OPSWARE INC

Opsware™ Process Automation System
CA Unicenter Network and Systems Management Integration

Opsware Process Automation System, Version 7.0

For Process Automation System Ops Flow Authors

Event Management

Event-management integration allows users to automatically run a flow when an event matching a certain set of criteria arrives. Setting this up requires several steps.

1. Create a message definition that describes which events will trigger the flow.
2. Create a message action for this message definition. The message action specifies the flow to run and starts the external RSFlowInvoke utility to run the flow.

Creating a Message Definition for Incoming Events

In order for an action will run in response to events, you define the specific incoming message that will trigger the action. The following steps assume that the event log contains a copy of the event that will trigger your action. If the event has not been logged, you can trigger a test event. This is documented in a later section in this paper.

1. Open the Event Management console (**Start**->**All Programs**->**Computer Associates**->**Unicenter**->**NSM**->**Enterprise Management**->**EM Classic**).
2. Click the Windows icon.
3. Click the Event icon.
4. Click the Console Logs icon.
5. Right-click the event you wish to create a message definition for, and select **Define Message Record**.
   The message record window opens, and NSM fills in the **Message id** field.
6. To trigger on multiple event types, use ***** as a wildcard in this field.
7. In the **Description** field, add a meaningful description for the message.
8. You may want to delete domain user and domain node values, unless you only want to match the message from specific users or nodes.
9. You may also want to delete the value from the **Program** field under the **More** tab.
10. Click **Save**.

Creating a Message Action and Associating It with the Message

Now that you have a message definition, you can create actions to associate with it. Event actions automatically perform an action when an incoming event is received. These actions can be simple internal tasks, such as highlighting the event in the event log, or they can also execute commands on either a local or remote machine. The following steps will run a command on the local host.

1. On the **Message Definitions** screen, click the **Actions** button.
2. Click **New**.
3. Pick a sequence number (for example, 10).
4. In the **text** field, enter the command line you wish to run (for example, 'c:\run.bat').
5. On the **Action** drop down, select **COMMAND**.
6. To save your action, click **OK**.
7. To update the message definitions, in the command line, run **oprcmd opreload**.

You can now close the Message Action Summary window.

Triggering a Test Event

- To trigger a test event, use either the cawto or cawtor command line tool, using syntax such as the following:

```
cawto TestMessage
```

This sends the event containing the text 'TestMessage' to the NSM event log.

Accessing Event Information from the .bat File.

Many data about the event are put into environment variables when running a command.

- To obtain a full list of event these environment variables and their values, add the following line to your bat file:

```
set > c:\environment.txt
```

This puts a list of all environment variables in the environment.txt file.

Below are some of the event-related environment variables and what they mean.

Variable	Value
EVENT_DATEGEN	The date that the event occurred
EVENT_LOGRECID	ID of the last event written to the log when this command was started
EVENT_MSGLOGRECID	ID of the message that triggered command execution.
EVENT_NODEDOMAIN	Domain of the node where the event occurred
EVENT_NODEID	Domain\host of the node where the event occurred
EVENT_NODENAME	Host name of the node where the event occurred.
EVENT_PID	PID of the process that notified NSM of the event
EVENT_PROGRAM	Name of the program that notified NSM of the event

EVENT_SEQNO	Sequence number of the action that launched this command
EVENT_TAG	Tag of the event in NSM
EVENT_TEXT	Message that was sent in the event
EVENT_TIMEGEN	Time that the event was generated
EVENT_TOKEN	Token of the message rule that matched the event
EVENT_TYPE	The NSM type of the event
EVENT_USERID	Username on the node that created the event

The following bat file will run the Windows Health check against any host that logs my error:

```
c:\RSFlowinvoke
"https://%MY_HOST%:8443/OpsForce/services/http/run/Library/Accelerator
Packs/Operating Systems/Windows Management/Windows Health
Check?host=%EVENT_NODENAME%&sendEmail=No" -u ss -p ss -rc 1 >
c:\request.txt
```

Note this batch file redirects the output of RSFlowInvoke to c:\request.txt in order to make debugging easier.

Alert Management

In NSM, alerts can be created from any incoming event, but only from events. For this reason, this section of this document assumes that you have already familiarized yourself with event management.

Creating an Alert from an Event

To create an alert from an event

1. Create a message definition for the event and add a message action.
2. Instead of starting a command with the message action, choose **Alert** from the **Action** drop down.

   For more information see the Event Management section on creating a message action.

3. To generate a test alert, instigate a test event that matches the message definition.

   For more on creating a test event, see the Event Management section of this document.

Creating a User Action

Events can automatically trigger actions when an event matches a specific rule set. Alerts cannot automatically trigger actions. However, there is a predefined list of user actions that can be performed on an alert. To launch a flow automatically from an alert, you launch it from the event message definition that creates the alert.

1. Open the Management Command Center (**Start**->**All Programs**->**Computer Associates**->**Unicenter**->**NSM**->Management **Command Center**).
2. Select the **View** drop-down box.
3. Select **Alerts**.
4. You can use this view to see alerts that have arrived.
5. Select **My Actions**, and then click **Define Actions**.

6. Click **New**.

7. In the **command** field, type a command using the following syntax to run an external run.bat file:

   `COMMAND(c:\run.bat)`

8. Click **OK**.

Unicenter Service Desk Integration

You can use NSM to collect and manage incoming events from a variety of devices. Service Desk is a service-desk ticketing system. NSM includes an integration that enables it to create and close NSM tickets based on alerts. Note that in some versions of Unicenter Service Desk this integration appears to be broken.

Enabling Integration

For the integration to open Service Desk requests, you must provide a means of contacting the service desk server:

1. Open the Management Command Center (**Start**->**All Programs**->**Computer Associates**->**Unicenter**->**NSM**->Management **Command Center**).

2. Select **View**, then **Options**.

3. Select **Connections**.

4. Type in the URL of your service desk web client (for example: **http://erebus:8080/CAisd/pdmweb.exe**).

5. Select **File**, then **Exit**.

6. Open the Alert Management console (**Start**->**All Programs**->**Computer Associates**->**Unicenter**->**NSM**->**Enterprise Management**->**EM Classic**).

7. Click the **Windows** icon.

8. Click the **AMS** icon.

9. Click the **Alert Global Definitions** icon.

10. Specify the Service Desk URL, username, and password.

    The URL is the URL of the Service Desk Web server (For example, **http://erebus:8080/axis/services/USD_R11_WebService**).

11. Click **Save**.

Specifying Policies for Alert Life Cycles

You can open or close Service Desk requests based on what happened to an alert. You do so by setting policies in the Alert class.

1. Open the Alert Management console (**Start**->**All Programs**->**Computer Associates**->**Unicenter**->**NSM**->**Enterprise Management**->**EM Classic**).

2. Click the **Windows** icon.

3. Click the **AMS** icon.

4. Click the **Alert Classes** icon.

5. Double click the name of the alert class you wish to modify.

6. Select the **Actions** tab.

7. Check the desired fields for the Service Desk Integration.

8. You may also want to delete the value from the **Program** field under the **More** tab.

9. Click **Save**.

WorldView Integration

WorldView is a tool that shows users a network topology and enables them to view alerts and interact with topology components. Using our integration with WorldView, you can launch a flow from WorldView's right-click menu.

Running a Flow

You start a flow from WorldView by creating a batch file that will execute RSFlowInvoke. WorldView can pass information about the managed object into the batch file in the form of command line parameters.

1. Open up the WorldView 2-D Map. (**Start**-> **All Programs**-> **Computer Associated**-> **Unicenter**-> **NSM**-> **WorldView**-> **2-D Map**

2. Scroll to the object for which you want to add a flow.

3. Right-click the object and select **Edit Class**.

4. Click **Menu**.

5. Click **Insert**.

6. Type a name for the menu item.

   The type is "Batch," and the command is the full path to your patch file.

7. From the **parameters** inset list, add any parameters you want

   Note: The parameters are passed in the order that you add them. For example, you might update the menu for a computer object, and pass the address property.

8. Click **OK** to save your menu modification.

Take a look at the following sample .bat file:

```
echo %1%
c:\RSFlowinvoke
"https://%MY_HOST%:8443/OpsForce/services/http/run/Library/Accelerator
Packs/Operating Systems/Windows Management/Windows Health
Check?host=%1%&sendEmail=No" -u ss -p ss -rc 1 >WVrequest.txt
```

Note that this bat file echoes the first input to the screen, and also redirects the Process Automation System Central response to a text file in order to simplify debugging.