HP OpenView ServiceCenter and HP Service Manager

For the Windows®, HP-UX, AIX, Linux and Solaris Operating Systems operating system

Software Version: SC6.2.*x* and SM7.*xx*

BAC KPI Monitoring to Incident Management Integration

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1 Integration overview

HP OpenView ServiceCenter 6.2.*x* and HP Service Manager 7.00 offer extended Service Level Management support through integration with HP Business Availability Center (BAC), Version 7.*x*.

The scope of the integration is as follows:

- Monitor service metrics defined against Configuration Items (CIs) and services.
- Generate events to open, update, or close incidents when metrics fall below accepted thresholds.
- Categorize incidents to match BAC health metrics (availability or performance).
- Associate Service Level Objectives (SLOs) defined for the corresponding category of incidents.

Note: For optimal performance it is recommended that either BAC and Connect-It or ServiceCenter/Service Manager and Connect-It be installed on the same machine.

Prerequisites

For successful integration, ensure that the following prerequisites are followed:

- When running ServiceCenter 6.2.*x*, ensure that you run in the classic listener mode.
- When running HP Service Manager 7.*x*, ensure that the required versions of third-party dependencies are installed as shown in the compatibility matrix in the documentation for the product. This includes, but is not limited to the following:
  - Apache Tomcat, Version 5.5
  - Java Web Services Developer Pack (WSDP) for Tomcat, Version 1.5
  - Apache Xalan for Web Services, Version 2.7.1

Event type that manages BAC KPI ticket status

There is an event type that manages the status of Business Availability Center (BAC) Key Performance Indicator (KPI) tickets. Upon receiving the event, the **KPI_pmo** event registration validates the content to determine whether to open, update, or close an incident.

The conditions used to determine the appropriate action are:

- If there is not an existing incident for that Configuration Item (CI) with either an *availability* or *performance* problem type and the status received is different from OK, then an incident is opened
- If there is an incident for that CI with either an *availability* or *performance* problem type and the status received is different from OK, then the incident is updated.
- If there is an incident for that CI with either an *availability* or *performance* problem type and the status received is equal to OK (which indicates that the CI is functional again), then the incident is closed.

When an incident is opened, it is categorized as either an *availability* or *performance* type ticket. The event populates the KPI metric fields and when the KPI metric fields change, an activity record is created that shows the old and new values for the metric. There are two KPI metric fields: *KPI.value* (a numeric field) and *KPI.status* which can be Critical, Major, Minor, Warning or OK.

Using a Connect-It scenario to open BAC KPI tickets with Event Services

Business Availability Center (BAC) alerts are generated as a HTTP request that includes vital information about the metric near or at breach. The HTTP request is sent to the smbac servlet. The smbac servlet parses the request, builds a XML file from it, and saves the XML to a location where the Connect-It XML listener can access it. A Connect-It scenario then opens a ticket using Event Services in ServiceCenter or Service Manager to track the alert. The scenario can open, update, and close incidents.

The following is an example of a triggered alert action, in URL format, on a CI named *sample*, an alert named *URL test improves* and a KPI named *Availability.*

http://www.testurl.com/smbac-1.00?ciname=sample&alertname=URL+test+improves&triggertime=GMT%5B-07%3A00%5D+5%2F10%2F07+5%3A09+AM&prevstatus=Critical&currstatus=OK&kpiname=Availability&kpivalue=100.0

The following table explains how the parameter values are mapped between BAC and ServiceCenter/ Service Manager:

Table 1 Parameter values

Name	Required	BAC value	ServiceCenter/Service Manager value
CI name	Yes	sample	Stored in the logical.name field.
Alert name	No	URL+test+improves	Stored in the brief.description field.
Trigger time	No	GMT%5B-07%3A00%5D+5%2F10%2F07+5%3A09+AM	N/A
Previous status	No	Critical	N/A
Current Status	Yes	OK	Stored in the new KPI.status field and is used to determine the appropriate Response SLO.
KPI Name	Yes	Availability	Stored in the problem.type field and has two possible values: availability, or performance.
KPI value	No	100.0	Stored in the new KPI.value field

SLOs that monitor BAC KPI metrics

There are several response time Service Level Objectives (SLOs) that monitor Business Availability Center (BAC) Key Performance Indicator (KPI) metrics. When an incident is opened in the BAC KPI categorization, it will have response time SLOs assigned that are based on the KPI type and value.

There are BAC KPI based SLOs available in the SLO Catalog that can be added to other SLAs if desired.

Table 2 BAC KPI based SLOs

Name	Problem type	Description
KPI Availability - Critical	Availability	SLO for Availability KPI incidents with status of Critical. This Response SLO is set to close in 2 hours
KPI Availability - Major	Availability	SLO for Availability KPI incidents with status of Major. This Response SLO is set to close in 6 hours.
KPI Availability - Minor	Availability	SLO for Availability KPI incidents with status of Minor. This Response SLO is set to close in 8 hours.
KPI Availability - Warning	Availability	SLO for Availability KPI incidents with status of Warning. This Response SLO is set to close in 12 hours.
KPI Performance - Critical	Performance	SLO for Performance KPI incidents with status of Critical. This Response SLO is set to close in 2 hours.
KPI Performance - Major	Performance	SLO for Performance KPI incidents with status of Major. This Response SLO is set to close in 6 hours.
KPI Performance - Minor	Performance	SLO for Performance KPI incidents with status of Minor. This Response SLO is set to close in 8 hours.
KPI Performance - Warning	Performance	SLO for Performance KPI incidents with status of Warning. This Response SLO is set to close in 12 hours.

2 Applying the BAC integration to ServiceCenter

Topics in this section include:

- Files needed to apply the integration
- Instructions for changing the Database Dictionary on the ServiceCenter system
- Instructions for applying the BAC-SC62.unl file
- Instructions on configuring and validating the servlet
- Instructions on configuring and validating the Connect-It connector

Files needed to apply the BAC integration

There is BAC-SC62.unl file that must be applied against ServiceCenter as part of the initial integration setup and includes the following:

- Problem types
- Event registration
- Event maps
- Service Level Objectives (SLOs)

The following file is located in the server directory of the integration zip file (smbac-dist-1.00-bin.zip):

- smbac-1.00.war - Servlet file

Changes to the Database Dictionary on the ServiceCenter system

The following changes must be made to the `probsummary` table in the Database Dictionary.

1. Select the `probsummary` table in the Database Dictionary.
2. Place the cursor in the first Structure (descriptor).
3. Click **New Field** and type **`KPI.status`** (character).
4. Click **New Field** and type **`KPI.value`** (number).
5. Click **OK**.

The following changes must be made to the `problem` table in the Database Dictionary.

1. Select the `problem` table in the Database Dictionary.
2. Place the cursor in the middle Structure.
3. Click **New Field** and type **`KPI.status`** (character).
4. Click **New Field** and type **`KPI.value`** (number).
5. Click **OK**.

Applying the unload file to the ServiceCenter 6.2.*x* system

Use the following steps to load the BAC-SC62.unl file.

1 Click **Toolkit** > **Database Manager**.

2 Right-click on the form and click **Import/Load**.

3 Type the path to the BAC-SC62.unl file.

4 Click **Load FG**.

Note: You can view the contents of an unload file before importing it by clicking **List Contents.**

Regenerating the global lists

Use the following steps to regenerate global lists:

1 Click **Tailoring** > **Database Manager**.

2 Check the **Administrative Mode** check box.

3 Type `apm.global.list.entry` in the Form filed and click **Search**.
A blank record from the globallists file opens.

4 Click **Search** again to display a list of lists.

5 Select **Mass Update**. A blank update screen displays.

6 Set the date in the **Expiration** field to any date in the past, for example, 01/01/90.

7 Click **Simple Update**.
The expiration date of all the lists in the globallists file is then reset.

8 Return to the main menu.

9 From the command line, type `*aapm.server.initer` and press **Enter**.

10 Log out of HP Service Manager and log in again.
All lists in the system are now regenerated whether they are actually obsolete

Configuring the smbac servlet

1 Drop the smbac-1.00.war file into the webapps directory of an Apache Tomcat installation.

2 Start Tomcat.

3 Open the smbac servlet web.xml file.

4 On the web.xml file for the servlet, the only configurable value is **BACFilePath**, which points to the file location for the .xml files that the Connect-It scenario is looking for. This must be an accessible location, such as **C:\BAC\URL** or ***//machine_name*/share/BAC/URL**.

The servlet web.xml file should read as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN" "http://
java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
<display-name>HP OpenView SM-BAC Servlet</display-name>
<description>HP OpenView Service Manager and BAC</description>
```

```
<context-param>
<param-name>BACFilePath</param-name>
<param-value>//machine_name/share/BAC/URL</param-value>
</context-param>
<listener>
<listener-class>com.hp.ov.sm.integration.bac.ContextListener</listener-class>
</listener>
<listener>
<listener-class>com.hp.ov.sm.integration.bac.SessionListener</listener-class>
</listener>
<servlet>
<servlet-name>SM-BAC Servlet</servlet-name>
<servlet-class>com.hp.ov.sm.integration.bac.Servlet</servlet-class>
<load-on-startup>1</load-on-startup>
</servlet>
<servlet-mapping>
<servlet-name>SM-BAC Servlet</servlet-name>
<url-pattern>/smbac/*</url-pattern>
</servlet-mapping>
</web-app>
```

Validating the servlet configuration

Use the following steps to validate the servlet configuration:

1. Start Tomcat.
2. Open a browser.
3. Type the following address in the browser:
   `http://server_name:port_number/smbac-1.00?ciname=ACME%20Phone%200001&alertname=URL+test+improves&triggertime=GMT%5B-07%3A00%5D+5%2F10%2F07+5%3A09+AM&prevstatus=Critical&currstatus=Warning&kpiname=Availability&kpivalue=80.0`
4. View the browser to verify success or failure.
   Successful results display **<SMBAC>Success</SMBAC>**. Failed results display <**SMBAC**>**Failed**</**SMBAC**>.
5. Browse to the default location defined on the servlet's web.xml file. A XML file is created and contains the following information:

```
<?xml version="1.0" encoding="UTF-8"?>
<BAC_URL>
<kpiname>Availability</kpiname>
<prevstatus>Critical</prevstatus>
<kpivalue>80.0</kpivalue>
<currstatus>Warning</currstatus>
<alertname>URL test improves</alertname>
<ciname>ACME Phone 0001</ciname>
<triggertime>GMT[-07:00] 5/10/07 5:09 AM</triggertime>
</BAC_URL>
```

Configuring Connect-It connector

Use the following steps to configure the Connect-It connector details.

1. Launch Connect-It and open the scenario located in the scenarios folder.
2. Right-click in the XML box and select **Configure Connector.**
3. On the **Name and describe connector** panel, click **Next**. This accepts the default value (XML).
4. On the **Select a processing mode** panel, click **Next**. This accepts the default value (Read).
5. On the **Select a connection protocol** panel, click **Next**. This accepts the default value (Local/network file).
6. On the **Select files or folders** panel, ensure that the **Folder Name** points to the folder where the servlet saves the XML files. The location of the XML files should match what is configured in the web.xml file for the servlet. This path is located under the BACFilePath parameter.
7. Click **Next**.
8. On the **Define post-processing actions** panel, click **Next**. This accepts the default value (Delete from folder).
9. On the **Choose a DTD/XSD** panel, verify that the location of the file named BAC Alerts.xsd points to the scenarios folder and then click **Finish**. This accepts the default value (Publish a document type for each root element found in the DTD/XSD).

Validating the Connect-It connector

Use the following steps to validate that Connect-It connector is functional.

1. Right-click on the SC 6.2.*x* box and select **Configure Connector**.
2. On the **Name and describe the connector** panel, click **Next**. This accepts the default value (SC 6.2)
3. On the **Define the connection parameters** panel, type your SC server name, port number, user, and password.
4. Click **Test**.
5. If the test is successful, a “Successful connection test” message displays.
6. Click **Close**.
7. Click **Finish**.
8. Right-click in the scenario diagram box, and select **Produce Now.** The scenario runs, reads the XML files created by the servlet, and imports the information into the ServiceCenter 6.2.*x* system.
9. Login to ServiceCenter 6.2.*x* and go to the `eventin` record list. There should be a KPI_pmo event listed for each XML file processed in the scenario.

3 Applying the BAC integration to Service Manager

Topics in this section include:

- Files needed to apply the integration
- Instructions for applying the BAC-kpivalue.unl file
- Instructions on configuring and validating the servlet
- Instructions on configuring and validating the Connect-It connector

Files needed to apply the BAC integration

These are the files that must be applied against Service Manager as part of the initial integration setup:

- BAC-kpivalue.unl
- smbac-1.00.war - Servlet file

Applying the unload file to the Service Manager system

This unload updates the event map. You must unload this file before configuring or running the Connect-It scenario. Use the following steps to load the BAC-kpivalue.unl file.

1. Click **Tailoring** > **Database Manager**.
2. Right-click on the form and click **Import/Load**.
3. Type the path to the BAC-kpivalue.unl file.
4. Click **Load FG**.

Note: You can view the contents of an unload file before importing it by clicking **List Contents.**

Regenerating the global lists

Use the following steps to regenerate global lists:

1. Click **Tailoring** > **Database Manager**.
2. Check the **Administrative Mode** check box.
3. Type `apm.global.list.entry` in the Form filed and click **Search**.
   A blank record from the globallists file opens.
4. Click **Search** again to display a list of lists.
5. Select **Mass Update**. A blank update screen displays.
6. Set the date in the **Expiration** field to any date in the past, for example, 01/01/90.

7 Click **Simple Update**.
The expiration date of all the lists in the globallists file is then reset.

8 Return to the main menu.

9 From the command line, type `*aapm.server.initer` and press **Enter**.

10 Log out of HP Service Manager and log in again.
All lists in the system are now regenerated whether they are actually obsolete

Configuring the smbac servlet

1 Drop the smbac-1.00.war file into the webapps directory of an Apache Tomcat installation.

2 Start Tomcat.

3 Open the smbac servlet web.xml file.

4 On the web.xml file for the servlet, the only configurable value is **BACFilePath**, which points to the file location for the .xml files that the Connect-It scenario is looking for. This must be an accessible location, such as **C:\BAC\URL** or ***//machine_name*/share/BAC/URL**.

The servlet web.xml file should read as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE web-app PUBLIC "-//Sun Microsystems, Inc.//DTD Web Application 2.3//EN" "http://
java.sun.com/dtd/web-app_2_3.dtd">
<web-app>
<display-name>HP OpenView SM-BAC Servlet</display-name>
<description>HP OpenView Service Manager and BAC</description>
<context-param>
<param-name>BACFilePath</param-name>
<param-value>//machine_name/share/BAC/URL</param-value>
</context-param>
<listener>
<listener-class>com.hp.ov.sm.integration.bac.ContextListener</listener-class>
</listener>
<listener>
<listener-class>com.hp.ov.sm.integration.bac.SessionListener</listener-class>
</listener>
<servlet>
<servlet-name>SM-BAC Servlet</servlet-name>
<servlet-class>com.hp.ov.sm.integration.bac.Servlet</servlet-class>
<load-on-startup>1</load-on-startup>
</servlet>
<servlet-mapping>
<servlet-name>SM-BAC Servlet</servlet-name>
<url-pattern>/smbac/*</url-pattern>
</servlet-mapping>
</web-app>
```

Validating the servlet configuration

Use the following steps to validate the servlet configuration:

1 Start Tomcat.

2 Open a browser.

3 Type the following address in the browser:
`http://server_name:port_number/smbac-1.00?ciname=ACME%20Phone%200001&alertname=URL+test+improves&triggertime=GMT%5B-07%3A00%5D+5%2F10%2F07+5%3A09+AM&prevstatus=Critical&currstatus=Warning&kpiname=Availability&kpivalue=80.0`

4 View the browser to verify success or failure.
Successful results display **<SMBAC>Success</SMBAC>**. Failed results display <**SMBAC**>**Failed**</**SMBAC**>.

5 Browse to the default location defined on the servlet's web.xml file. A XML file is created and contains the following information:

```
<?xml version="1.0" encoding="UTF-8"?>
<BAC_URL>
<kpiname>Availability</kpiname>
<prevstatus>Critical</prevstatus>
<kpivalue>80.0</kpivalue>
<currstatus>Warning</currstatus>
<alertname>URL test improves</alertname>
<ciname>ACME Phone 0001</ciname>
<triggertime>GMT[-07:00] 5/10/07 5:09 AM</triggertime>
</BAC_URL>
```

Configuring Connect-It connector

Use the following steps to configure the Connect-It connector details.

1 Launch Connect-It and open the scenario located in the scenarios folder.

2 Right-click in the XML box and select **Configure Connector.**

3 On the **Name and describe connector** panel, click **Next**. This accepts the default value (XML).

4 On the **Select a processing mode** panel, click **Next**. This accepts the default value (Read).

5 On the **Select a connection protocol** panel, click **Next**. This accepts the default value (Local/network file).

6 On the **Select files or folders** panel, ensure that the **Folder Name** points to the folder where the servlet saves the XML files. The location of the XML files should match what is configured in the web.xml file for the servlet. This path is located under the BACFilePath parameter.

7 Click **Next**.

8 On the **Define post-processing actions** panel, click **Next**. This accepts the default value (Delete from folder).

9 On the **Choose a DTD/XSD** panel, verify that the location of the file named BAC Alerts.xsd points to the scenarios folder and then click **Finish**. This accepts the default value (Publish a document type for each root element found in the DTD/XSD).

Validating the Connect-It connector

Use the following steps to validate that Connect-It connector is functional.

1. Right-click on the SM7.*x* box and select **Configure Connector**.
2. On the **Name and describe the connector** panel, click **Next**. This accepts the default value (SM7.0)
3. Complete the fields on the **Define the connection parameters** panel.
   a. Set the **Server name** to the SC6.2.*x* server name and port number. For example, type localhost 12690.

      Note: Run the SC6.2.*x* listener from the Server\LegacyIntegration folder located in the SM7.*x* installation. Instructions for starting a legacy listener are available in Appendix A of the HP Service Manager Installation Guide.

   b. Type the login username and password. For example, type falcon.
   c. Select the **Write to Service Manager database** check box.
   d. Specify the SM7.*x* port number. For example, type 13080.
4. Click **Test**.
5. If the test is successful, a “Successful connection test” message opens.
6. Click **Close**.
7. Click **Finish**.
8. Right-click in the scenario diagram box, and select **Produce Now.** The scenario runs, reads the XML files created by the servlet, and imports the information into the Service Manager system.
9. Login to Service Manager and go to the `eventin` record list. There should be a KPI_pmo event listed for each XML file processed in the scenario.