### **HP OpenView Operations OS/400 Management**

### **Concepts Guide**

Software Version: A.05.60

**HP OpenView** 



Manufacturing Part Number: B9123-90014

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Table 1 indicates changes made to this document since the last released edition.

### **Table 1: Changes to This Document**

Date	Description

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### **Conventions**

The following typographical conventions are used in this manual.

Font	Meaning	Example		
Italic	Book or manual titles, and man page names	See the <i>EView/400 Management for OVO</i> <i>Windows</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 <b>monitor agent</b> 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		
Кеусар	Keyboard keys	Press <b>Return</b> .		
[Button]	Buttons on the user interface.	Click [Operator]. Click the [Apply] button.		

 Table 1: Typographical Conventions

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

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### **Documentation Map**

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

### **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

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### About OV OS/400

This chapter describes HP OpenView OS/400 Management (OV OS/400). It also provides a brief overview of its benefits, architecture, and data flow.

### What is OV OS/400?

HP OpenView OS400 Management (OV OS/400) integrates the AS/400(iSeries) system platform into HP OpenView Operations (OVO). With the addition of OV OS/400, OVO provides you with true end-to-end management of your information technology (IT) environment, from PCs to AS/400(iSeries) computers.

### What OV OS/400 Does

OV OS/400 is closely integrated into the OVO Management Server. The OV OS/400 Agent monitors the AS/400 system environment in order to capture system statistics and AS/400 and application messages that correlate to important events and critical situations. This data is then communicated to the OVO Management Server through the Transmission Control Protocol/Internet Protocol (TCP/IP).

### **Benefits of OV OS/400**

OV OS/400 provides you with the following benefits:

Health Monitoring for AS/400 Systems

Health monitors for AS/400 systems.

Consolidated Management View

Consolidated end-to-end management view, which gives you a business-centric perspective.

Automatic Problem Resolution

Provides two-way communication with the AS/400 systems to resolve problems quickly and automatically.

Multiple Connectivity

Allows more than one OVO Management Server to be connected to an OV OS/400 Agent simultaneously.

### About OV OS/400 Architecture and Data Flow

HP OpenView OS/400 Management (OV OS/400) employs a discovery process that detects all AS/400 communication lines, controllers, and device resources that composes the AS/400 environment. OV OS/400 continuously monitors the status of these AS/400 resources. Monitoring messages that are generated to QHST history log, QSYSOPR and other message queues provides additional system management. The message filtering functionality of OV OS/400 allows you to select the messages to be captured and transmitted to the OVO 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 OVO management servers provided by OV OS/400.



Figure 3-1: OV OS/400 Simplified Data Flow

### **Increasing Productivity**

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



### About the OV OS/400 Agent

This chapter describes the agent and agent components provided with HP OpenView Operations OS/400 Management (OV OS/400).

### What the OV OS/400 Agent Does

The OV OS/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 OVO Management Servers. The agent also collects system statistics and allows the operator to perform interactive processing on everyday tasks from the OVO Management Server without using the traditional AS/400 "green screen".

### **Processing AS/400 Messages**

The OV OS/400 Agent processes all messages that are generated by the operating system as well as any messages generated by system and software applications. The system administrator filters messages based primarily on message IDs configured. Any AS/400 message queue can be monitored to capture specific and/or general messages.

The OV OS/400 agent packages this message into a defined data structure, and then forwards them via Transmission Control Protocol/Internet Protocol (TCP/IP) for processing by the OVO server.

### **Interactive Capabilities**

The OV OS/400 Agent allows operators and/or system administrators to interactively manage the AS/400 Job Queues, Output Queues, and Active Jobs.

### **Job Queues**

Through the use of native OS/400 APIs the OV OS/400 Agent allows the system administrator and/or the operator to "drill-down" within specific job queues to manage and manipulate jobs. The system administrator and/or operator will be able to:

- Work With Job Queue, displaying all jobs on the queue
- Hold Job
- End Job
- Release Job

### **Output Queue**

The OV OS/400 Agent uses native OS/400 APIs to allow the system administrator and/or the operator to "drill-down" within specific output queues to manage and manipulate output queues and spool files. The system administrator and/or operator will be able to:

- Work With Output Queue, displaying all spool files on the queue
- Hold Output Queue
- Release Output Queue
- Hold Spool File
- Release Spool File

Delete Spool File

### **Active Jobs**

Through the use of native OS/400 APIs the OV OS/400 Agent allows the system administrator and/or the operator to drill down through active jobs to manage and manipulate specific active jobs. The system administrator and/or operator will be able to:

- Display Active Job Attributes
- Hold Active Job
- Release Active Job
- End Active Job

### **Components of the OV OS/400 Agent**

In OV OS/400 messages and statistics generated by the AS/400 are collected by the OV OS/400 agent tasks. They are then filtered, processed, and forwarded to the OV OS/400 Master Message Server component on the OVO server. The results will be displayed on the OVO Management Server.



Figure 4-1: OV OS/400 Data Flow

### About the OV OS/400 Subsystem

The OV OS/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 OV OS/400 Agent filters and routes messages from the AS/400 message queues, collects statistics, processes commands, and executes APIs from the OVO Management console operator. The results of each of these are then returned to the OVO Management Server console.

### About OV OS/400 Procedures

The OV OS/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 OVO Management Server.
- 4. Distinguishes between commands and API instructions then forwards to respective pre-defined data queue for processing.

#### **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 OVO Management 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.

### **EVSMSGPROC** Procedure

- 1. Receives messages from message queues 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

- 1. If the OV OS/400 Agent is configured to monitor QHST the following is executed:
- 2. Reads the QHST messages.
- 3. Messages are sent through the filtering process.
- 4. Forwards all matched messages to a pre-defined data queue.

### **EVSRSCPROC** Procedure

- 1. If the OV OS/400 Agent is configured to monitor resources, the following is executed:
- 2. Receives a list of configured lines, controllers, and devices.
- 3. Performs a continuous test based on configurable time intervals to determine the status of the resources.
- 4. Sends status messages to a pre-defined data queue.

### **EVSTCPPROC Procedure**

- 1. Allows a TCP/IP connection from the OV OS/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 OV OS/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 OV OS/400 Management Agent and the multiple OV OS/400 Management Servers.
- 4. Forwards processed results to the correct OV OS/400 Management Server.

### About OV OS/400 Server

This chapter describes the server components and process management provided by HP OpenView Operations OS/400 Management (OV OS/400).

### **About Server Components**

Figure 5-1 shows the OV OS/400 server components running alongside OVO on the Unix management server, and the data flow to the AS/400 agent.



#### Figure 5-1: OV OS/400 Data Flow

### **OV OS/400 Server Components**

For each AS/400 system monitored and controlled by OVO there are four server components:

#### Master Message Server (MMS)

The Master Message Server (MMS) is the primary server for OV OS/400 on the OVO management server. All incoming OV OS/400 data comes through the MMS and is then forwarded to the OVO agents, as well as the OV OS/400 Status Manager.

#### Command Server

The Command Server forwards OVO action requests to an AS/400 system for execution, then delivers the response back to OVO.

#### Status Manager

The Status Manager receives status messages generated by the AS/400 system. The Status Manager updates resource icons on the AS/400 submaps.

#### Resource Discovery

The OV OS/400 Resource Discovery process issues commands to the AS/400 system to detect resources, such as lines, controllers, and devices. Discovered resources are stored in the OpenView object database (ovwdb). These discovered resources are sent to the AS/400 Map Application. See Chapter 6 for more information about the Discovery process.

### **Additional Server Components**

### Starting Up and Shutting Down Servers (vp400sv)

To ensure that the OpenView software and the OV OS/400 components of the OVO management server start up and shut down in the appropriate sequence, the OV OS/400 process management program (vp400sv) is registered in the HP-UX or Solaris boot process. The vp400sv program may also be run from the command line at any time with parameters to start, stop, or check the status of the OV OS/400 processes for a particular AS/400 system. For specific instructions to start or stop the OV OS/400 servers see Phase 5 of the OV OS/400 Management Administrator's Reference.

### Adding an AS/400 to OVO (vp400configurator)

The vp400configurator is a GUI interface for adding and configuring AS/400 nodes and agents. The program adds a new AS/400 system to be monitored by OVO. After you enter some identifying information about the AS/400, the configuration program adds the AS/400 to the OVO Node Bank, and places it under the AS/400 node group. Specific instructions on adding an AS/400 node can be found in Phase 2 of the OV OS/400 Management Administrator's Reference.

### About the LLI Command Interface

The OV OS/400 Legacy Link Interface (vp400elli) runs as a process under OpenView. This process captures native OS/400 commands that have been entered as automatic actions or operator actions in the OVO message templates. vp400elli directs these commands to the appropriate OV OS/400 Command Server and returns the command output to OVO.

### **AS/400 Map Application**

The AS/400 Map Application builds a hierarchical map of AS/400 resources from database objects created by the Discovery process. The AS/400 Map Application creates icons to represent each object in the hierarchy. It then sets the status color of each object.

### **Discovering Network Resources**

This chapter describes how to discover AS/400 configuration topology and graphically display these resources and their status with HP OpenView Operations OS/400 Management (OV OS/400).

### **Discovering Network Topology**

OV OS/400 provides a discovery process for building a hierarchical map of AS/400 configured resources. Specific resource types are represented in the hierarchical map by different icons.

### **Initiating the Discovery Process**

The discovery process is initiated by the OVO administrator or authorized operator by dragging and dropping icons from the AS/400 Node Group to the Discovery application, which is located in the AS/400 Tools folder of the Application Bank.

### **Discovering Resources**

The Discovery application discovers all lines, controllers, and devices of a selected AS/400 domain.

### **Storing Information**

Information about discovered resources is maintained in the OpenView object database.

### **Displaying AS/400 Resources**

To provide a graphical hierarchical view of discovered resources, you can assign the AS/400 Map application, located in the AS/400 Tools application folder, to operators. The Status Manager monitors status changes, which it indicates with icons representing the resources on the AS/400 submap. Operators can select resource icons from the appropriate submap and use them to execute actions on the selected resources.

### About the OVO Root Window

The Discovery process adds an AS/400 icon to the Root window, which is the parent icon for all discovered AS/400 domains.

Figure 6-1 shows the OVO Root window following a discovery. Double-click on this icon to open the AS/400 Network Submap.



### Figure 6-1: OVO Root Window

### About the AS/400 Domain Submap

The OV OS/400 Network Submap contains an icon for each AS/400 defined and discovered by the OV OS/400 discover process.

Figure 6-2 shows the AS/400 Network Submap. Double-click on an AS/400 domain icon to open its Domain Submap.



### Figure 6-2: AS/400 Network Submap

### **About the Lines Submap**

The OV OS/400 Domain Submap displays the defined lines of the AS/400. It also displays any devices that do not have parent controllers, such as tape drives. Switched controllers that are not currently connected to a line are grouped together under the SWITCH: CTL icon.

Figure 6-3 shows the Lines submap. Double-click on any line to open its Controller Submap.

💒 mars.eview-tech.com.AS400 \_ 🗆 🗙 Edit Window Help Мар View Performance Fault Tools Options. 쓸껆 ----OPT01 SWITCH:CTL QESLINE QTILINE 00 TAP01 FTHI INF opc\_adm [Read-Write] [Auto-Layout] [Connection Labels Off]

Figure 6-3: AS/400 Lines Submap

### About the Controller Submap

The OV OS/400 Controller submap displays all known controller units discovered in the discovery process (see "Discovering Resources" on page 32).

Figure 6-4 shows the Controller submap.

Figure 6-4: AS/400 Controller Submap



### About the Device Submap

The OV OS/400 Device submap displays all known device units discovered in the discovery process. Figure 6-5 shows the Device submap.



Figure 6-5: AS/400 Device Submap

### **OV OS/400 Java User Interface Applet**

This chapter describes the Java User Interface provided with HP OpenView Operations OS/400 Management (OV OS/400).

### Managing Status with the Java User Interface

OV OS/400 integrates with the OpenView Java GUI window. The applet generated by OV OS/400 provides an interactive tool in which the operator can manage or manipulate the following:

- Job Queues
- Output Queues
- Active Jobs
- Outstanding Inquiry Messages
- Resource Status (Lines/Controllers/Devices)
- System Status

Figure 7-1 shows the window (with the Active Jobs tab selected).

### Figure 7-1: Java User Interface

😤 HP OpenView	Operations for UNIX [mcco	oy][opc_adm]									
File Edit View	Actions Window Help										
112 🕒	🙍 🔂 🕼 🏠		林= 👗 ち	<b>P 23 23</b> 10		제 집(	6	P100% ~ A	A 11.0 V	2	
Nodes	X Nedes	AS400 Java UI									- 8 🗙
INDIGES	🗉 🧾 HoldingArea	-									
mccoy	mars mccoy saturn Message Groups			1	mars.e	view-te	ch.com				
	🗉 🔯 Applications	WrkActJob	WrkJobQ WrkOutQ	WrkCfgSts DSPMSG(*	NQ) WrkSys	Sts	1	1			
satum	Elervices	Job Name	User	Job Number	Status	Туре	Subsystem	Run Priority	Function		
	Real Sectings	SCPF	QSYS	000000	EVTW	SCP		40		^	
		OSVSARB2	0SVS	004460	EVIDA	SVS		0			
		OSYSARB3	OSYS	004468	EVIN	SYS		0			
		QSYSARB4	QSYS	004469	EVTW	SYS		0			
		QSYSARB5	QSYS	004470	EVTW	SYS		0			
		QLUS	QSYS	004471	EVTW	SYS		0			
		QDBSRV01	QSYS	004473	EVTW	SYS		9			
		QDBSRV02	QSYS	004474	DEGWV	SYS		16			
		QDBSRV03	QSYS	004475	DEGWV	SYS	1997 - C	16		~	
Services		Last Refresh: Search in the s	177.ID5 1:47 PM orted column								
Filter Settings		Done									<u> </u>
URL Shortcuts		Message Dashboa	rd Services 🧔 Dia	gnostic Dashboard Co	rrective Action	s AS/400					
Severity Dup.	SUIAONE Time Received	Node Applicatio	n MsgGrp Object	)[			Mes	sage Text			
Normal	21:29:12 01/06/05 mars	eview-t OS400	OS QHST	CPF1164 JOB 004972	QPGMR/QCLNS	SYSLOG ENDED O	ON 01/06/05 AT 21:0	4:36; 6 SECONDS US	ED; END CODE 0		^
Normal	21:28:43 01/06/05 mars	.eview-t OS400	OS QHST	CPF1164 JOB 004971.	QPGMR/QCLNS	SYSPRT ENDED O	N 01/06/05 AT 21:04	:06; 1 SECONDS US	ED; END CODE 0		
Normal	21:28:39 01/06/05 mars	.eview-t OS400	OS QHST	CPF1164 JOB 004970	QPGMR/QCLNS	SYSMSG ENDED (	ON 01/06/05 AT 21:0	3:56; 1 SECONDS US	SED; END CODE 0		
Normal	21:28:39 01/06/05 mars	eview-t OS400	OS QHST	CPF1164 JOB 004974.	QPGMR/QCLNL	ISRPGM ENDED C	DN 01/06/05 AT 21:0	3:56; 1 SECONDS US	ED; END CODE 0		
Normal	21:28:39 01/06/05 mars	eview-t OS400	OS QHST	CPF1164 JOB 004973	QPGMR/QCLNC	ALITM ENDED OF	N 01/06/05 AT 21:03:	59; 1 SECONDS USE	D; END CODE U		
Normal	21:28:39 UT/U6/U5 mars	eview-t OS400	OS QHST	CPF1164 JOB 004969.	QPGMR/QCLNU	USRMSG ENDED C	DN 01/06/05 AT 21:0	EUT; 1 SECONDS US	ED; END CODE U		TO OVERTEN ON OF DEALS
Normal	21:28:38 01/06/05 mars	eview t OS400	OS OHST	CPF1124 JOB 004971.	OPOMIC/GCLINE ODCMP/OCLINE	VSLOG STARTE	D ON 01/06/05 AT 21	03-53 IN SUBSVET	EM OBASE IN OST	VS IOB ENTER	RED SYSTEM ON 01 0605
Normal	21:28:38 01/06/05 mars	eview-t OS400	OS OHST	CPF1124 JOB 004973	OPGMR/QCLNC	ALITM STARTED	ON 01/06/05 AT 21:	13:54 IN SUBSYSTE	M QBASE IN QSY	S JOB ENTER	ED SYSTEM ON 01/06/05 A
Normal	21:28:38 01/06/05 mars	eview-t OS400	OS OHST	CPF1124 JOB 004974	OPGMR/QCLNL	ISRPGM STARTE	D ON 01/06/05 AT 21	103:54 IN SUBSYST	M QBASE IN QS'	VS JOB ENTER	RED SYSTEM ON 01/06/05
Normal	21:28:30 01/06/05 mars	eview-t OS400	OS QHST	CPF1124 JOB 004969.	QPGMR/QCLNL	ISRMSG STARTE	D ON 01/06/05 AT 21	:03:53 IN SUBSYST	EM QBASE IN QS	YS. JOB ENTE	RED SYSTEM ON 01/06/05
Rinemal	24-20-20 04 MEME wave	00120 1000	OC OUST	CDE1104 IOP 004070		WOMOO CTADTE	DOM NEWS AT D	1-09-29 IN CLIDEVCT			DED EVETEM ON DI DEDE
<u>&lt;</u>				_							>
194 of 6		182 0	0	0	ock						
All Active Mess	sages										
Ready									E	Browser displa	ays max 2,000 messages. 🎱 🍑

### **Monitor Active Jobs**

The Monitor Active Jobs display enables the operator to monitor the jobs on the AS/400 domain that are currently active. This process measures system performance by measuring aspects such as CPU usage and response time.

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 7-2 shows the Monitor Active Jobs window

### Figure 7-2: Monitor Active Jobs Window

🔹 OVO VP400 J	ava(tm) Interfac	e					
			mars	.eview-teo	:h.com		
WrkActJob WrkJ	JobQ WrkOutQ W	rkCfgSts DSPMSG(*INQ)	WrkSysSts				
Job Name	User	Job Number	Status	Туре	Subsystem	Run Priority	Function
SCPF	QSYS	000000	EVTW	SCP		40	~
QSYSARB	QSYS	004466	EVTW	SYS		0	
QSYSARB2	QSYS	004467	EVTW	SYS		0	
QSYSARB3	QSYS	004468	EVTW	SYS		0	
QSYSARB4	QSYS	004469	EVTW	SYS		0	
QSYSARB5	QSYS	004470	EVTW	SYS		0	
QLUS	QSYS	004471	EVTW	SYS		0	
QDBSRV01	QSYS	004473	EVTW	SYS		9	
QDBSRV02	QSYS	004474	DEQW	SYS		16	
QDBSRV03	QSYS	004475	DEQW	SYS		16	
QDBSRV04	QSYS	004476	DEQW	SYS		52	
QDBSRV05	QSYS	004477	DEQW	SYS		52	
QDCPOBJ1	QSYS	004478	EVTW	SYS		60	
QDCPOBJ2	QSYS	004479	EVTW	SYS		60	
QPFRADJ	QSYS	004480	EVTW	SYS		0	
QSPLMAINT	QSYS	004481	EVTW	SYS		20	
QJOBSCD	QSYS	004482	EVTW	SYS		0	
QALERT	QSYS	004483	DEQW	SYS		20	
QLUR	QSYS	004484	EVTW	SYS		0	
QFILESYS1	QSYS	004485	TIMM	SYS		0	~
00000.000	0000		DEOLA	01/0	100	•	
		Refresh	ttributes N	lessages Hold	Release	End	
Last Refresh: 1/7/0	5 1:48 PM						
Search in the sorted	d column						

### 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 in order to complete a task on a specific job.

Figure 7-3 shows the Manage Job Queues window.

#### Figure 7-3: Manage Job Queue Window

		mars.evi	ew-tech.com		
WrkActJob WrkJobQ	WrkOutQ WrkCfgSts DSPMS	G(*INQ) WrkSysSts			
Queue Name	Library	Jobs	Subsystem	Status	1
TXTSRCH	QGPL	0		RELEASED	
ZHBHTTP	QHTTPSVR	0		RELEASED	
IJSSCD	QIJS	0	QSYSWRK	RELEASED	
SVCDRCTR	QSVCDRCTR	0		RELEASED	
ICTL	QSYS	0	QBASE	RELEASED	
ESAUTON	QSYS	0	QSYSWRK	RELEASED	
LPINSTALL	QSYS	0		RELEASED	
NMSVQ	QSYS	0	QSYSWRK	RELEASED	
PDAUTOPAR	QSYS	0	QSYSWRK	RELEASED	
PWFSERVER	QSYS	0	QSERVER	RELEASED	
SYSNOMAX	QSYS	0	QSYSWRK	RELEASED	
SYSSBSD	QSYS	0		RELEASED	
USRNOMAX	QSYS	0	QUSRWRK	RELEASED	
1PSCHQ	QSYS	0	QSYSWRK	RELEASED	
1PSCHQ2	QSYS	0	QSYSWRK	RELEASED	
1PSCHQ3	QSYS	0	QSYSWRK	RELEASED	
ESAUTON	QSYS2924	0		RELEASED	
PDAUTOPAR	QSYS2924	0		RELEASED	
1PSCHQ	QSYS2924	0		RELEASED	
1PSCHQ2	QSYS2924	0		RELEASED	
1PSCHQ3	QSYS2924	0		RELEASED	
		Refresh Mork Mith	Hold		
		Refresh Work With	Hold Release		

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

- 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 7-4 shows the Manage Output Queue window.

#### Figure 7-4: Manage Output Queues

		mars.eviev	w-tech.com		
WrkActJob WrkJobQ	WrkOutQ WrkCfgSts DSPMSG	(*INQ) WrkSysSts			
Queue Name	Library	Files	Writer	Status	
EVCMD	EVIEW	2		RELEASED	
EVHSTOQ	EVIEW	1080		RELEASED	
EVTRACE	EVIEW	36		RELEASED	
EVCMD	EVIEW5	0		RELEASED	
VHSTOQ	EVIEW5	0		RELEASED	
VTRACE	EVIEWS	0		RELEASED	
VCMD	EVIEWSGOLD	0		RELEASED	
VHSTOQ	EVIEWSGOLD	0		RELEASED	
VTRACE	EVIEWSGOLD	0		RELEASED	
DKT	QGPL	0		RELEASED	
PFROUTQ	QGPL	0		RELEASED	
PRINT	QGPL	234		RELEASED	
PRINTS	QGPL	0		RELEASED	
PRINT2	QGPL	0		RELEASED	
USOUTQ	QIJS	0		RELEASED	
SPRCLOUTQ	QRCL	0		RELEASED	
SCAPAROQ	QSC5156215	0		RELEASED	
SVCDRCTR	QSVCDRCTR	0		RELEASED	
EZDEBUG	QUSRSYS	0		RELEASED	
EZJOBLOG	QUSRSYS	109		RELEASED	
TPPPOLITQ	QUSRSYS	0		RELEASED	
		Refresh Work With	Hold		

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

- 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 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 7-5 shows the Monitor System Status window.

### Figure 7-5: Monitor Active Jobs Window

👙 OVO VP400 Java(tm) Int	terface			
OVO VP400 Java(tm) Int WrkActJob WrkJobQ WrkOu % CPU Used Elapsed Time Jobs In System % Perm Addresses % Temp Addresses	terface ta WyrkCfgSts DSPMSG(*INQ) 3.3 0:01:01 484 0.00 0.01	mars.eview-tech.com WrkSysSts Auxiliary Storage System ASP % System ASP Used Total Aux. Storage Used Current Unprotected Used Maximum Unprotected	17549 M 67.40 17549 M 2788 M 2788 M	
Last Refresh: 1/7/05 1:55 PM		Refresh Pools		

From the Monitor System Status applet the operator is able to examine system pool information by clicking on the "Pools" button.

### **Monitor Resource Status**

The Monitor Resource Status allows the operator to see the status of lines, controllers, and devices. The operator is able to select resources and change the status of the resource as required.

Figure 7-6 shows the Monitor Resource Status window.

#### **Figure 7-6 Monitor Resource Status**

	mars.	eview-te	ch.com	1
WrkActJob WrkJobQ WrkOutQ	WrkCfgSts	DSPMSG(*INQ)	WrkSysSts	
<ul> <li>mars.eview-tech.com</li> <li>SWITCH:CTL</li> <li>CTL01</li> <li>QCTL</li> <li>QESCTL</li> <li>QPACTL01</li> <li>QPADEV0003</li> <li>QPADEV0004</li> </ul>				
act Refrech: 2/22/05 2:16 PM	Refresh	Vary On V	ary Off	

### **Monitor Inquiry Messages**

The Monitor Inquiry Messages allows the operator to see outstanding inquiry messages (messages needing a reply) from the QSYSOPR message queue. The operator may also select messages from the list of messages and enter a reply for the message.

Figure 7-7 shows the Monitor Inquiry Messages window.

#### **Figure 7-7 Monitor Inquiry Messages**

mars.eview-tech.com											
WrkActJob WrkJobQ	WrkOutQ Wi	rkCfgSts	DSPMSG(*INQ)	WrkSysSts							
Msg Job	User	Jo	Time/Date	Msg Tex	d 🛛						
CPA4086 QPADEV000	CHIP	005969	2/22/05 4:09 PM	DEVICE TA	P01 WAS NOT READY O						
Refresh Reply											
Last Refresh: 2/22/05 4	:10 PM										
Search in the sorted col	umn										



### **OV OS/400 Motif User Interface**

This chapter describes the windows provided with HP OpenView Operations OS/400 Management (OV OS/400).

### **Types of OVO Windows**

OV OS/400 integrates with the following OVO windows:

- Root
- Node Bank
- Application Bank
- AS/400 Tools
- Message Browser
- Message Detail

Figure 8-1 shows how you can use these windows for a consolidated end-to-end management view of application system messages across your AS/400 system environment.

### Figure 8-1: Consolidated View of Application and System Messages

- autorized to success the set		and the day of the second to design a	
🐏 OVO Node Bank		Application Group: AS400 Tools (A.05.00)	
Map Actions Edit View Window	Help	Map Actions Edit View Window	<u>F</u>
	0		
	H Option		
frodo	mars riker	AS400 Commands AS400 Discovery	AS400 Map
		1	
🐼 Message Browser [opc_adm on riker			<b>_ _ X</b>
Browser Actions View Window			Help
Sev. Dup.       SUIAONE Date         Norm       02/17/05         Maj       02/17/05         Norm       -02/17/05         Norm       -02/17/05         Norm       02/18/05         Norm       02/18/05         Norm       -02/18/05         Norm       02/18/05         Norm       02/18/05         Norm       02/18/05         Norm       02/21/05         Norm       02/21/05	Time         Node         Application           13:32:08         mercury.ev         08400           16:33:06         sarek.evie         05/390           22:04:00         mars.eview         08400           00:26:12         sarek.evie         05/390           00:26:26         sarek.evie         05/390           00:26:26         sarek.evie         05/390           10:08:04         mercury.ev         05400           21:02:13         mars.eview         08400           22:04:09         mars.eview         08400           22:04:11         mars.eview         08400	n MsgGroup Object Message Text OS QHST CPF1164 Job 002087/ Performan CPU CPU Utilization - 9 OS QSYSOPR CPI1E23 CLEANUP HAS OS sarek.evi IEE114I 00.21.47 2 OS sarek.evi IEE114I 00.22.01 2 OS OS OS OS OS OS OS OS OS OS	KENNY/QPADEV0003 en 12.40 exceedes thres STARTED. 1005.049 ACTIVITY 42 1005.049 ACTI
0 1 0 1 12 1 0 0 0 1 1	0 0 Activ Highlight Details	re Messages	SNMP SSP

### About the Root Window

The Root window holds the AS/400 object icon. By drilling down through this AS/400 icon the system administrator and/or operator can display the AS/400s that are being monitored and their discovered resources.

Figure 7-2 shows the Root Window

Figure 7-2: Root Window



### About the Node Bank Window

The Node Bank window shows all nodes for which an individual OVO operator is responsible. It also provides an overview of node hierarchies for larger message environments. Like the Message Browser window the Node Bank window provides color-coded status information.

Figure 8-3 shows a Node Bank window with AS/400 systems seamlessly integrated into it.

### Figure 8-3: Node Bank Window



### **About the Application Bank**

The Application Bank window holds the AS/400 Tools icon. When the AS/400 Tools window is opened the system administrator and/or operator is presented with various options in order to manage and maintain the OV OS/400 Agent.

Figure 8-4 shows the Application Bank window.

Figure 8-4: Application Bank Window



### About the AS/400 Tools Window

The AS/400 Tools window holds the icons that an operator will use in order to manage and maintain the AS/400.

Figure 8-5 shows the AS/400 Tools window.

Figure 8-5: AS/400 Tools Window



### About the Message Browser Window

The Message Browser window is a central information component of HP OpenView Operations (OVO). This window lists all events for which an individual OVO operator is responsible. It is also a point of control for all operator actions.

Figure 8-6 shows a Message Browser window with AS/400 messages delivered by OV OS/400.

Figure 8-6: Message Browser Window

Message	Browser [	opc_a	dm on riker	.eview-tech.	com]					
Browser	Actions	View	Window							Help
Sev. Dup	. SUIAC	NE D	ate	Time	Node	Application	MsgGroup	Object	Message Text	
Norm		0	2/17/05	13:32:08	mercury.ev	0\$400	OS	OHST	CPF1164 Job 002087/KENNY/OPADEV0003 ended on 02/17/05 at 13:29:1	2:
Maj		0	2/17/05	16:33:06	sarek.evie	OS/390	Performan	CPU	CPU Utilization - 92.40 exceedes threshold of 90.00	
Norm		0	2/17/05	22:04:00	mars.eview	OS400	OS	QSYSOPR	CPI1E23 CLEANUP HAS STARTED.	
Norm		0	2/18/05	00:26:12	sarek.evie	OS/390	OS	sarek.evi	IEE1141 00.21.47 2005.049 ACTIVITY 422 JOBS M/S TS US	IRS
Norm		0	2/18/05	00:26:26	sarek.evie	OS/390	OS	sarek.evi	IEE114I 00.22.01 2005.049 ACTIVITY 424 JOBS M/S TS US	IRS
Norm		0	2/18/05	10:08:04	mercury.ev	OS400	OS	QHST	CPF1124 Job 002096/CHIP/QPADEV0003 started on 02/18/05 at 10:05	07
Warn		0	2/18/05	21:02:13	mars.eview	OS400	OS	QSYSOPR	CPI2417 JOB MESSAGE QUEUE FOR 005933/EVUSER/EVSHSTPROC HAS BEEN	WR
Norm		0	2/21/05	22:04:05	mars.eview	OS400	OS	QSYSOPR	CPI1E23 CLEANUP HAS STARTED.	
Norm		0	2/21/05	22:04:09	mars.eview	os400	OS	QSYSOPR	CPI1E82 CLEANUP OF USER MESSAGES STARTED.	
Norm		0	2/21/05	22:04:11	mars.eview	OS400	OS	QSYSOPR	CPI1E84 CLEANUP OF OPERATOR AND WORK STATION MESSAGES STARTED.	
Norm		0	2/21/05	22:04:11	mars.eview	os400	OS	QSYSOPR	CPI1E88 CLEANUP OF OFFICEVISION/400 CALENDAR ITEMS STARTED.	
Norm		0	2/21/05	22:04:11	mars.eview	OS400	OS	QSYSOPR	CPI1E91 USER CLEANUP PROGRAM STARTED.	
Norm		0	2/21/05	22:04:11	mars.eview	OS400	OS	QSYSOPR	CPI1E92 USER CLEANUP PROGRAM SUCCESSFULLY COMPLETED.	
Norm		0	2/21/05	22:04:11	mars.eview	OS400	OS	QSYSOPR	CPI1E93 CLEANUP OF JOB LOGS AND OTHER SYSTEM OUTPUT STARTED.	
										H
51			1							Del
post										
0	1 0		1 12	0	0 (	) Active	Messages		Autoscro.	lOn
	O∞n			Hig	hlight		Details		Perform Action Acknowledge	

### About the Message Detail Window

The Message Detail window shows detailed information about all message attributes. It also provides full access to all actions, annotations, escalations, and other activities associate with application and system messages.

Figure 8-7 shows a Message Detail window for an AS/400 message received through OV OS/400.

Figure 8-7: Message Detail Window

📓 Message Details 📃 🗖 🗙												
Node	mars.eview-tech.com			Severity Normal								
Application	jos400			ervice Name								
Message Group	jos			Aessage Key								
Object	ŽSYSOPR			Aessage Type	New York Control of Co							
Source	Message:OS400 Message			'ime First Created on I	5 22:0	4:09						
Annotations	þ			Time First Received on Mgmt. Server 02/21/05					22:04:11			
Attributes	I			Number of Duplicates								
Message ID	[6bd90668-84	17e-71d9-1c	П	'ime Last Received on	Mgmt. Server	e e	D2/21/05 22:04:11					
Forwarding Manager	1			)wned by	at							
Message Text	Message Text											
CPI1E93 CLEANUP	OF JOB LOGS	AND OTHER SY	STE	M OUTPUT START	ED.							
5												
Actions												
	Status Node			Command	Anno.	Ackn.						
Automatic	1	I		I				No	No			
Operator Initiated	erator Initiated I			×.	Ňo	Ňo						
Notification	I											
Trouble Ticket	No								Ňo			
Escalations												
Escalated to	I	by	Ĭ		at [							
Show Original Message Own Modify												
Close	Highligh	ıt 🖉	Annota	ations	Acknowledg	e	H	Ielp				



User generated messages with no message ID will be assigned a generic ID of "EVM99999".



### **OV OS/400 Performance Data Collection**

This chapter describes performance data collection with OV OS/400.

### **About Performance Data Collection**

The OV OS/400 product provides the ability to configure performance data collection for AS/400 managed nodes. Two different sets of performance data are available for collection by the agent. Collected data is forwarded to the OVO management server where it is stored in the local OVO agent performance data store (CODA subagent), or if the OpenView Performance Agent (OVPA) is installed it will be stored by OVPA.

Collected data may be displayed using the OpenView Performance Manager (OVPM) or can also be extracted and stored in other databases such as the OpenView Reporter database.

The following figures show examples of AS/400 performance data displayed using OpenView Performance Manager.

Figure 9-1 CPU Utilization Graph



### Figure 9-2 Disk Utilization Graph



## Glossary

#### 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 drive

See DASD.

#### disk pack

See DASD.

### domain

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

#### Export

The command used to set environment variable in ksh shell.

#### GUI

Graphical user interface.

#### **HP OpenView Windows**

See OVW.

### IP

Internet Protocol

### **IPA**

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.

#### **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 provide 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.

#### setenv

The command used to set environment variables in C shell.

#### **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 communications protocols that supports peerto-peer connectivity functions for both local and wide area networks.

#### **Transmission Control Protocol**

See TCP.

#### **Transmission Control Protocol/Internet Protocol**

See TCP/IP.

#### Vp400addagt

Adds a new AS/400 node to be monitored by OVO.