Integrating HP OMU for Unix

Overview

Enterprise Scheduler provides complete visibility to your production workload and allows you to handle exceptions, as needed. Job or system level events are defined to handle these exceptions. Each event can trigger one or more actions when Enterprise Scheduler detects the event condition. Using the HP OMU module, you can specify actions that send messages to HP OMU. These messages are displayed to the responsible HP OMU operator, and contain information including the severity, data, time, node, Enterprise Scheduler event ID, and a brief description of the problem. Some messages also contain a predefined operator-initiated action, that allow the operator to respond to the event with just a few mouse clicks.

Configuring Enterprise Scheduler for HP OMU is the last step in the installation of the HP OMU module. This multi-part step should not be taken until the previous chapter's procedures have been completed successfully.

Actions, Job Events and System Events

An action is a task or notification automatically performed by Enterprise Scheduler in response to an event trigger that occurs for a specific job, job group, or system event. Actions are linked to a job or system event through the Job Event Definition and System Event Definition dialogs.

A job event connects job event triggers to actions. For the HP OMU integration, you must create a job event that sends a message to HP OMU. For example, if any of your jobs complete with a Completed Abnormally status, that event can trigger an HP ITO action to send a message to HP OMU, alerting the operator to the situation.

System events allow you assign actions to events generated by the Enterprise Scheduler master. For example, you can send a message to HP OMU any time the master is shut down. System events are useful for notification of conditions with global, or system-wide effects.

Creating an Action

To create an action to be used by this integration:

Step 1 From the Navigator pane, select **Definitions > Actions > HP VP** to display the HP VP pane.

Step 2 Right-click in the HP VP pane and choose **Add Action** from the context menu to display the Action Definition: HP VP Operations dialog box.

An HP ITO action sends a message to the HP OMU Management Server when the associated job or system event occurs.

Step 3 In the **Action Name** field, enter a name for this action (up to 30 characters). The name must be unique.

Step 4 From the **Owner** list, select an owner for the action. The default owner of the action is the creator.

Step 5 From the **Severity** list, select the severity level for the HP OMU message. You can choose Critical, Major, Minor, Warning or Normal. See "OMU Severity Levels" on page 6 for more information about choosing the appropriate severity level.

Step 6 In the **Message** field, enter the descriptive text for your message, which will appear in the HP OMU Message Browser. To include variables (such as Job Occurrence ID or Queue Name) in the **Message** field, select the desired value from the **Variables** list at the bottom of the Action Definition: HP VP dialog box.

Step 7 To enter a description or other notes for your action, select the **Description** tab, and enter your description.

Step 8 Click **OK** to close the definition of the action.

Step 9 Repeat this procedure for each action that you need to create.

Creating a Job Event

To create a job event:

Step 1 On the Navigator pane, select **Definitions > Job Events** from the left pane to display the Job Events pane.

Step 2 Right-click in the right pane and select **Add Event** from the context menu to display the Job Event Definition dialog box.

Step 3 Enter a name for this event in the **Job Event Name** field (up to 30 characters).

Step 4 Select an event trigger from the **Event Trigger** list. The list of event triggers is a pre-defined list of events.

Step 5 The default owner of the event is the creator, but you can select a different owner from the Owner list.

Step 6 Select one of the actions, displayed in the **Available Action(s)** field and click the **left arrow** button to move it to the **Selected Action(s)** field.

Step 7 Click the **Associated Job(s)** tab.

Step 8 Select the Enterprise Scheduler job to be monitored for this event from the list or click the **Browse** button to browse for a job. If you have not yet created the desired job, or later wish to associate this event with a new job, you can also select associated events from Job Events tab in the Job Definition dialog box.

Step 9 Click the **Description** tab to enter descriptive information about this job event.

Step 10 Click **OK** to complete the definition of the job event.

Step 11 Repeat this procedure for each job event that you need.

Now, whenever one of the jobs you selected in the **Associated Job(s)** field meets the condition defined in the Event Trigger list, a message is sent to HP OMU with the description and severity specified for that associated action.

Creating a System Event

To create a system event:

Step 1   From the Navigator pane, select **Definitions > System Events** to display the System Events pane.

Step 2   Right-click in the System Events pane and select **Add Event** from the context menu to display the System Event Definition dialog.

Step 3   In the **System Event Name** field, enter a name (up to 30 characters).

Step 4   From the **Event Trigger** list, select an event trigger.

Step 5   From the **Owner** list, select the owner of the event. The default owner of the event is the creator.

Step 6   In the **Available Action(s)** field, select one of the actions and click the **left arrow** button to move the action to the **Selected Action(s)** field.

Step 7   Click the **Description** tab to enter any descriptive information about this system event.

Step 8   Click **OK** to complete the system event definition.

Step 9   Repeat this procedure for each system event that you need.

Now, whenever the condition selected in the Event Trigger list is met, a message is sent to HP OMU with the description and severity specified for that associated action.

Monitoring Enterprise Scheduler with HP OMU

Starting the HP OMU Message Browser

To see the HP OMU message browser:

Step 1   Log into the Java GUI using the login and password provided to you by your OMU Admin.

The content of the message text depends partly on what you entered in the Message field of the Action Definition dialog for the action that sent the message.

Step 2   To see the details of a message, double-click it or select the message and click **Properties**.

The Message Properties dialog box displays the following:

- the node where the message originated
- the specific application that generated the message
- date and time
- severity level of the message
- template whose condition generated the message
- actual command that would be executed if the operator clicked the **Perform** button located on the Actions tab

The HP OMU Integration Adapter has pre-configured several operator-initiated actions for appropriate events. For example, in the Message Properties dialog box above:

- A job is associated with the Job waiting for operator release event trigger.
- The Job waiting for operator release event trigger is associated with an HP ITO action for this job.
- When the job reaches the status of Job waiting for operator release, a message is sent to HP OMU, as configured.
- The HP OMU operator views the message in the Message Browser.

If the HP OMU operator clicks **Perform** in the Actions tab for that message, the job is released.

Performing Tasks

In addition to the Perform button associated with messages, the HP OMU Integration Adapter provides HP OMU Tools in the form of icons/links on the HP OMU Tool Bank window. The operator can use these tools to perform common tasks from the HP HP OMU Java GUI, typically in response to messages received.

With supplied HP OMU Tools, the operator can:

- Start, stop, or get the status of Windows agents
- Pause and resume the master production schedule
- Compile the master production schedule
- Get a list of alerts
- Get a list of job occurrences
- Perform most job control functions such as run, hold, release, cancel, remove, rerun, or set the status of a job.

Note All HP OMU tools require the operator to select a node in the HP OMU Node Bank prior to execution. The task is then executed on the selected node. Many of these tools, and the job control functions in particular, also require the operator to enter arguments at run time. For example, to release a job, the operator must enter the job-occurrence-ID (job run ID) for the job that they wish to release. The instructions for doing this are included in the example below.

Using the HP OMU Applications

To use the HP OMU Tools:

Step 1 Launch the Java GUI and log in using the login and password provided to you by your OMU Admin.

Step 2 Right-click the node, then select **Start** or **Start Customized** from the context menu depending on whether the Tool that you want to run requires additional parameters. The Start Tool Wizard displays.

Note This procedure contains an example of a tool that requires additional parameter to run.

Step 3 In this example, to release a job (which is a job control function), open the Unix Master Jobs as show below.

Step 4   Click **Next** to display the Rerun Job panel.

Step 5   Specify the additional parameters.

The master_id must match the name that is configured in the master.props file. Additionally, the job occurrence_id is the job run id.

Step 6   Click **Finish**.

OMU Severity Levels

The following table contains the possible message severities in OMU, their corresponding colors, and meanings.

Table 3-1   HP OMU Severity Levels

Level	Color	Meaning
Critical	Red	Indicates a severe problem, requiring immediate corrective action. Service is unavailable.
Major	Orange	Indicates a significant problem. Service is degraded
Minor	Yellow	Indicates a problem of relatively low severity. Service is slightly degraded, but there is a workaround.
Warning	Cyan	Indicates detection of a potential or impending problem. Action should be taken to further diagnose and correct the situation to prevent a more serious issue.
Normal	Green	Indicates situation is as expected or other status information. Service is functioning normally.
Unknown	Blue	Indicates the severity level cannot be determined. this severity level is not available when creating an action in Enterprise Scheduler.

Monitor Policies

The HP HP OMU Integration Adapter provides monitor policies that monitor the following:

Table 3-2   Monitor Policies

Service Description	Service Name	Template name
Master Services		
Enterprise Scheduler Master Service	TidalSAMaster	TidalSAMaster
MS SQL Server Service	MSSQLServer	MSSQLServer_EnterpriseScheduler
Backup Master Services		
Enterprise Scheduler Backup Master Service	TidalSAMaster	TidalSABackup
Fault Monitor		
Enterprise Scheduler Fault Monitor Service	TidalSAFaultmon	TidalSAFaultmon

Service Description	Service Name	Template name
Client Manager		
Enterprise Scheduler Client Manager Service	TidalClientMgr	TidalClientMgr
Agent Services		
Note All agent services on an agent node are monitored. The exact names of the agent services are dependent upon the agent's configuration.		
Original Windows Agents	Depends on configuration	Enterprise Scheduler_AGENT_MON
High-Performance Agents		
Unix Agents		

To view a list of the agents on a particular agent node:

Step 1   Select the agent node in the Java GUI.

Step 2   Right-click the node, then click **Start > CISCO TIDAL Software > Unix Agent > Agent (UNIX) List**. The output window displays a list of the agents installed on that node.

Troubleshooting

The information included in this section will assist you in troubleshooting the HP HP OMU Integration Adapter installation. One or more of the following factors are the usual source of difficulty:

- The network connection between the HP OMU Management Server and one or more of the Enterprise Scheduler managed nodes has been lost.

- You logged into HP OMU as an operator who does not have the appropriate access rights. Verify that the operator has access rights for all of the Enterprise Scheduler nodes that are HP OMU managed nodes. The operator should have access permission to the job message group. The HP OMU Administrator (opc_adm) can view and change these permissions.

- The Enterprise Scheduler HP OMU Integration Adapter is not installed or configured correctly.

- The HP OMU agent is not installed on the remote host.

- Templates for the Enterprise Scheduler HP OMU module have not been loaded on the HP OMU agent.

Diagnosing Problems

To diagnose a problem:

Step 1   Verify that HP OMU is installed and running.

   a.   Launch the HP OMU console using the opc command.

   b.   Open the Message Browser and Node Bank.

   c.   Verify that node status is reflected correctly in the node bank.

> **Note** If HP OMU reports errors when starting, or if the status of the nodes in the Node Bank is incorrect, see your HP OMU Administrator or refer to your HP HP OMU documentation for assistance.

    d. From the Unix command prompt, execute the following command:

    ovstatus

    e. Verify that all the necessary components are running.

Step 2 Verify that the Enterprise Scheduler HP OMU adapter is installed

    a. Verify that the Enterprise Scheduler templates display in the Message Source Template window.

    b. Using the Window - Message Source Template option, open the Message Source Template window and verify that message templates for Enterprise Scheduler appear in this window.

Step 3 Verify that the remote HP OMU agent is installed.

From the Unix command prompt, execute the command:

opcragt -status <nodename>

This should display the status of the HP OMU agent on the remote system. If the opcragt command indicates that the HP OMU agent is not installed, follow the procedure described in the HP OMU manuals and install the HP OMU agent.

Step 4 Verify that the templates have been successfully loaded on the remote system and download the templates to the remote host. You should see a message in the HP OMU Message Browser that indicates that templates, monitors, etc., have been successfully downloaded to the remote node.

Step 5 Verify that the HP OMU event delivery mechanism is working

Step 6 Execute the opcmsg command on the remote node to send a simple text message to the HP OMU master. Verify that your message appears in the HP OMU Message Browser. An example of this command is:

opcmsg sev=normal appl=test obj=test msg_text="Test message from node x"

Specific Problems

Operator Actions Are Not Working

In order for the HP OMU actions to work, you must add a user with the user name HP ITO Account to Enterprise Scheduler. The HP ITO Account user definition must have the Enterprise Scheduler Superuser option selected.

Job and System Messages Are Not Getting Through

Verify that HP OMU alerts are set up. Execute the **opcmsg** command manually to make sure that the HP OMU agent and event reporting are working