Closed Loop Incident Process (CLIP) Solution

Downtime Management

Windows Operating System

Software Version: 9.30

Configuration Guide

Document Release Date: January 2013 Version 3

Software Release Date: December 2012

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Contents

Welcome to This Guide

This guide provides information for configuring Downtime Management for the Closed Loop Incident Process (CLIP) solution.

This chapter includes:

How This Guide is Organized

This guide contains the following chapters:

Chapter 1 Introduction to Downtime Management

Provides an introduction for using Downtime Management with the CLIP version 9.30 Solution.

Chapter 2 Integration Flow

Provides information about the downtime integration between HP Business Service Management (BSM) and HP Service Manager (SM).

Who Should Read This Guide

This guide explains the motivation to install and use the CLIP solution. It describes what the solution implementation will achieve, which ITIL processes it will answer, and describes the workflow between the products comprising the solution.

This guide is intended for:

- Customers
- Presales and sales personnel
- PSO
- Anyone who wants to learn about the solution, its workflow, and its contribution

The information in this guide may duplicate information available in other CLIP documentation, but is provided here for convenience.

Additional Online Resources

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Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

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Chapter 1

Introduction to Downtime Management

This chapter includes:

Note:

- To configure Downtime Management, in addition to using this guide, you must also refer to the relevant CLIP Solution Guide.
- If you have any feedback or comments, please contact solutionpackagingandscp@hp.com.

Downtime Management – Overview

The downtime integration between HP Business Service Management and HP Service Manager includes information exchanges in both of the following directions:

1. **SM > BSM**. When you create a downtime RFC (request for change) in SM, the RFC includes the CI that is under change and a start and end date/time of the downtime. If you do not want to waste effort with false alarms in your operations center, and do not want to have these times included in service availability reports, you can set up the integration so that these RFCs are translated to downtimes in BSM.

   In this scenario, you install and set up a downtime adapter on your CMS (whether you are working with a UCMDB central CMS, or with RTSM). The RFC creates a planned downtime CI in the CMS, and the adapter translates the planned downtime CI to a downtime in BSM.

2. **BSM > SM**. When you define downtimes using BSM (for example every Monday and Saturday from 8:30 PM-9:30 PM), in order to proactively support end users the help desk should be aware of such operational downtimes. After you set up the integration, downtimes in BSM are translated to events, which create corresponding incidents in SM.

   In this scenario, when a downtime starts BSM generates an event. Using the event forwarding mechanism, the event generates an incident in SM. When the downtime ends, an event is sent to close the downtime incident.

A single downtime can be defined on more than one CI. In the case of BSM > SM, a separate event is sent for each CI in the downtime.

Note:

- Following the initial integration, a large amount of data may be communicated from SM to BSM. We recommend that you perform the integration during off-hours, to prevent negative impact on system performance.
- The integration consists of two parts: **SM > CMS/RTSM**, and **CMS/RTSM > BSM**. You should configure both parts of the integration as one flow, without a significant time lag between settings up the two parts. If you set up the SM > CMS/RTSM part, and then wait a long time before setting up the CMS/RTSM > BSM adapter part, the number of downtimes communicated to BSM initially may be extremely high.

Downtime Management Prerequisites

For Downtime Management, you must have a CLIP version 9.30 Solution up and running.

For more information, see the relevant CLIP 9.30 Solution Configuration Guide:

- Core CLIP without Universal CMDB supports the use case of auto-ticketing between Business Service Management and Service Manager.
- CLIP with Universal CMDB introduces UCMDB use cases, such as enhanced business impact analysis and configuration management.
- CLIP with Runbook Automation introduces automatic event diagnosis using Operations Orchestration.
- CLIP with Knowledge Management introduces incident triaging and remediation using Operations Orchestration within Service Manager's Knowledge Management module.

This guide assumes that the CLIP products are installed in the following default locations:

- **Universal CMDB (UCMDB) – C:\hp\UCMDB**
- **Service Manager (SM) – C:\Program Files\HP\Service Manager 9.30**
- **Business Service Management (BSM) – c:\HPBSM**
- **Operations Orchestration (HP OO) – C:\Program Files\Hewlett-Packard\Operations Orchestration**

This guide expects that the following products are installed and fully functional.

- **HP Universal CMDB**: Server should be installed. Data flow probe should be connected and running (different server than BSM server).
- **HP Service Manager**: Server, Client, Help Server, Web Tier, and Knowledge Management should be installed and running.
- **HP Business Service Management**: Server, including the OMi application, should be installed and running.

  BSM machine should have the DDM data flow probe connected and running.
- **HP Operations Orchestration**: Central and Studio should be installed and available for use.

Users and Permissions

The same user name must be used on all the products (they can have different passwords). For example, user **NocOperator1** must exist in both BSM and SM in order to drill down from OMi events into SM incidents. As well, the same user should exist in HP OO in order to execute HP OO runbooks on CIs.

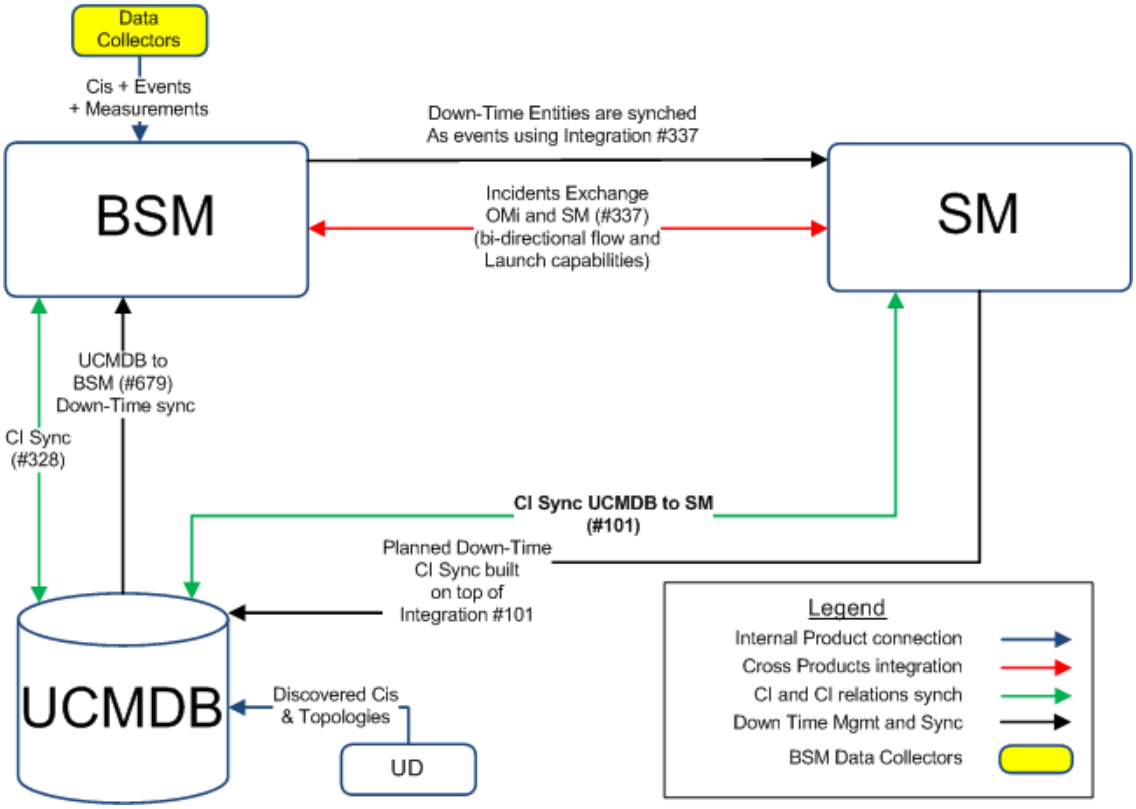
Global ID Generator

To enable the downtime integration, you must have a global ID generator configured in your UCMDB and BSM environment.

The global ID generator configuration is described in the "UCMDB – BSM Configuration" chapter of either the *CLIP with Runbook Automation Guide* or the *CLIP with Runbook Automation and Knowledge Management Guide*.

Downtime Management Solution Diagram

The following diagram displays a typical deployment of the Downtime Management Solution.



ID#	Integration Name
#337	Incident Exchange (OMI–SM)
#101	CI sync and actual state federation (UCMDB to SM)
#328	UCMDB–BSM Platform (BAC) synchronization (UCMDB–BSM)
#679	UCMDB to BSM Downtime Integration (BSM–UCMDB)

Hardware and Software Requirements

The instructions in this document assume that products are installed in the default location. If this is not the case, you will need to make the appropriate modifications to file paths mentioned in this document.

This section also includes:

Supported Versions

Product	Version	Instructions
Universal CMDB	• 9.05 with content pack 11, update 3 or later • 10.01 or later	For installation instructions, see the *HP Universal CMDB Deployment Guide*.
Service Manager	• 9.31 or later **Recommended:** 9.31	For installation instructions, see the *HP Service Manager Interactive Upgrade Guide*.
Business Service Management	• 9.21 or later **Recommended:** 9.21	For installation instructions, see the *HP Business Service Management Deployment Guides Package*.
Operations Orchestration	• 9.05 or later **Recommended:** 9.05	For installation instructions, see the *HP Operations Orchestration Installation and Upgrade Guide*.
Enterprise Collaboration	• 1.10 or later **Recommended:** 1.10	For installation instructions, see the *HP Enterprise Collaboration Installation and Configuration Guide.*

Note: Make sure that each application you install is up and running before you perform any configuration steps.

Enterprise Hardware and Software Requirements

Note: The following tables detail the deployment environments that have been rigorously tested by HP quality assurance personnel.

For the complete listing of hardware and software requirements, see the relevant Support Matrix for each product.

- HP Universal CMDB: For more information, see the HP Universal CMDB Support Matrix version 10.01 or the HP Universal CMDB Support Matrix version 9.05.
- HP Service Manager: For more information, see the HP Service Manager Compatibility Matrix.
- HP Business Service Management: For more information, see HP Business Service Management BSM System Requirements and Support Matrixes.

HP Universal CMDB Requirements

For Version 9.05

Recommendations	**Operating system** For 64-bit Windows systems, one of the following: • Windows 2003 Enterprise SP2 and R2 SP2 • Windows 2008 Enterprise SP2 and R2 (recommended) • Red hat Linux 5 Enterprise/Advanced To fulfill the CPU requirements, one of the following: • Intel Dual Core Xeon Processor 2.4 GHz or higher • AMD Opteron Dual Core Processor 2.4 GHz or higher The following number of CPU Cores, depending on your deployment configuration: • Small deployment: 1 CPU • Standard deployment: 4 CPU • Enterprise deployment: 8 CPUs **Note:** As Universal CMDB performance is dependent upon processor speed, to ensure proper Universal CMDB performance, it is recommended that you use the fastest possible processor speed. **Memory: Windows** One of the following: • Small deployment: 4 GB RAM • Standard deployment: 8 GB RAM • Enterprise deployment: 16 GB RAM **Virtual memory/Memory swap file: Windows** One of the following: • Small deployment: 6 GB (Supported) • Standard deployment: 12 GB • Enterprise deployment: 24 GB **Note:** The virtual memory for Windows should be at least 1.5 times the physical memory size.

Recommendations	**Scriptlet Language Support** • If you run a flow that contains a Perl scriptlet operation, ActivePerl 5.8.8.824 is required. When installing ActivePerl, select the option to add its path to the PATH environmental variable. **Flash AnimationSupport** • Adobe Flash Player version 10.0

For Version 10.01

Recommendations	**Server Software Requirements:** Hardware Platform: x86-64 • Recommended: Windows 2008: Enterprise SP2, R2, and R2 SP1 64-bit • Windows 2008: Standard R2 and R2 SP1 64-bit • Red Hat Linux 5.x: Enterprise/Advanced 64-bit • Red Hat Enterprise Linux Server 6.2 and higher: 64-bit **Computer/processor** Windows/Linux: To fulfill the CPU requirements,you must have one of the following: • Intel Dual Core Xeon Processor 2.4 GHz or later • AMD Opteron Dual Core Processor 2.4 GHz or later In addition to the above requirements, you must have the following number of CPU Cores, depending on your deployment configuration: • Small deployment: 1 CPU • Standard deployment: 4 CPUs • Enterprise deployment: 8 CPUs **Note:** As Universal CMDB performance is dependent upon processor speed, to ensure proper Universal CMDB performance, it is recommended that you use the fastest possible processor speed. **Memory:** For Windows/Linux: • Small deployment: 4 GB RAM • Standard deployment: 8 GB RAM • Enterprise deployment: 16 GB RAM

Recommendations	**Memory swap file:** For Windows: • Small deployment: 6 GB (Supported) • Standard deployment: 12 GB • Enterprise deployment: 24 GB For Linux: • Small deployment: 4 GB (Supported) • Standard deployment: 8 GB • Enterprise deployment: 16 GB **Note:** • The virtual memory for Windows should be at least 1.5 times the size of the physical memory. • The Linux swap file size should be equal in size to the physical memory. **Free hard disk space** • Minimum 30 GB (for logs, memory dumps, and so on) **Display: Windows** • Color palette setting of at least 256 colors (recommended: 32,000 colors

Note:

- Installation of Universal CMDB is not supported on 32-bit machines.

HP Service Manager Requirements

Recommendations	**Operating System**
	For a Windows system, one of the following:
	• Windows Vista SP1 or higher (recommended) or Windows XP Professional SP2 or higher
	  ▪ Current Windows updates for your operating system
	  ▪ 1 GB RAM minimum, based on the expected user load
	  ▪ Local administrator account to install on the Windows server
	• Unix
	Client Tier
	• Windows Client
	  ▪ Compatible Windows OS
	  ▪ Local Administrator account
	  ▪ 100Mb network connection to Service Manager (SOAP over HTTP or HTTPS)
	• Web Clients (optional)
	  ▪ Compatible Browser
	  ▪ Enable Cookies
	  ▪ Enable JavaScript
	  ▪ Enable pop-ups
	  ▪ 100Mb network connection to Service Manager over a Web browser (HTTP or HTTPS)
	• Web
	  ▪ Applications that can connect to or communicate with Service Manager via Web Services API
	Server Tier
	• Service Manager Server
	  ▪ Local Administrator account
	  ▪ Single Service Manager Instance
	  ▪ Free communications port
	  ▪ Default: 13080
	  ▪ Manages connections between clients and the Database tier

Recommendations	• Help Server
	  ▪ Can reside on the same server as the Web Server using same host and a separate communications port OR compatible Web Server and free communications port
	  ▪ HTML help as part of Windows and Web clients or as a standalone HTML page
	• Web Server
	  ▪ Compatible Web Server
	  ▪ Free communications port
	  ▪ Default: 80
	  ▪ HTTP or HTTPS content to Web clients
	• Web Application Server
	  ▪ Compatible Web Application Server
	  ▪ Configure web.xml for connection properties
	  ▪ Compatible JDK
	  ▪ 100+Mb network connection to Web Server (SOAP)
	  ▪ Offers Java applications and content for Web clients
	Database Tier
	• One or more supported RDBMS on a separate server (RDBMS is a relational database management system for storing Service Manager applications and data.)
	• 1 Gb network connections
	• Service Manager Server
	Web Tier (optional)
	• Web application server on separate server
	• Web server on separate server
	• Service Manager `webtier-9.31.war` file deployed

HP Business Service Management Requirements

Recommendations	**Computer/Processor** **Windows:** The following CPU types are supported (further CPU requirements also appear below, see Memory and CPU Requirements): • Intel Dual Core Xeon Processor 2.4 GHz or higher • AMD Opteron Dual Core Processor 2.4 GHz or higher **Tip:** As BSM performance is dependent upon processor speed, it is recommended to get the fastest possible processor speed to ensure proper performance. **Operating System** **Windows:** • Windows Server 2008 Enterprise Edition SP2 or later (64 bit) * • Windows Server 2008 Standard Edition SP2 or later (64 bit) * • Windows Server 2008 R2 Enterprise Edition, including all service packs (64 bit) * • Windows Server 2008 R2 Standard Edition, including all service packs (64 bit) * * **Note:** User Access Control (UAC) must be disabled during the installation process. **Linux:** • RedHat Enterprise Linux 5.3 (Intel x64 64 bit) • RedHat Enterprise Linux 5.4 (Intel x64 64 bit) • RedHat Enterprise Linux 5.5 (Intel x64 64 bit) • RedHat Enterprise Linux 5.6 (Intel x64 64 bit) • RedHat Enterprise Linux 5.7 (Intel x64 64 bit) **Note:** Regardless of the operating system version, the entire Distribution (with OEM support) and the latest recommended Patch Cluster are required. **Domain Name:** Each BSM server must have a resolvable Fully Qualified Domain Name.

Recommendations	**Web Server** **Windows:** • Microsoft Internet Information Server (IIS) 6.0 • Microsoft Internet Information Server (IIS) 7.0, 7.5 • Apache HTTP Server - requires use of Apache HTTP Server version adapted by HP for BSM and installed during the BSM server installation **Linux:** • Apache HTTP Server (adapted by HP for BSM and installed during the BSM server installation) **Hardware Requirements** • Standard: 1 dual core ▪ Minimum: 2G RAM ▪ Recommended: 4G RAM • Large: Minimum 2 dual core or 1 quad core ▪ Minimum: 4G RAM ▪ Recommended: 8G RAM and up **Memory and CPU Requirements** • APM Basic ▪ Server Type: One machine ▪ Memory: Recommended 8 GB ▪ CPU: 4 ▪ Virtual Memory/Swap Space: 8 GB • APM Advanced ▪ Server Type: Gateway ▪ Memory: Recommended 8 GB ▪ CPU: 8 ▪ Virtual Memory/Swap Space: 8 GB AND ▪ Server Type: DPS ▪ Memory: Recommended 19 GB ▪ CPU: 8 ▪ Virtual Memory/Swap Space: 8 GB

Recommendations	• OPS Basic ▪ Server Type: One machine ▪ Memory: Recommended 8 GB ▪ CPU: 4 ▪ Virtual Memory/Swap Space: 8 GB • OPS Advanced ▪ Server Type: Gateway ▪ Memory: Recommended 9 GB ▪ CPU: 8 ▪ Virtual Memory/Swap Space: 8 GB AND ▪ Server Type: DPS ▪ Memory: Recommended 20 GB ▪ CPU: 8 ▪ Virtual Memory/Swap Space: 8 GB • Full BSM ▪ Server Type: Gateway ▪ Memory: Recommended 10 GB ▪ CPU: 8 ▪ Virtual Memory/Swap Space: 8 GB AND ▪ Server Type: DPS ▪ Memory: Recommended 24 GB ▪ CPU: 8 ▪ Virtual Memory/Swap Space: 8 GB • **Display** ▪ Minimum: color palette setting of at least 256 colors ▪ Recommended: color palette setting of 32,000 colors • **Resolution** ▪ 1400x1200 or higher (recommended) ▪ 1280x1024 (supported)

Recommendations	• **Supported Browsers** ▪ Microsoft Internet Explorer (IE) 9.0 ▪ Microsoft Internet Explorer (IE) 8.0 ▪ Microsoft Internet Explorer (IE) 7.0 ▪ Mozilla Firefox ESR 10.0 **Note:** • The browser must be set to accept thirdparty cookies and allow session cookies. • The browser must be set to enable JavaScript execution. • The browser must allow pop-ups from the BSM application. • Internet Explorer users must set browser caching to automatically check for newer versions of stored pages. • **Flash Player** ▪ Adobe Flash 10.1 or later **Software Requirements – Oracle Server** • Oracle 10.2 (10.2.0.5 or later component specific release number 10.2.0.X) Enterprise Edition, 64 bit • Oracle 10.2 (10.2.0.5 or later component specific release number 10.2.0.X) RAC Enterprise Edition, 64 bit • Oracle 11.2 (11g R2) Enterprise Edition, 64 bit • Oracle 11.2 (11g R2) RAC Enterprise Edition, 64 bit **Note:** • It is strongly recommended to apply the latest critical Oracle patches per your operating system. For details, consult the Oracle documentation. • Consult the Oracle documentation for supported platforms. • The Oracle Partitioning option must be enabled. **Software Requirements – Microsoft SQL Server** • Microsoft SQL Server 2008 R2 Enterprise Edition, 64 bit Service Pack 1 • Microsoft SQL Server 2008 Enterprise Edition, 32 bit Service Pack 2, 3 • Microsoft SQL Server 2008 Enterprise Edition, 64 bit Service Pack 2, 3

	Note: • Only supported service packs should be installed. • Consult the Microsoft SQL Server documentation for supported platforms.

HP Universal CMDB – Overview

HP Universal CMDB consists of a rich business-service-oriented data model with built-in discovery of configuration items (CIs) and configuration item dependencies, visualization and mapping of business services, and tracking of configuration changes.

UCMDB enables you to manage all the CIs contained in a managed world. A managed world refers to any self-contained environment that can be described using a topology model (defined with HP's Topology Query Language (TQL)). For example, the IT infrastructure of a large business represents a managed world, where the topology comprises multiple layers such as networks, protocols, databases, operating systems, and so on. You manage views to view the information in exactly the format you require.

Additionally, the information contained in the results of each TQL is updated automatically with the latest data entering the configuration management database (CMDB). As a result, once a TQL and View have been defined, they continue to provide up-to-date information about the current state of your managed world. Views are displayed in multi-level maps that enable you to identify key CIs, as required. You can also create reports (in HTML, Excel, or table format) about information collected by the system.

HP Service Manager – Overview

HP Service Manager stores the managed or expected state of CIs and CI relationships as attribute values in a CI record. To be part of the integration, a CI attribute in your UCMDB system must map to a managed field in the SM CI record. You can add, remove, or update the managed fields that are part of the integration by tailoring the SM Web services that manage the integration.

SM runs according to a set of rules that define what actions you want the system to take whenever a CI's actual state does not match the expected state as defined in the CI record. You define these rules from the Discovery Event Manager (DEM) in SM where you can do the following:

- Automatically update a CI record to match the attribute values listed in the actual state. (This is the default behavior.)
- Automatically create a change record to review the differences between the actual state and the managed state.
- Automatically create an incident record to review the differences between the actual state and the managed state.

HP Business Service Management – Overview

HP Business Service Management helps businesses optimize the performance and availability of applications in production and proactively resolve problems when they arise, thus assisting critical production applications to perform as required and deliver business results.

BSM helps customers model their business processes and services by providing a framework for mapping the complex and dynamic dependencies between applications and their supporting infrastructure. BSM helps customers optimize business availability and event handling by proactively detecting problems in order to prioritize problem resolution based on business impact and service level compliance.

BSM consists of an integrated set of applications for real-time performance and availability monitoring from a business perspective—service level management, end-user management, event handling, system availability management, and custom reporting and alerting. BSM is based on a common foundation of shared workflow, administration and reporting services, shared assets, and expertise.

BSM helps customers to reduce mean time to detection (MTTD) and end-user downtime by proactively detecting application performance and availability problems—assisting in escalation of problems to the right department at the right priority, as well as resolution of performance problems before service-level objectives are breached. This helps organizations reach toward the goal of the maximization of value of IT operations and reduction of Total Cost of Ownership (TCO) of IT infrastructure.

Chapter 2

Integration Flow

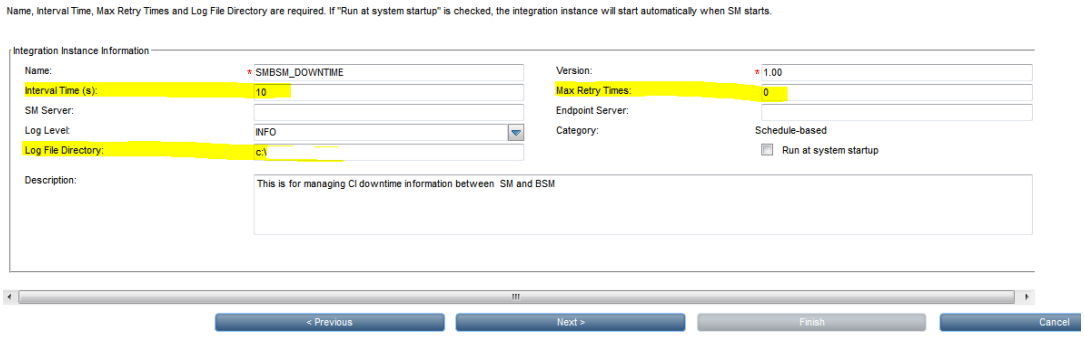
This section contains:

A. To create a SMIS SMBSM_DOWNTIME integration

1. Log on to the SM system as **System.Admin**.
2. Click **Tailoring > Integration Manager > Add to add SMIS configuration for SMBSM_DOWNTIME**.
3. Select **SMBSM_DOWNTIME** for the Integration Template, and click **Next**.
4. Fill in the running frequency data in the **Interval Time(s)** field. Set this data based on your configuration item (CI) scheduled downtime data volume in the period.
5. Fill in the data for **Max Retry Times**.

   0 is okay since we are not connecting to another system.
6. Fill in the data for the **Log File Directory**. By default, the log will be put in sm.log.

   Click **Next**.



Note: Be sure to select **Run at system startup**.

7. Configure the **SMIS** settings.

   a. Set a value for **WithdrawDowntime**.

      When you are making a change using **Change Phase**, if the change has a **valid** outage, **true** means a prompt will be displayed for you to choose to withdraw the outage.

   b. Set values for the **Change** category.

      If you only want outage of one category of changes, after your desired phase has been approved, set the phase.

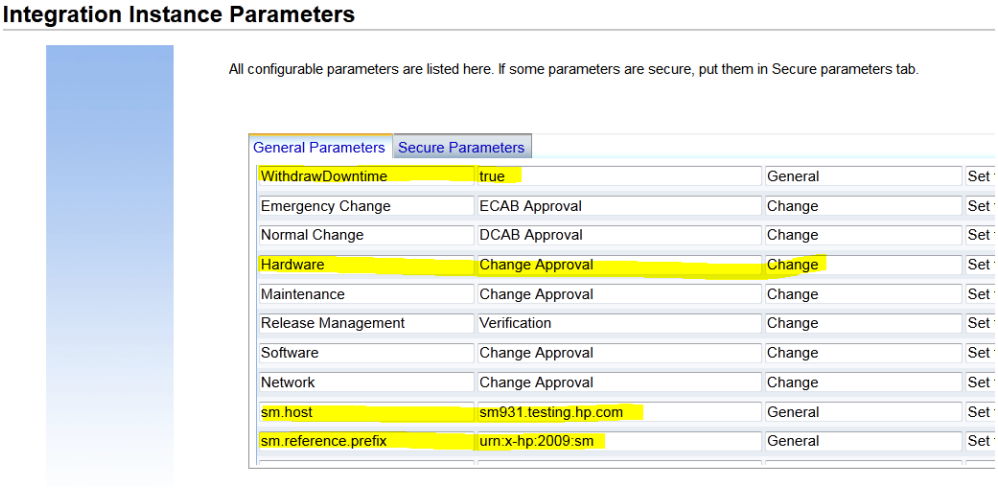
      If your category workflow has multiple paths with different final approval phases, use a semicolon "**;**" to separate them.

      In the **Category** column, set **Change** for change categories and **Task** for task categories.

   c. Set a value for **sm.host**. This value is the unique identifier for your SM deployment, which stands for the SM server.

      Attention: No ":" in sm.host will break the logic.

   d. Set a value for **sm.reference.prefix**. This value is used to populate the External Process Reference of Scheduled Downtime CI in UCMDB. **Attention: No** must end with "**:**". SM will append "**:**" at the end automatically.



   e. Click **Next**, **Next**, **Finish**.

   f. Select the **SMIS**.

   g. Click **Enable**.

   h. Click **Yes**.

B. To integrate SM RFC downtimes with UCMDB

Populate (sync) UCMDB with the downtime CIs.

1. Log on to **UCMDB**.
2. In **Administration > Data Flow Management > Integration Studio**, verify the integration point in front of the SM exists and active.
3. Click **Test connection** and verify success.
4. In the **Population** tab, add two additional integration jobs—one named **DT Population** based on **CLIP Down Time Population** TQL, and another named **DT Relationship** based on **CI To Down Time CI With Connection** TQL.
5. Log on to the SM server. Select the **Configuration Management** tab and select **Resources > Configuration Item Relationships**.
6. Add a relation between the **Upstream** CI (for example, any business service instance) and the **Downstream** CI (the affected CI), and then click **Add**.
7. In the **Change Management** tab, open a new request for change (RFC). Verify the **Service**, **Affected CI**, and **Scheduled DownTime Start/End** are filled in.

   Note: The **Service** and **Affected CI** values should be equal to the **Upstream/Downstream** CI values you put in the previous step.

8. Click **More > Change Phase**. Move the RFC phase to the **Change Approval** phase.
9. Log on to **Service Manager** as user **Change.Approver**. Open the **Approval** In box and approve the change.
10. Wait for **SMBSM_DOWNTIME/DT Population/DT Relationship** to run.

    Note: By default, it runs every minute.

11. Log on to **UCMDB**. In Modeling Studio, search for **ScheduledDowntime** CI. A downtime CI is created with a relationship to the affected CI.

C. To integrate SM downtimes with BSM (via UCMDB)

1. To enable downtimes defined in SM to be sent to BSM, you must add an integration adapter to the UCMDB where downtimes are defined as follows:
   a. From **C:\HPBSM\odb\conf\factory_packages** in the BSM file system, copy **BSMDowntimeAdapter.zip** to the UCMDB's machine file system.
   b. Within the UCMDB user interface, access **Administration > Package Manager**.

c. Click **Deploy packages to server (from local disk)**.

d. Browse to the BSMDowntimeAdapter and click **Deploy**.

2. Create an integration point in front of BSM as follows:

   a. Within the UCMDB user interface,navigate to **Data Flow Management > Integration Studio**.

   b. Click **New integration point**, enter a name and description of your choice, and select **BSMDowntimeAdapter**.

   c. Enter the following information for the adapter: BSM Gateway hostname and port, the integration point credentials, communication protocol, and the context root (if you have a non-default context root).

   d. Click **OK**, then click the **Save** button above the list of the integration points.

   e. Click **Test Connection** and verify success.

3. Use the **Statistics** tab in the lower pane to track the number of downtimes that are created or updated. By default, the integration job runs every minute. If a job has failed, open the **Query Status** tab and double-click the failed job to see more details on the error.

   If there is an authentication error, verify the BSM credentials entered for the integration point.

   If you receive an unclear error message with code, this generally indicates a communication problem. Check the communication with BSM. If no communication problem is found, restart the MercuryAS process.

   A failed job will be repeated until it the problem is fixed.

D. To send BSM downtime start/stop events ("Off" by default)

To enable BSM to send downtime definitions to SM, you must edit a hidden infrastructure setting as described below. This procedure generates events in OMi. You can then use the event forwarding mechanism to generate incidents in SM when a downtime in BSM begins and ends.

1. Access the following location with your browser:

   http://<BSM hostname>:8080/jmx-console/HtmlAdaptor?action=inspectMBean&name=Foundations%3Aservice%3DInfrastructure+Settings+Manager

2. In the method **setGlobalSettingValue**, define the parameter values as follows:

   contextName = downtime; settingName = downtime.event.send.enable; newValue = true).

   Click **Invoke**.

3. Restart BSM.

For details on how to use the event forwarding mechanism to generate incidents in SM, refer to the **Event Forwarding** section in BSM online help or in the ***HP BSM Administration Guide***.