

EView/400i Management for OVO Windows

Concepts Guide

Version 6.0

EView Technology, Inc.



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Conventions

The following typographical conventions are used in this manual.

Font	Meaning	Example
<i>Italic</i>	Book or manual titles, and man page names	See the <i>Administrator's Reference</i> for more information.
	Provides emphasis	You <i>must</i> follow these steps.
	Specifies a variable that you must supply when entering a command	At the prompt, enter rlogin <i>your_name</i> where you supply your login name.
	Parameters to a function	The <i>oper_name</i> 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 <code>grep</code> command ...
	Function names	Use the <code>opc_connect()</code> function to connect...
	File and directory names	<code>/opt/OV/bin/OpC/</code>
	Process names	Check to see if <code>opcmona</code> is running.
	Window/dialog box names	In the Add Logfile window...
Computer Bold	Text that you must enter	At the prompt, enter <code>ls -l</code>
Keycap	Keyboard keys	Press Return .
[Button]	Buttons on the user interface.	Click [Operator]. Click the [Apply] button.
Menu Items	A menu name followed by a colon (:) means that you	Select Actions:Utilities->Reports ...

Font	Meaning	Example
	select the menu, then the item. When the item is followed by an arrow (->), a cascading menu follows.	

Documentation Map

EView/400 Management for OVO Windows (EV/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 EV/400 documentation, related HP OpenView products provide a comprehensive set of manuals that help you use the products and improve your understanding of the underlying concepts.

EV/400 Printed Manuals

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

EView/400 Management for OVO Windows Concepts Guide

Explains EV/400 features, functions, architecture, and data flow. Describes EV/400 agent and server components, process management, OVO/W integration, and message windows.

EView/400 Management for OVO Windows Installation Guide

Explains how to install, de-install, and configure EV/400. Also includes how to upload installation files from the OVO/W management server, and start and stop EV/400 processes.

EView/400 Management for OVO Windows Administrator's Reference

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

EV/400 Online Information

The following information is available online.

- *EView/400 Management for OVO Windows Concepts Guide*
- *EView/400 Management for OVO Windows Installation Guide*

What is EView/400?

- *EView/400 Management for OVO Windows Administrator's Reference*
- *EView/400 Management for OVO Windows Software Release Notes*



3

About EView/400

This chapter describes EView/400 Management for OVO Windows (EV/400). It also provides a brief overview of its benefits, architecture, and data flow.

What is EView/400?

EView/400 Management for OVO Windows (EV/400) integrates the AS/400 (iSeries) system platform into HP OpenView Operations for Windows (OVOW). With the addition of EV/400, OVOW provides you with true end-to-end management of your information technology (IT) environment, from PCs to AS/400 computers.

What EView/400 Does

EV/400 is closely integrated into the OVOW Management Server. The EV/400 Agent monitors the AS/400 system environment to capture system statistics, system messages, and application messages which correlate to important events and critical situations. This information is then sent to the OVOW Management Server for processing by OVOW message policies.

Benefits of EView/400

EV/400 provides you with the following benefits:

- **Health Monitoring for AS/400 Systems**
Monitors the status and health of the AS/400 systems and standard applications.
- **Consolidated Management View**
Consolidated end-to-end management view which gives you a business-centric perspective.
- **Automatic Problem Resolution**
Two-way communication with AS/400 systems to resolve problems quickly and automatically.
- **Multiple Connectivity**
Allows more than one OVOW Management Server to be connected to an EV/400 Agent simultaneously.

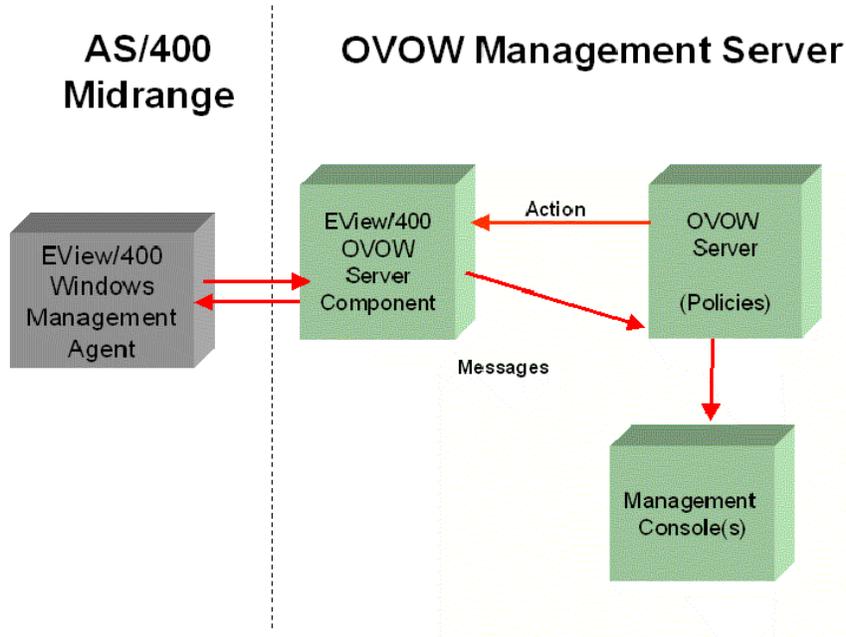
About EView/400 Architecture and Data Flow

AS/400 system management is provided by monitoring messages that are generated to the QHST history log, QSYSOPR and other message queues. The message filtering functionality of EV/400 allows you to select the messages to be captured and transmitted to the OVOW Management Server making the information data stream more efficient.

Consolidating Your Business Environment

Figure 3-1 shows the consolidated data flow between the AS/400 systems and the OVOW Management Servers provided by EV/400.

Figure 3-0-1: EV/400 Data Flow



Increasing Productivity through Automation

The consolidated view provided by the EV/400 architecture helps maximize the availability of your system and increase the productivity of your operations. EV/400 responds to critical AS/400 messages through pre-defined automatic actions and resolution instructions. Messages coming from the AS/400 are routed into existing OVOW message groups and included in the OVOW Message Browser. Message responses can be issued to the AS/400 automatically or interactively from OVOW.

About the EView/400 Agent

This chapter describes the agent and agent components provided with EView/400 Management for OVO Windows (EV/400).

What the EView/400 Agent Does

The EV/400 agent operates as an AS/400 application that monitors your AS/400 environment. The agent captures all AS/400 system and application generated messages. These messages are then filtered based on values you have configured and then distributed to the primary and, if chosen, to all secondary OVOW Management Servers. The agent also collects system statistics and allows the operator to perform interactive processing on everyday tasks from the OVOW Management Server without using the traditional AS/400 “green screen”.

Processing AS/400 Messages

The EV/400 agent processes all messages that are generated by the operating system as well as any messages generated by system and software applications. Messages are filtered based primarily on message IDs configured by the system administrator. Any AS/400 message queue can be monitored to capture specific and/or general messages. The administrator can choose between two methods of collecting messages from a queue, either by adding a lock to the queue (*BREAK mode) or by periodically polling the queue (allowing other applications to hold the lock on the queue, if needed).

The EV/400 agent packages the collected messages into a defined data structure, then forwards them to the OVOW server for processing.

Components of the EView/400 Agent

With EV/400, messages generated on the AS/400 are collected by the EV/400 subsystem. They are then filtered and forwarded to the EV/400 Master Message Server component on the OVOW Management Server. The results will be displayed on any OVOW Message Browser.

About the EV/400 Subsystem

The EV/400 agent is a subsystem on the AS/400. A Control Language (CL) command starts the subsystem. Once the subsystem’s procedures are active, the EV/400 Agent filters and routes messages from the AS/400 message queues, collects statistics, processes commands and executes API calls from the OVOW console operator. The results of each of these are then returned to the OVOW console.

About EV/400 Procedures

The EV/400 agent procedures collectively provide all the necessary communications and system interfaces. Each of the procedures is dedicated to a particular interface function and communicates with other procedures and message queues.

EVACMDPROC Procedure

1. Establishes a socket connection for the command port.
2. Begins a heartbeat monitoring process that verifies the connection between the management server and the agent.
3. Receives AS/400 commands and API instructions from the OVOW server.
4. Distinguishes between commands and API instructions, then forwards to respective pre-defined data queue for processing.

EVAUDJRNL Exit

1. Establishes an exit program that monitors incoming entries to the QAUDJRN audit journal.
2. Formats desired auditing entries into readable messages to be passed to the OVO server.

EVCCTLPROC Procedure

1. Receives the API requests from a pre-defined data queue.
2. Determines the proper format to use in order to carry out the API instruction.
3. Makes the appropriate OS/400 API call.
4. Sends API instruction results to a pre-defined data queue to be sent back to the OVOW server.

EVMSGQMON Procedure

1. Determines message queues to be monitored from the EVMSGQCFG file with the SCAN option.
2. Checks configured messages queues for new messages.
3. Selects messages based on filtering and message queue configuration options and forwards messages to a pre-defined data queue.

EVPERFM Procedure

1. Gathers system and job performance data.
2. Forwards performance data on a specified interval to a pre-defined data queue.

EVSCMDPROC Procedure

1. Receives commands from the pre-defined data queue.
2. Sends commands through the command processor.
3. Forwards the command responses to a pre-defined data queue.

EVMSGPROC Procedure

1. Receives messages from message queue(s) you wish to capture messages from.
2. Processes messages through the message filtering process.
3. Forwards all AS/400 messages that match the filter to pre-defined data queue.

EVSHSTPROC Procedure

If the EV/400 agent is configured to monitor the QHST log, the following is executed:

1. Reads the QHST messages.
2. Messages are sent through the filtering process.
3. Forwards all matched messages to a pre-defined data queue.

EVSTCPPROC Procedure

1. Allows a TCP/IP connection from the EV/400 Control Procedure EVTCTLPROC.
2. Receives processed AS/400 messages, commands, and API instructions from a central data queue.
3. Forwards the processed information to the EV/400 Control Procedure.

EVTCTLCPROC Procedure

1. Establishes a TCP/IP connection to the primary management server and to all secondary management servers.
2. Establishes a TCP/IP connection with the Message Procedure EVSTCPPROC.
3. Manages multiple connectivity functionality between EV/400 agent and the multiple EV/400 servers.
4. Forwards processed results to the correct EV/400 Management Server.

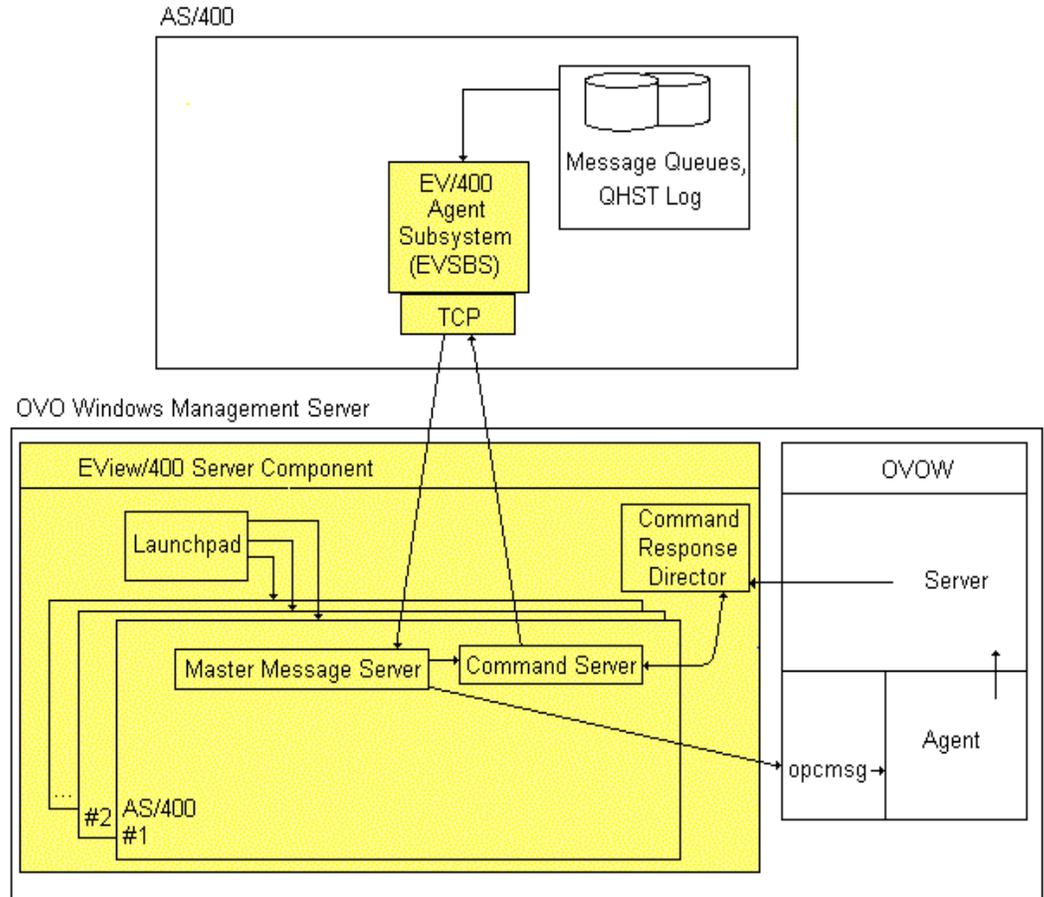
About the EView/400 Server

This chapter describes the server components and process management provided by EView/400 Management for OVO Windows (EV/400).

About Primary Server Components

Figure 5-1 shows the EV/400 server components running alongside OVOW on the OVOW Management Server, and the data flow to the AS/400 agent.

Figure 5-1: EV/400 Server Components



Node Processes

For each AS/400 node that is monitored by OVOW, EV/400 starts two server processes:

- **Master Message Server**

The Master Message Server (MMS) is the primary server for EV/400 on the OVOW management server. All incoming EV/400 data comes through the MMS and is forwarded to the OVOW agent for policy rules processing, and from there to OVOW console message browsers.

- **Command Server**

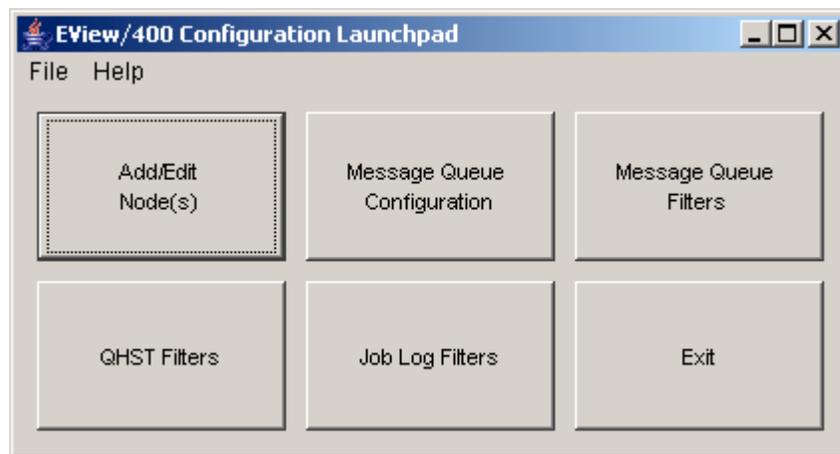
The Command Server (CS) forwards OVOW action requests to an AS/400 system for execution and delivers the response back to OVOW.

Additional Server Components

About the Configuration Launchpad

EV/400 provides a Java-based configuration application on the OVOW Management Server to add, delete, configure, start, stop, or check the status of the EV/400 processes needed for each of the AS/400 nodes. The application also provides the ability to modify the desired filters that are used on the AS/400 agent, such as which message queues to monitor and which messages to capture from those queues.

Figure 5-2: Configuration Launchpad



About the Command and Response Director

The EV/400 Command and Response Director (ev400crdir) runs as a separate process on the OVOW Management Server. It is responsible for forwarding AS/400 commands from OVOW consoles to the appropriate EV/400 Command Server process and returns the command output.

About the EV/400 Console

This chapter describes the tools and Java applets provided by EView/400 for use on the OVO Windows console.

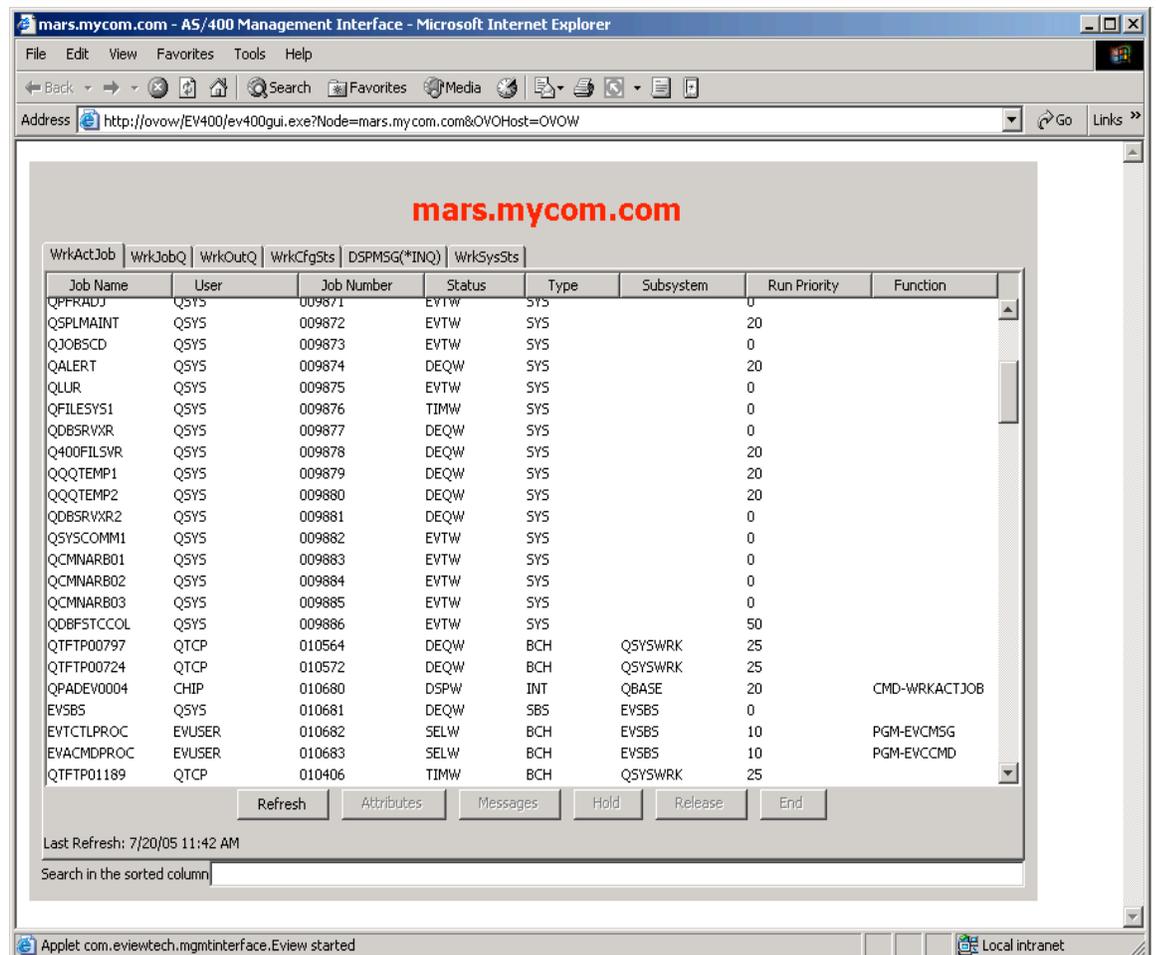
About the AS/400 Management Interface

The AS/400 Management Interface is a Java applet that runs in an Internet browser. The applet can be used to manage or manipulate the following:

- Active Jobs
- Job Queues
- Output Queues
- Network Resources
- System Status

Figure 6-1 shows the window (with the Active Jobs tab selected).

Figure 6-1: Java User Interface



Monitor Active Jobs

The Monitor Active Jobs display enables the operator to monitor the jobs on the AS/400 domain that are currently active.

From the Monitor Active Jobs window, the operator may perform the following actions on any active job in the window:

- View Job Attributes
- Hold
- Release
- End

Figure 6-1 (above) shows the Monitor Active Jobs window.

Manage Job Queues

The Manage Job Queues portion of the applet enables the operator to manipulate jobs in individual job queues. Through the use of OS/400 system APIs, an operator may “drill-down” to a specific queue listed on the window to complete a task on a specific job.

Figure 6-2 shows the Manage Job Queues window.

Figure 6-2: Manage Job Queue Window

Queue Name	Library	Jobs	Subsystem	Status
QBASE	QGPL	0	QBASE	RELEASED
QBATCH	QGPL	2	QBASE	RELEASED
QFNC	QGPL	0		RELEASED
QINTER	QGPL	0	QBASE	RELEASED
QPGMR	QGPL	0		RELEASED
QSNADS	QGPL	0		RELEASED
QSPL	QGPL	0	QSPL	RELEASED
Q536EVOKE	QGPL	0	QBASE	RELEASED
Q536MRT	QGPL	0	QBASE	RELEASED
QXTSRCH	QGPL	0		RELEASED
QZHBHTTP	QHTTSPVR	0		RELEASED
QIJSSCD	QIJS	0	QSYSWRK	RELEASED
QSVCDRCTR	QSVCDRCTR	0		RELEASED
QCTL	QSYS	0	QBASE	RELEASED
QESAUTON	QSYS	0	QSYSWRK	RELEASED
QLPINSTALL	QSYS	0		RELEASED
QNMSVQ	QSYS	0	QSYSWRK	RELEASED
QPDALTOPAR	QSYS	0	QSYSWRK	RELEASED
QPWFSEVER	QSYS	0	QSERVER	RELEASED
QSYSNOMAX	QSYS	0	QSYSWRK	RELEASED
QSYS5BSD	QSYS	0		RELEASED
QUSRNOMAX	QSYS	0	QUSWRK	RELEASED

From the Manage Job Queues window, the operator may perform the following actions on any job queue listed:

- Work With queue, displaying the jobs in the selected queue
- Hold
- Release

From a specific job queue the operator may performs the following actions on individual jobs:

- Display attributes
- Hold
- Release
- End

Manage Output Queues

The Manage Output Queues portion of the applet enables the operator to manage output queues and to manipulate the spool files contained within the output queues. Through the use of OS/400 system APIs, an operator can “drill-down” through a specific output queue to work with specific spool files.

Figure 6-3 shows the Manage Output Queue window.

Figure 6-3: Manage Output Queues

Queue Name	Library	Files	Writer	Status
EVCMD	EVIEW	1		RELEASED
EVHSTOQ	EVIEW	9		RELEASED
QDKT	QGPL	0		RELEASED
QPFROUTQ	QGPL	0		RELEASED
QPRINT	QGPL	60		RELEASED
QPRINT5	QGPL	0		RELEASED
QPRINT2	QGPL	0		RELEASED
QIJSOUTQ	QIJS	0		RELEASED
QSPRCLOUTQ	QRCL	0		RELEASED
QSVCDRCRTR	QSVCDRCRTR	0		RELEASED
QEZDEBUG	QUSRSYS	0		RELEASED
QEZJOBLOG	QUSRSYS	8		RELEASED
QTPPPOUTQ	QUSRSYS	0		RELEASED

Refresh Work With Hold Release

Last Refresh: 6/17/05 11:43 AM

Search in the sorted column

From the Manage Output Queues window the operator may perform the following actions on any output queue listed:

- Work With queue, displaying the spool files in the selected queue
- Hold
- Release

From a specific output queue the operator can perform the following tasks on individual spool files:

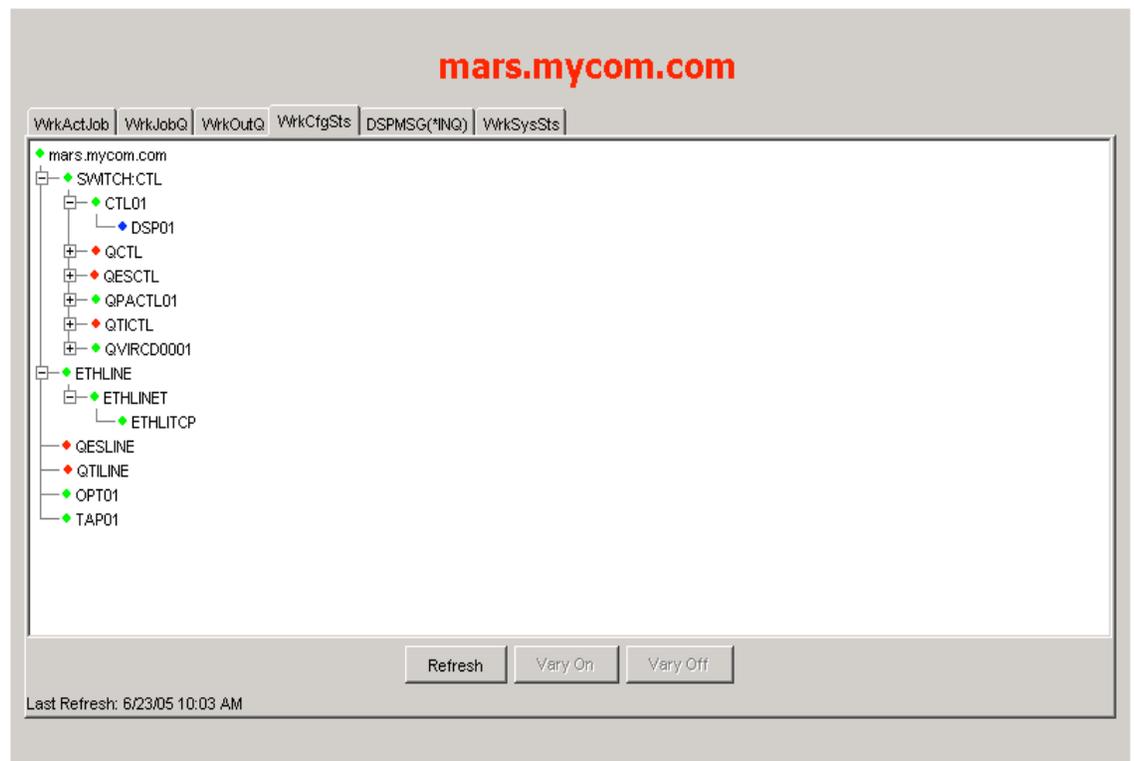
- Hold
- Release
- Delete

Monitor Network Resources

The Network Configuration Status portion of the applet allows the operator to view the status of the network resources attached to the AS/400.

Figure 6-4 shows the Configuration Status window

Figure 6-4: Network Configuration Status



From the Network Configuration Status window, the operator may take the following actions on the AS/400 network resources:

- Vary On
- Vary Off

Monitor System Status

The Monitor System Status portion of the applet allows the operator to see the operating system's status. Through the use of OS/400 system APIs, the operator can view such system status information as:

- CPU utilization
- Database capability
- Number of jobs in system
- Auxiliary storage

Figure 6-5 shows the Monitor System Status window.

Figure 6-5: Monitor System Status

WrkActJob	WrkJobQ	WrkOutQ	WrkCfgSts	DSPMSG(*INQ)	WrkSysSts
% CPU Used			7.4		-- Auxiliary Storage --
Elapsed Time			0:01:00		System ASP
Jobs In System			258		% System ASP Used
% Perm Addresses			0.00		Total Aux. Storage Used
% Temp Addresses			0.03		Current Unprotected Used
					Maximum Unprotected

Refresh Pools

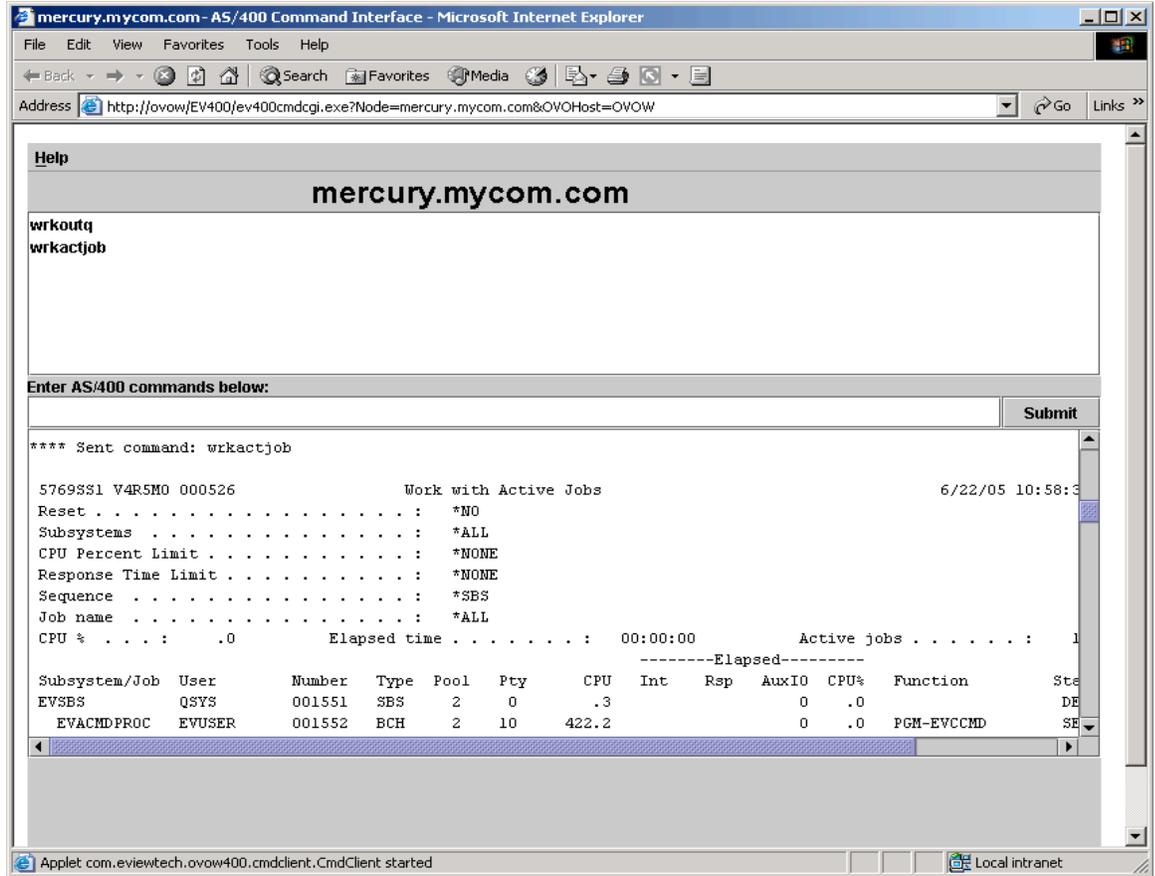
Last Refresh: 6/17/05 1:25 PM

From the Monitor System Status window, the operator is able to examine system pool information by clicking on the “Pools” button.

About the AS/400 Command Interface

The AS/400 Command Interface is a Java applet that is available to the OVOW console operator. It opens a direct connection to the EV/400 Command and Response Director on the OVOW management server, allowing native OS/400 commands to be entered and displaying the output of those commands.

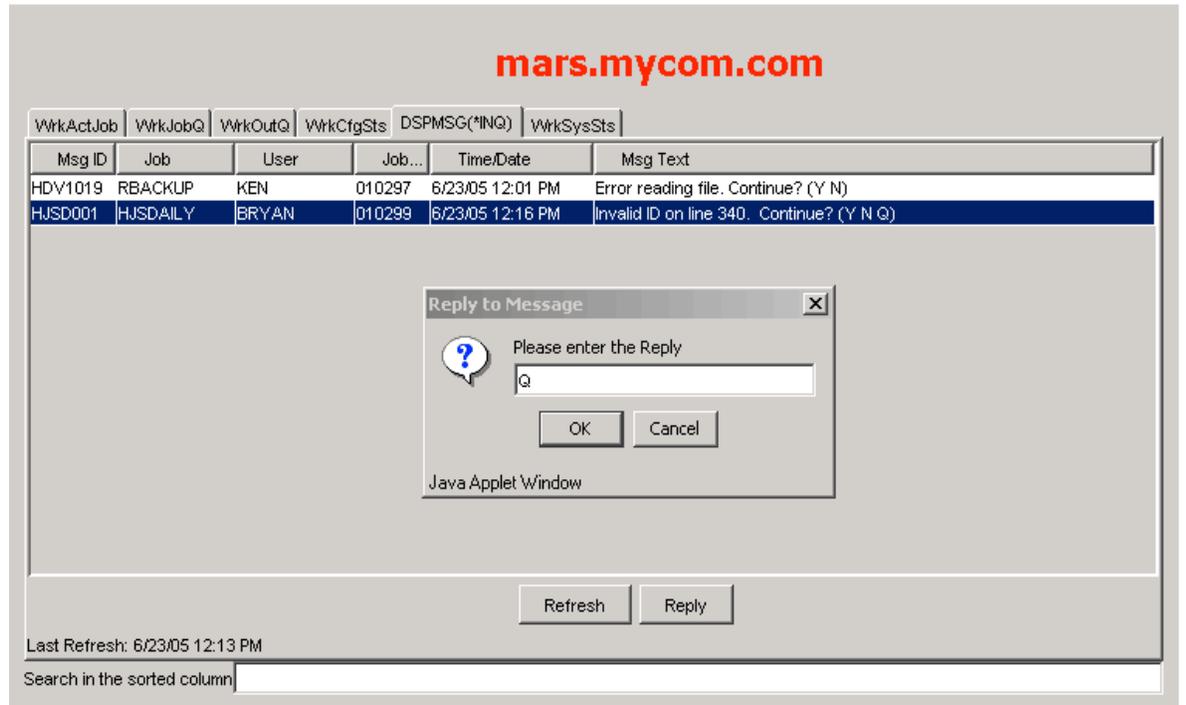
Figure 6-6: AS/400 Command Interface



About the AS/400 Reply Interface

The Reply to Inquiry Messages portion of the interface allows an operator to respond to messages needing a reply on the AS/400 managed nodes. The EV/400 agent can also be configured to send a confirmation message when a reply is received, so the original message can be acknowledged off of the active OVOW message browser.

Figure 6-7: AS/400 Reply Interface





EV/400 Integration into OVO Windows

This chapter displays sample windows from OVO Windows using EView/400 Management for OVO Windows (EV/400).

Types of OVOW Windows

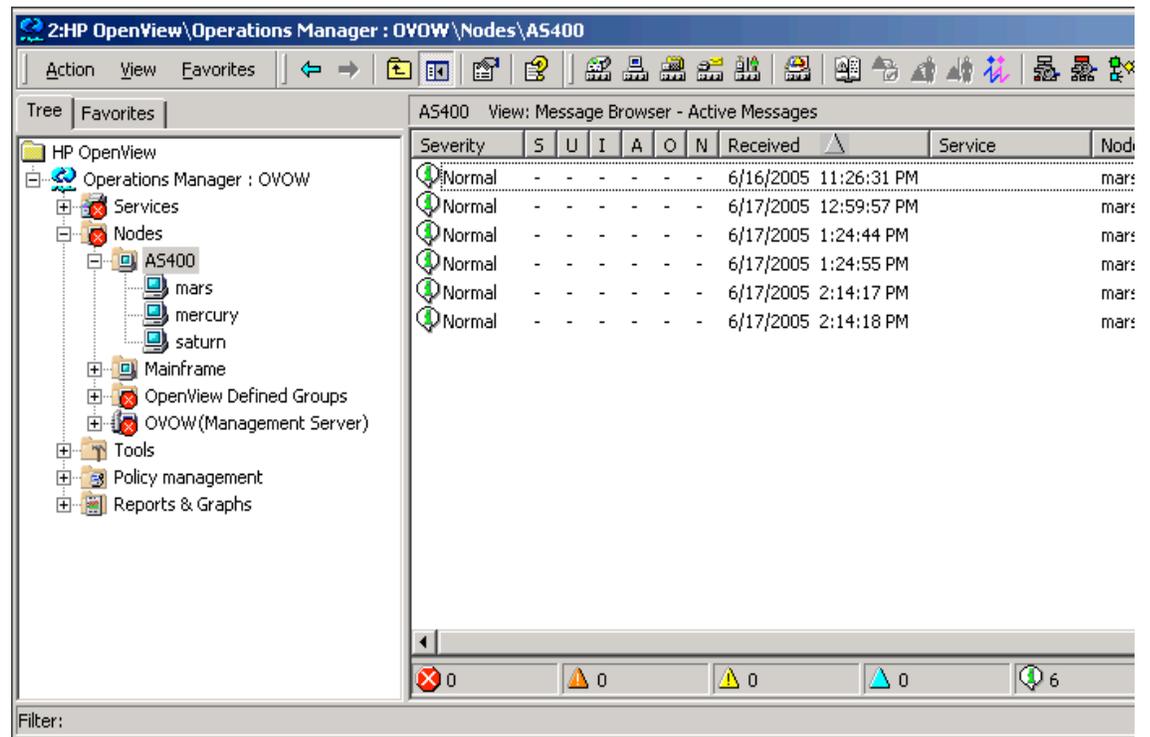
EV/400 adds functionality to the following OVOW areas:

- Nodes
- Tools
- Policy Management

About the Node Tree

EV/400 adds an “AS400” group to the OVOW Nodes subtree. All AS/400 managed nodes will appear under this group.

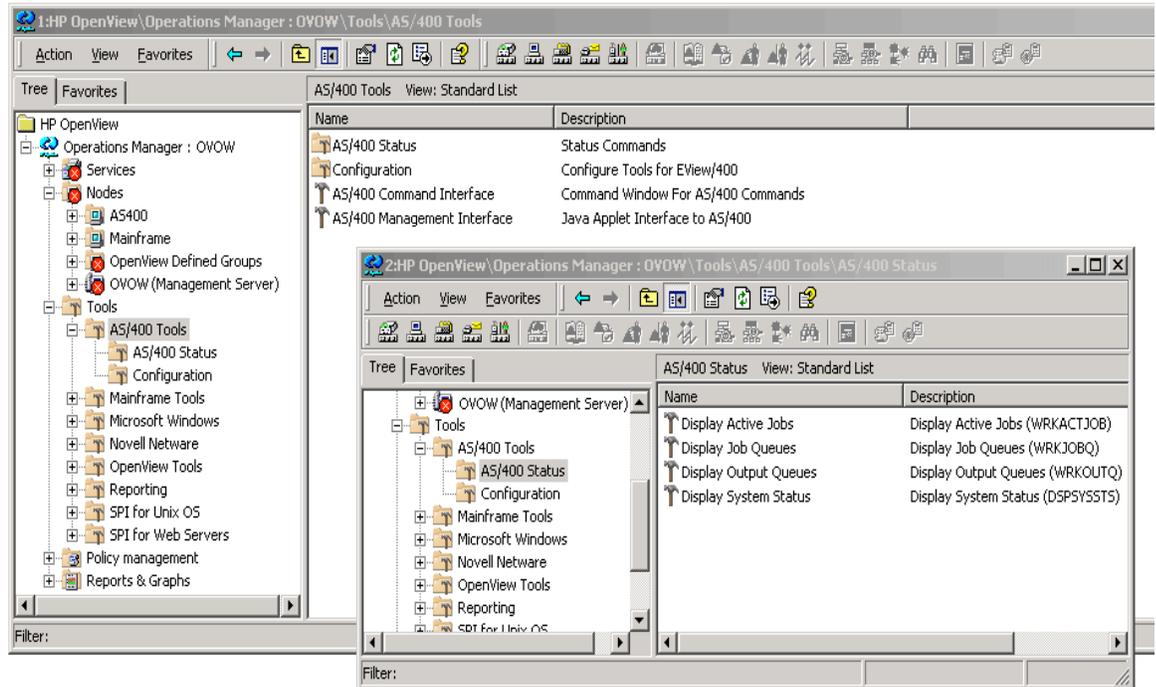
Figure 7-0-1: OVOW Nodes Subtree



About the Tools Tree

EV/400 adds an “AS/400 Tools” group to the OVOW Tools subtree. EV/400 provides a default set of tools to query AS/400 system status, launch the Java-based user interface, and start an interactive command window for issuing native OS/400 commands.

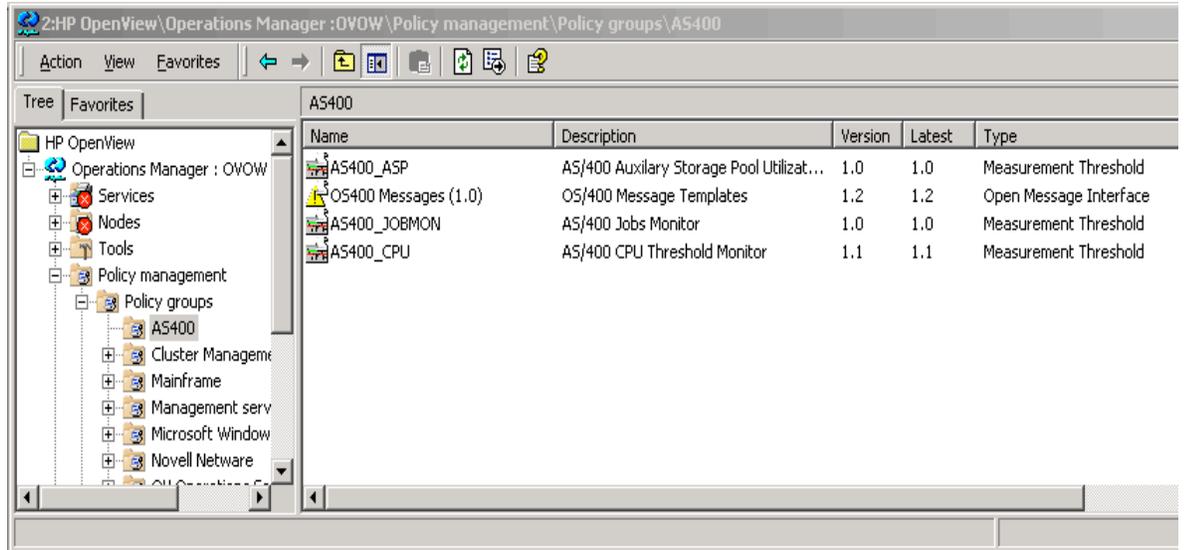
Figure 7-2: Tools Window



About Policy Management

EV/400 adds an “AS/400” policy group to OVOW with default system monitors and message processing rules for the AS/400. Many of the pre-defined message rules have pre-defined operator initiated commands.

Figure 7-3: OVOW Policy Management



Name	Description	Version	Latest	Type
AS400_ASP	AS/400 Auxiliary Storage Pool Utilizat...	1.0	1.0	Measurement Threshold
OS400 Messages (1.0)	OS/400 Message Templates	1.2	1.2	Open Message Interface
AS400_JOBMON	AS/400 Jobs Monitor	1.0	1.0	Measurement Threshold
AS400_CPU	AS/400 CPU Threshold Monitor	1.1	1.1	Measurement Threshold

Central processing unit

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.

GUI

Graphical user interface.

HP OpenView Windows

See OVOW.

IP

Internet Protocol

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.

Node

See Domain.

OpenView Windows

See OVOW.

OVOW

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.

TCP/IP

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.