTCPPROC   EVUSER      BCH      .0  PGM-EVCHCI      SELW
     EVTCTLPROC   EVUSER      BCH      .0  PGM-EVCMSG      SELW
```

  Depending on the agent configuration and options selected there may be up to ten jobs running as part of the agent subsystem. This list represents the minimum jobs that must be running for basic operation of the agent.

- Check the agent message queue for any error messages that may have been issued with the command:

  ```
  DSPMSG EVIEW/EVMSGQ
  ```

- Check the agent trace files for any output that may have generated. The trace files are in the EVTRACE output queue in the EVIEW library.

- Check the status of the TCP ports used by the agent using the command:

  NETSTAT *CNN

  Using Function Key 15 (F15) it is possible to limit the NESTAT output to the range of ports configured for the agent. The ports configured in parameters EV400_AS400_MSG_PORT and EV400_AS400_CMD_PORT should show “established” if the OVO management server processes are connected. It is also normal for these two ports to also be in a “listen” state. The port configured in parameter EV400_AS400_SERVER_PORT must show “established” before any messages or command responses can be sent to the OVO management server.

- Check the condition of the agent data queues. The agent uses several data queues to store requests and messages. Data queue objects may become damaged due to unexpected interruption or system errors. If this occurs this can cause agent jobs to fail. To check the data queues issue the following commands:

  ADDLIBLE EVIEW

  DDQ EVIEW/EVSENDQ

  DDQ EVIEW/EVAPIQ

  DDQ EVIEW/EVCMDQ

  DDQ EVIEW/EVMRSPQ

If a any data queues have been damaged an exception message will be generated when issuing the command. If the data queue properties are displayed check to be sure the maximum entry length is not zero. A zero length in this field is an indication of a damaged data queue.

If No Messages are on the OVO Management Server

Symptom

No OV OS/400 messages are arriving on the OVO management server.

Solution

1. Verify that the connection between the OVO management server and OV OS/400 is up and running by entering the following command:

   `vp400sv`

2. Verify that the OVO agent has been correctly installed and configured on the OVO management server.
3. Verify that the OVO agent processes (in particular, the control agent) are running.
4. Verify that the AS/400 templates have been correctly assigned and distributed to the OVO management server.
5. Verify that the "400" node group has been assigned to the appropriate OVO operators.
6. Verify that the OV OS/400 services have been assigned to the appropriate OVO operators.
7. Check filter file that has been distributed to the agent to verify the correct message Ids are in the filter.
8. Check message queue setup on the AS/400 agent to verify that the message queue is configured correctly. For example, check the severity setting on the message queue to ensure that it is set to a severity which will allow all wanted messages to be received.

If Automatic or Operator-initiated Commands Do Not Complete

Symptom

Messages appear in the Message Browser (with a status of Running), but automatic or operator-initiated commands do not complete.

Solution

1. Verify that the vp400elli process is running under OpenView by entering the following command:

   `ovstatus`

2. Recycle the vp400elli by entering the following commands:

   `ovstop vp400elli`

   `ovstart vp400elli`.

Appendix A

This appendix describes all messages generated by the OV OS/400 jobs running on the AS/400 agent.

OV OS/400 AS/400 Messages

Table A-1: Messages

Message ID	Severity	Type	Description	System Action	User Action
EVM0001	99	Info	An invalid reply to a message	Processing continues	Contact your system administrator to reply to the message on the AS/400
EVM007	99	Info	&1 limit reached, queue cleared. Maximum number of records were written to the queue. This is most likely due to the OVO Management Server not being connected to the OV OS/400 agent.	Queue is cleared. Processing continues	If this appears repeatedly contact support
EVM0015	99	Inq	***WARNING*** Processing has ended due to the possible loss of connectivity	Process stops until message is replied to	To recover enter, A=clear data queue and continue processing, B=end EVSBS subsystem and contact system administrator.
EVM0016	99	Info	&1 has been modified	&1 data file has been modified	Contact your system administrator
EVM0017	99	Info	Message queue &1 was not cleared	Selected message queue is not cleared when EVSBS subsystem was ended	Contact your system administrator
EVM4444	99	Info	Cannot allocate file &1	Restoration of default configuration file failed	Release the lock on &1 and try your operation again
EVM5555	99	Info	There is a lock on the EVIEW library	Upgrade installation stopped	To recover enter, I=ignore the message, C=cancel operation and contact system administrator

Appendix B

This appendix describes the messages generated on the OVO Management Server for OV OS/400.

OV OS/400 Management Server Messages

The following is a list of error messages from the OV OS/400 Management Server processes:

Table B-1: Socket Communication Errors

Code	Definition
EVOSOK001	%s failed calling %s, reason: %s
EVOSOK010	Unable to open %s %s socket
EVOSOK020	Unable to bind socket
EVOSOK030	Unable to set socket to non-blocking mode
EVOSOK031	Unable to set socket to blocking mode
EVOSOK040	Error on listen for socket connection
EVOSOK050	Socket connect failed, will retry momentarily
EVOSOK051	Socket connect failed, no retry will be attempted
EVOSOK070	Unable to get socket option: %s
EVOSOK071	Unable to get socket option: %s
EVOSOK080	%s failed reading MMS socket, reason: %s
EVOSOK081	Failure reading %s client UDP socket
EVOSOK082	Failure reading %s server UDP socket, number bytes returned is zero
EVOSOK083	Failure reading %s server UDP socket, entire message not sent
EVOSOK090	Failure writing to %s client UDP socket
EVOSOK092	Failure writing to %s client UDP socket, entire message not sent
EVOSOK199	Failure reading EView/Open Mainframe Message Server, reason: %s
EVOSOK200	Lost connection with EView/Open Mainframe Message Server
EVOSOK201	%s has exited due to read failure on MMS connection
EVOSOK202	%s has lost connection with the MMS
EVOSOK203	%s has exited due to loss of connection with the Command Server
EVOSOK220	MMS failed sending command response to the Command Server
EVOSOK221	No TCP connection with Doman: %s

Table B-2: Management Platform API Errors

Code	Definition
EVOAPI001	%s can not make initial connection with management API
EVOAPI002	%s was not able fill symbol map
EVOAPI003	%s was not able fill status map
EVOAPI004	%s was not able to lock data base
EVOAPI005	%s failed trying to add a node to the managment platform: %d
EVOAPI006	Current OpenView map \" % s\ " is Read-Only, exiting
EVOAPI100	API error message: %s
EVOAPI101	%s lost connection with API: Exiting
EVOAPI200	No selected icon for %s
EVOAPI201	Only one symbol may be selected
EVOAPI205	Attempting to get the id for %s

Table B-3: Process Initialization Errors

Code	Definition
EVOINI000	%s initialized successfully
EVOINI001	%s initialized successfully for domain %s
EVOINI010	%s started with invalid argument count
EVOINI011	Domain name must be passed in to the %s
EVOINI012	Invalided transaction program name executable used to start %s
EVOINI013	Resource name with domain extension must be passed into the %s
EVOINI020	%s encountered invalid for configuration parameter %s
EVOINI030	%s needs the %s environment variable set properly
EVOINI040	Error setting debug value, unable to find module %s in %s
EVOINI050	%s unable to open log file: exiting
EVOINI060	Required configuration parameter is missing: %s
EVOINI070	Unable to obtain memory for Status Mapping table
EVOINI071	Unable to open OV Status Map File %1$s - Reason %2$s
EVOINI072	Unable to open vpo_severity.conf file
EVOINI073	Too many entries in vpo_severity.conf file - Notify support
EVOINI074	Invalid severity range on record %1$d - Notify system administrator

Code	Definition
EVOINI075	Warning - overlapping range in vpo_severity.conf file record - %1$d
EVOINI076	Invalid severity in vpo_severity.conf file on record %1$d

Table B-4: Process Execution Errors

Code	Definition
EVOEXE0	%s has completed without error
EVOEXE000	%s failed calling %s
EVOEXE001	%s failed calling %s with rc: %4d
EVOEXE002	%s failed calling %s, reason: %s
EVOEXE003	Failing system command: %s
EVOEXE005	%s found bad file format %s
EVOEXE006	%s found bad file format %s, line %d
EVOEXE010	%s failed to open file %s, reason : %s
EVOEXE011	%s failed to delete file %s, reason: %s
EVOEXE012	Please check file permissions
EVOEXE015	%s failed to obtain file statistics for file %s, reason: %s
EVOEXE020	Memory allocation failure, check available memory
EVOEXE030	Unable to obtain machine name
EVOEXE031	Unable to obtain host TCP/IP address from host name: %s
EVOEXE050	Invalid selection made, please select again
EVOEXE100	%s process has exited
EVOEXE102	%s process of domain %s has exited
EVOEXE120	%s can not reach domain %s: exiting
EVOEXE130	%s received an unsuccessful return from%s: returning

Table B-5: EV/400 Client Errors

Code	Definition
EVOCLI000	Invalid -display option use: -display DisplayName
EVOCLI010	Client received 'message out of sequence' error from server
EVOCLI030	Invalid command form specified, valid values are 1, 2 or 3

Table B-6: Discovery Messages

Code	Definition
EVODIS05	%s has already been run. Exiting

Table B-7: Status Manager

Code	Definition
EVOSM010	PS file could not be opened: exiting
EVOSM020	Cannot store the Status Manager's Process ID: exiting
EVOSM030	The input file %s will not open: returning
EVOSM121	Another Status Manager is already running: exiting

Table B-8: Active Status

Code	Definition
EVOID010	Act_stat could not open input file %s
EVOID015	Switched_pu could not open input file %s
EVOID020	Return from host is not correct in %s: returning
EVOID030	Cannot check status of Session IDs

Table B-9: Check Status

Code	Definition
EVOCS010	The name of the resource can not be found on the command line: exiting
EVOCS011	A resource must be selected: exiting

Table B-10: Refresh

Code	Definition
EVOREF070	Starting a passive refresh

Table B-11: Master Message Server (MMS)

Code	Definition
EVOMMS001	TCP connection established from MMS to domain: %s
EVOMMS100	TCP connection lost from MMS to domain: %s
EVOMMS110	Agent version %1$d received

Table B-12: Command Server (CS)

Code	Definition
EVOCSR001	TCP connection established from CS to domain: %s
EVOCSR100	TCP connection lost from CS to domain: %s
EVOCSR110	Agent version %1$d received

Table B-13: ELLI

Code	Definition
EVOLLI001	vp400elli terminating\n"
EVOLLI010	Unable to Initialize with OpenView process manager
EVOLLI015	Invalid value for maximum reply buffer setting to default (100,000)
EVOLLI016	Maximum reply buffer too small setting to 5000
EVOLLI020	Error initializing with OpenView Operations Management Server
EVOLLI025	Unable to open directory %1$s
EVOLLI030	Unable to allocate memory for reply buffer
EVOLLI040	Reply sent to %1$s
EVOLLI045	Command %1$s sent to %2$s
EVOLLI050	Domain %1$s is not configured notify system administrator
EVOLLI060	Invalid request format for TCP request notify system administrator
EVOLLI065	Program error could not find client connection
EVOLLI066	Program error occurred notify system administrator
EVOLLI100	Not connected to domain: %s
EVOLLI101	Lost connection to domain: %s
EVOLLI102	Action request queue full contact administrator
EVOLLI103	Response message exceeds buffer size

Code	Definition
EVOLLI104	Response timeout for this action
EVOLLI105	Unable to allocate additional memory for reply
EVOLLI106	Invalid TCP Request Port specified using default
EVOLLI107	Unable to Bind TCP Request Port

Table B-14: Discovery

Code	Definition
EVODIS000	Starting discovery process for %1$s
EVODIS010	Unable to get configuration parameters for %1$s
EVODIS015	Unable to connect to OpenView database
EVODIS016	Check to make sure ovwdb process is running
EVODIS020	Discovery is unable to openan event session: %1$s
EVODIS030	...New nodes will be added to the object database
EVODIS040	...Discovery output will be saved in %1$s
EVODIS101	Unable to find status manager
EVODIS102	Error sending signal to status manager error %d
EVODIS105	Unable to add root object to database terminating
EVODIS110	Unable to add domain object to database terminating
EVODIS115	Unable to add SWITCH:CTL object database terminating
EVODIS120	Failed executing vp400hostcmd - Reason %1$s
EVODIS125	Error sending signal to status manager - error %1s
EVODIS200	Lost connection to domain: %s
EVODIS201	Action request queue full - contact administrator
EVODIS202	Response message exceeds buffer size
EVODIS202	Response timeout for this action
EVODIS203	Unable to allocate additional memory for reply
EVODIS300	Discovery completed - %1$d new objects added

Table B-15: VP400 Map Messages

Code	Definition
EVOMAP100	Error on FieldNametoFieldID for field %1$s, error=%2$s
EVOMAP105	No Object found for field %1$s
EVOMAP110	vp390map abnormal end

Code	Definition
EVOMAP115	send status_event:Unable to create PDU (%1$d)
EVOMAP120	send_ status_event:Error sending evet - Erro-%1$d
EVOMAP125	Error receiving event - Reason:%1$s
EVOMAP130	Lost connection to pmd - Restart GUI
EVOMAP135	Status event has invalid variable type for variable # %1$d
EVOMAP140	process_status_event:OVwSetStatusOnObject failed _ %1$s
EVOMAP145	process_status_event:Unable to set status on object %1$d, status=%2$d
EVOMAP150	OVwUnmanageObject failed for object %1$d - Reason:%2$s
EVOMAP155	OVwManageObject failed for object %1$d - Reason:%2$s
EVOMAP160	Unable to get EVOStatus field for object %1$d
EVOMAP165	Error adding ovwConfirmManageObjects callback - Reason: %1$s
EVOMAP170	Error adding ovwConfirmUnmanageObjects callback - Reason:%1$s
EVOMAP175	Unable to get object info for %1$d - Reason:%2$s
EVOMAP180	delete_symbols:Failed to delete symbol %1$d - Reason:%2$s
EVOMAP185	Unable to get EVOName field for object %1$d
EVOMAP190	Unable to get EVOType field for object %1$d
EVOMAP195	Invalid type value (%1$d) in EVOType field
EVOMAP200	Error creating symbol for object %1$d - Reason:%2$s
EVOMAP205	create_symbol: Failed to delete symbol %1$d - Reason:%2$s
EVOMAP210	Unable to get parent for object %1$d
EVOMAP215	Unable to create submap for parent object %1$d - Reason:%2$s
EVOMAP220	Parent field is missing for object %1$d
EVOMAP225	Unable to open admin config file %1$s
EVOMAP230	Unable to connect to pmd - retry in 1 minute);
EVOMAP240	Error adding ovwConfirmDeleteObjects callback - Reason:%1$s
EVOMAP245	Unable to connect to pmd - exiting !
EVOMAP250	Error adding ovwEndSession callback - Reason:%1$s

Table B-16: vp400ragt Messages

Code	Definition
EVORAG010	Unable to resolve host name %1$s
EVORAG020	Unable to open configuration file for %1$s
EVORAG030	Error retrieving configuration for %1$s
EVORAG040	Invalid port number found in configuration file for %1$s
EVORAG050	No response from %1$s or error occurred waiting for response
EVORAG100	Primary Manager switch successful
EVORAG110	Distribute All parameter is 'YES' on %1$s
EVORAG120	%1$s Management server requested for primary is not connected
EVORAG130	This server is not authorized to make this request
EVORAG900	Unknown return code %d from %1$s

Table B-17: vp400xreply Messages

Code	Definition
EVOXRY010	Unable to open DISPLAY
EVOXRY020	vp400hostcmd failed

Table B-18: vp400delete Messages

Code	Definition
EVODLT100	Error allocating pdu for event
EVODLT110	Error adding varbind to event pdu
EVODLT115	Error initializing with ovw session - Reason:%1$s
EVODLT120	Error getting map information - Reason:%1$s
EVODLT125	Error opening event session - Reason:1s

Table B-19: vp400addagt Messages

Code	Definition
EVOADD000	**** AS/400 Configuration Tool ****
EVOADD010	Enter Internet name of AS/400:
EVOADD020	Enter a new value or press Enter to keep same value
	%1$s added to Node Bank (Holding Area)
EVOADD100	Unable to resolve hostname. Please try again
EVOADD110	Error copying base config file

Code	Definition
EVOADD120	Error opening configuration file
EVOADD130	Error reading existing configuration files
EVOADD140	Error reading existing configuration file for %1$s
EVOADD150	Error opening current configuration file
EVOADD160	Error creating configuration file
EVOADD170	Error writing configuration file
EVOADD180	Interrupt signal received - exiting
EVOADD200	Error connecting to OVO management server - %1$s
EVOADD210	Error creating node structure - retun code %1$d
EVOADD220	Error setting initial node parameter - return code %1$d
EVOADD230	Error getting node defaults - return code %1$d
EVOADD240	Error setting node parameter - return code %1$d (%2$s)
EVOADD250	%1$s already exists in Node Bank
EVOADD260	Adding node failed! Return code %1$d (%2$s)
EVOADD270	Error creating node group! Return code %1$d (%2$s)
EVOADD280	Error setting node group! Return code %1$d (%2$s)
EVOADD290	Error creating nodelist! Return code %1$d (%2$s)
EVOADD292	Error adding node to nodelist! Return code %1$d (%2$s)
EVOADD295	Error assigning node to node group! Return code %1$d (%2$s)
EVOADD297	Error disconnecting from OVO Management Server
EVOADD300	AS/400 configuration complete

Appendix C

This appendix describes the various jobs that run under the EVSBS subsystem on the AS/400.

EView Subsystem (EVSBS)

The jobs that execute in the EVSBS Subsystem:

1. EVACMDPROC - Establishes the TCP/IP socket for bi-directional command and response link.
2. EVCCTLPROC - Controls the processing of pre-defined API's used in command processing.
3. EVMSGQMON – monitors message queues configured for SCAN mode monitoring.
4. EVPERFM – gathers performance data.
5. EVSCMDPROC - Executes the command processor.
6. EVSMSGPROC - Message queue allocation and message processing.
7. EVSHSTPROC- Extracts messages at a configured time sequence from the QHST message queue depending on the message ID's added to the filter file. These messages are forwarded to the OVO server and appear in the message browser.
8. EVSRSCPROC - Monitors status changes on discovered resources at a configured time sequence.
9. EVSTCPPROC - Receives and forwards all processed messages, commands, and API instructions from a central data queue.
10. EVTCTLPROC - Controls multiple connectivity between the OVO server and the OV OS/400 Agent.

Glossary

Central processing unit See CPU

See CPU.

CPU central processing unit. Part of computer with circuits that control the interpretation and execution of instructions.

DASD

Direct Access Storage Device. Also known as “disk pack” or “disk drive.” Device in which access time is effectively independent of the data location.

Data Queue

An AS/400 system object that holds data in which a program writes to read from in FIFO order.

disk pack

See DASD.

domain

An AS/400, along with all of its lines, controllers and devices.

Export

Internet address the internet protocol routes data to.

Initial Program Loader

See IPL.

IPL

Initial Program Loader. Also know as “system restart” or “system startup.” 1. Initialization procedure that causes an operating system to begin operation. 2. Process by which a configuration image is loaded into storage at the beginning of a workday or after a system malfunction. 3. Process of loading system programs and preparing a system to run jobs.

Legacy Link Interface

See LLI.

LLI

Legacy Link Interface. OVO option that allows external processes to connect to OVO action and message managers.

Mapping

A list usually in a profile that establishes a correspondence between items in two groups.

Message Queue

A data queue that holds messages from a specific area of the AS/400. For example QSYSOPR is the message queue for the operating system.

Motif

A set of guidelines that specifies how a user interface for graphical computers should appear on the screen and how the user interacts with it.

Network Node Manager

See NNM.

NNM

Network Node Manager. Comprehensive network management solution that discovers network devices, and provides a map to illustrate the structure of the network and the status of devices and segments. When a major device fails, the event correlation engine evaluates the event stream to pinpoint the root cause of the failure. The manager also helps identify potential trouble spots before a failure occurs.

Node

See Domain.

OpenView Windows

See OVW.

OVW OpenView Windows. Customizable OpenView network management GUI.

Port

An access point for data entry and exit.

Server

1. In general, a functional unit that provides shared services or facilities to workstations over a network (for example, a file server, a print server, or a mail server). 2. In the UNIX operating system, an application program that usually runs in the background and is controlled by the system program controller.

SNA

System Network Architecture. Network architecture that enables the reliable transfer of data among end users, and provides protocols for controlling the resources of various network configurations.

system restart

See IPL.

system startup

See IPL.

TCP

Transmission Control Protocol. Communications protocol used in the Internet and in any network that follows the U.S. Department of Defense standards for inter-network protocol. This protocol provides reliable host-to-host communication between hosts in packet-switched communications networks and in interconnected systems of such networks. It assumes that the Internet protocol is the underlying protocol.

See also TCP/IP.

TCP/IP

Transmission Control Protocol/Internet Protocol. Set of communication protocols that support peer-to-peer connectivity functions for both local and wide area networks.

See also TCP.

Transmission Control Protocol

See TCP.

Transmission Control Protocol/Internet Protocol

See TCP/IP.