

# HP Service Asset and Configuration Management (SACM) Solution

For Windows Operating System

Software Version: 9.40

## Configuration Guide



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Software Release Date: February 2015



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# Welcome

This guide provides information for setting up and configuring the Service Asset and Configuration Management (SACM) solution. This guide outlines the integration between HP Asset Manager, HP Universal CMDB, and HP Service Manager. It explains how to install and configure the components of the integration, as well as outlining how functionality of the integrated applications is enhanced.

## **This chapter includes:**

- ["How This Guide is Organized" below](#)
- ["Who Should Read This Guide" on the next page](#)
- ["Additional Online Resources" on page 9](#)

## How This Guide is Organized

This guide contains the following chapters:

### **Introduction to SACM**

In addition to providing an overview of the Service Asset and Configuration Management Solution, provides an introduction to SACM integrations and briefly describes how the following products work with each other:

- HP Service Manager (SM)
- HP Universal CMDB (UCMDB)
- HP Asset Manager (AM)
- HP Connect-It (CIT)

### **"HP Service Manager and HP Universal CMDB Integration" on page 34**

Provides the installation and configuration steps required to configure and verify the integration between Service Manager and Universal CMDB .

### **"HP Asset Manager and HP Universal CMDB Integration" on page 40**

Provides the installation and configuration steps required to configure and verify the integration between Asset Manager and Universal CMDB .

["HP Asset Manager - HP Service Manager Integration" on page 46](#)

Provides the installation and configuration steps required to configure and verify the integration between Service Manager and Asset Manager pursuant to a request from the catalog.

["CI's Reconciliation Priority Best Practices" on page 63](#)

Provides the Best Practices guidelines and configuration instructions for how to prioritize the information received from Asset Manager and Service Manager into UCMDB in order for UCMDB to contain the most accurate CI information.

["Technical Reference" on page 67](#)

Describes how data objects are sourced and mapped by which scenario or adapter, as well as the reconciliation keys used, and any special requirements needed for data transfers to work properly

## Who Should Read This Guide

This solution is intended for IT organizations that want to better manage all their assets from procurement to decommissioning, all the while supplying both operational as well as IT Financial Management data.

This guide is intended for:

- Customers
- Presales and sales personnel
- PSO
- Anyone who wants to learn about the solution, its flow, and its value or the value it delivers

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



## Additional Online Resources

**Troubleshooting & Knowledge Base** accesses the Troubleshooting page on the HP Software Support Web site where you can search the Self-solve knowledge base. Choose **Help > Troubleshooting & Knowledge Base**. The URL for this Web site is <http://h20230.www2.hp.com/troubleshooting.jsp>.

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# Introduction to SACM

## This chapter includes:

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**Note:** If you have any feedback or comments, please contact [solutionpackagingandscp@hp.com](mailto:solutionpackagingandscp@hp.com).

## Service Asset and Configuration Management – Overview

SACM provides a necessary data foundation that is core to operating IT. This enables the business to function within its own constraints while taking into account the unique needs of the business. Many key IT (ITIL) processes rely on SACM being in place in the organization; including all of the following:

- Service Portfolio Management (Service Strategy)
- IT Financial Management (Service Strategy)
- Service Level Management (Service Design)
- Incident Management (Service Operations)
- Problem Management (Service Operations)
- Request Management (Service Operations)

- Configuration Management (Service Transition)
- Change Management (Service Transition)

By enabling and supporting these processes, SACM contributes to:

- Planning and proactive management of IT to support the needs of the business.
- Financial traceability—the ability to understand where the IT budget is being spent and in support of which business drivers  
This also supports better financial decision making in general and specifically determining if the IT budget is truly supporting the important business services that drive the company's revenue stream.
- Maintaining appropriate service levels to support the business adequately IT should not over-deliver, which is expensive and wasteful, or under-deliver, which inhibits the business from producing better results. SACM provides the data points and transparency to more accurately meet business needs.
- Enabling services to be operated effectively and efficiently
- Populating and managing the Configuration Management Database (CMDB)—discovering and recording all the relevant components that comprise the IT environment
- Providing a process for on-boarding Assets and CIs—managing them throughout their respective life cycles and retiring them in an organized manner to minimize the negative impact on the business
- Improving the understanding of the complex interdependencies between the various components of IT and reducing the negative impact they may have on each other
- Standardizing IT environments, resulting in reducing maintenance costs and improving consistency and predictability of IT outcomes

SACM provides these values to the business throughout the entire service life cycle, from request through procurement to deployment into the IT environment, management of the service in production, and ending at the retirement and disposal phases. SACM is responsible for creating and managing the Configuration Management System (CMS) and as such provides IT organizations with more control over their IT environments, better adherence to the policies it defines, and greater accessibility to the necessary information. SACM does so by delivering the following:

- Management and planning: Designing what level of configuration management is needed and how this level will be achieved

- **Configuration identification:** Establishing a system of classification of Configuration Items (CIs) into types, defining the relevant attributes for each CI type, determining the key attributes and the relationships between the various CI types
- **Configuration Control:** Governing the addition, removal and updating of each CI and ensuring that the appropriate process and procedures are followed for each such activity
- **Status accounting and reporting:** Providing an accurate account of the status of each CI/Asset
- **Verification and audit:** Conducting periodical audits to ensure that there are no discrepancies between the documented and/or desired state of the environment and the actual state

## Installing SACM Products

Before you can install and configure the integration, the SACM products must be installed and accessible by the integration components via the network.

In-depth knowledge and administration privileges to each of the following integration products are required to install, configure and manage the integration successfully.

- HP Asset Manager
- HP Universal CMDB and its probe
- HP Service Manager
- HP Connect-It
- HP Service Manager <-> HP Universal CMDB integration (reuse the CI Types that are mapped from UCMDB to SM)

**Note:** The **HP Universal CMDB to HP Service Manager Integration Guide** to the SM <-> UCMDB integration is provided with SM.

You can access the guide through the SM Help Server.

Refer to the installation guides provided with each of the products that represent the SACM solution.

**Note:** Although not in the scope of the SACM solution, integrating AM with IT infrastructure discovery tools such as HP Discovery and Dependency Mapping Inventory can complement the SACM solution by providing accurate, up-to-date inventory data which serves as the foundation of the SACM solution. It is suggested to implement this integration before installing and configuring the SACM solution.

Refer to the AM support matrix for the supported versions of various discovery tools. Refer to the documentation provided with the discovery tools for integration information.

## SACM Prerequisites

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

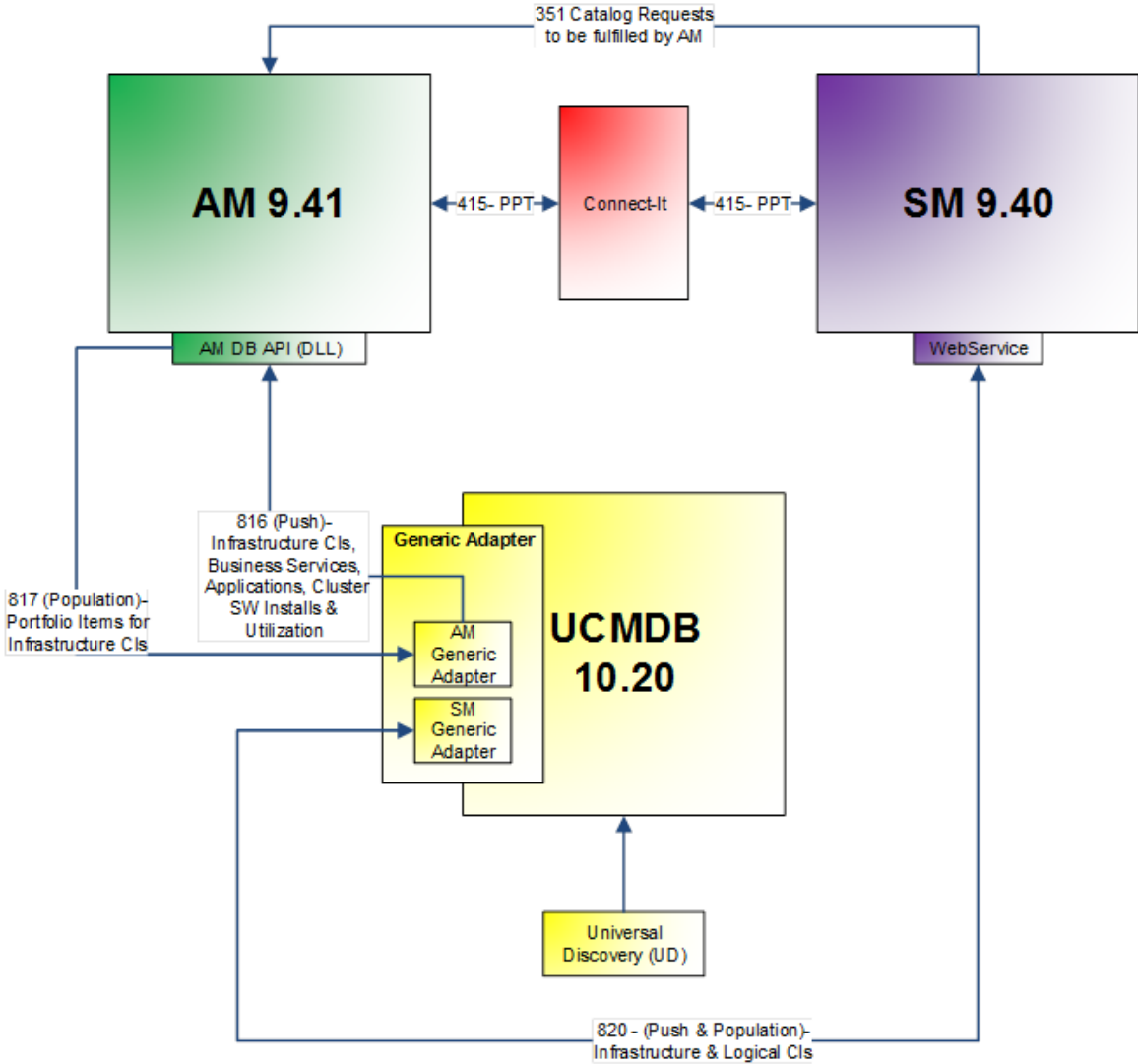
- **HP Universal CMDB (UCMDB) 10.20 or later:** Server should be installed. Data flow probe should be connected and running.
- **HP Service Manager (SM) 9.40 or later:** Server, Client, Help Server, and Web Tier should be installed and running.
- **HP Asset Manager (AM) 9.41 or later:** Application designer, client, and AM web application.
- **HP Connect-It 9.60 or later:** Scenarios from SACM 9.40 kit.

**Note:** This guide assumes that the SACM products are installed in the following default locations:

- Universal CMDB – C:\hp\UCMDB\
- Service Manager – C:\Program Files\HP\Service Manager 9.40
- Asset Manager – C:\Program Files\HP\Asset Manager 9.41 en
- HP Connect-It – C:\Program Files\HP\Connect-It 9.60 en

# SACM 9.40 Solution Diagram

The following diagram displays a typical deployment of the SACM Solution.



| ID#  | Integration Name  |
|------|---|
| #351 | Employee Self-Service Catalog for Asset Manager (AM - SM) |
| #415 | Reference Data Synchronization via Connect-It (AM <-> SM) |

| <b>ID#</b> | <b>Integration Name</b>   |
|------------|---|
| #816       | Inventory, Software Utilization and Business Data Synch (UCMDB to AM) |
| #817       | Asset to CI Replication (AM -> UCMDB)                                 |
| #820       | CI sync and actual state federation (UCMDB to SM)                     |



# 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 ..... 17

Hardware and Software Requirements ..... 18

## Supported Versions

The following product versions were validated for the SACM 9.40 solution:

| Product         | Version   | Instructions  |
|-----------------|---|---|
| UCMDB           | 10.20 or later<br><b>Recommended:</b> 10.20                               | For installation instructions, see the <a href="#">HP Universal CMDB Deployment Guide</a> .         |
| Service Manager | 9.40 or later<br><b>Recommended:</b> 9.40                                 | For installation instructions, see the <a href="#">HP Service Manager Interactive Upgrade Guide</a> |
| Connect-It      | 9.60 or later<br><b>Recommended:</b> 9.60                                 | For installation instructions, see the <a href="#">HP Connect-IT Connector Guide</a> .              |
| Asset Manager   | 9.41 or later<br><b>Recommended:</b> 9.41 with the SACM 9.40 content pack | For installation instructions, see the <a href="#">HP Asset Manager Installation and Upgrade</a> .  |

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

# Hardware and Software Requirements

**This section includes:**

- HP Asset Manager Requirements ..... 19
- HP Service Manager Requirements ..... 22
- HP Universal CMDB Requirements ..... 24
- HP Connect-It Requirements ..... 27

# HP Asset Manager Requirements

## Supported operating systems

### Asset Manager client programs

The Asset Manager client programs support:

- Windows
- Linux

To find out what operating system versions are supported, consult the Support Matrix at: [www.hp.com/go/hpssoftwaresupport](http://www.hp.com/go/hpssoftwaresupport).

See **Installation** guide, chapter **Supported environments**, section **Supported operating systems\Asset Manager client programs**.

### Asset Manager database server

The server may be used with all the operating systems and hardware platforms supported by your DBMS.

To acquire the list of these supported items, refer to the documentation of your DBMS.

### Minimal Configuration

#### All programs except Asset Manager Automated Process Manager and Asset Manager Web and Asset Manager Web Service

| Environment    | Windows Vista, Windows 7 and Windows Server 2008 |
|----------------|--|
| CPU            | Intel Xeon or equivalent                         |
| RAM            | 2 GB   |
| Disk space (*) | 4 GB (all packages installed)                    |

(\*) The files installed with Asset Manager require about 700 MB disk space (excluding production database and client database layers).

### Asset Manager Automated Process Manager

| <b>Environment</b> | <b>Windows Server 2008</b>                                |
|--------------------|---|
| <b>CPU</b>         | Intel Xeon dual-core or equivalent                        |
| <b>RAM</b>         | 1 GB reserved for Asset Manager Automated Process Manager |
| <b>Disk space</b>  | 4 GB  |

## Recommended Configuration

### All programs except Asset Manager Automated Process Manager and Asset Manager Web and Asset Manager Web Service

| <b>Environment</b>    | <b>Windows Vista, Windows 7, Windows 8, Windows Server 2008, and Windows Server 2012</b> |
|-----------------------|--|
| <b>CPU</b>            | Intel Xeon or equivalent   |
| <b>RAM</b>            | 4 GB   |
| <b>Disk space (*)</b> | 50 GB (all packages installed)   |

(\*) The files installed with Asset Manager (client only) require about 350 MB disk space (excluding production database and database layers).

### Asset Manager Automated Process Manager

| <b>Environment</b> | <b>Windows Server 2008, and Windows Server 2012</b>  |
|--------------------|--|
| <b>CPU</b>         | Intel Xeon quad-core or equivalent   |
| <b>RAM</b>         | 2 GB reserved for Asset Manager Automated Process Manager  |
| <b>Disk space</b>  | 4 GB   |
| <b>Network</b>     | High speed link with DBMS server. (For example: Ethernet 100 Mbps or Gigabit) and low latency (<5 ms). |

### Asset Manager Web

For details of the configuration needed to support Asset Manager Web, see the **AM Sizing Guide Using Oracle DB2 or MSSQL**.

## Supported DBMSs

The following DBMSs are supported for the Asset Manager database:

- Microsoft SQL Server
- Oracle Database Server
- IBM DB2 UDB

To find out what DBMS versions are supported (servers, clients, network protocols, drivers, and so on) consult the Support Matrix at: <https://softwaresupport.hp.com/group/softwaresupport/support-matrices>.

## HP Service Manager Requirements

### Service Manager server

- Windows (64-bit):
  - Windows Server 2012 R2, 2012
  - Windows Server 2008 R2, 2008
- Linux (64-bit):
  - Red Hat Enterprise Linux 7.0, 6.x
  - Oracle Enterprise Linux 7.0, 6.x
  - Novell SUSE Linux Enterprise Server 11 SPx, 10 SP1

For more supported platforms, refer to the product compatibility guide.

### RDBMS

- Oracle 11.2 (11.2.0.3 or later)
- Oracle 12c
- SQL Server 2012
- SQL Server 2014

For more details about supported RDBMS, refer to the product compatibility guide.

### Service Manager Client

- Web tier
  - Application server: Apache Tomcat 7.0
  - Web Server: Apache HTTP Server 2.2, IIS 7.5

- Web client: Internet Explorer (IE) 11, 10, Firefox 31 or a later version (Extended Support Releases are recommended), Google Chrome 31 or a later version
- Mobility client
  - Application server: Apache Tomcat 7.0
  - Handset:
    - iOS 7.x, 8.x: Safari
    - Android 4.x : Chrome, Android browser
    - BlackBerry 10.0: BlackBerry browser
- Windows client
  - Operating Systems:
    - Windows 8.1 and Windows 8 (32-bit and 64-bit)
    - Windows 7 (32-bit and 64-bit)

## HP Universal CMDB Requirements

### Hardware

#### 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 HP Universal CMDB performance is dependent upon processor speed, to ensure proper HP Universal CMDB performance, we recommend that you use the fastest possible processor speed.

#### Memory

Windows/Linux.

- Small deployment: 4 GB RAM
- Standard deployment: 8 GB RAM
- Enterprise deployment:
  - 16 GB RAM
  - 32 GB RAM (for more than 40 million CIs and relationships)

#### Memory Swap File

Windows.



- Small deployment: 6 GB (Supported)
- Standard deployment: 12 GB
- Enterprise deployment: 24 GB

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 to the size of the physical memory.

#### **Free hard disk space**

30 GB at minimum (for logs, memory dumps, and so on).

#### **Display**

Windows.

Color palette setting of at least 256 colors (recommended: 32,000 colors).

## Operating System

- Windows Server(64-bit):
  - Windows Server 2012 and Windows Server 2012 R2
  - Windows Server 2008 Enterprise SP2, R2,and R2 SP1 64-bit, Standard R2 and R2, SP1 64-bit
- Red Hat Linux(64-bit)
  - Enterprise/AdvancedServer 5.x
  - Enterprise Server 6.2, 6.3, 6.4, and 6.5
- Oracle Linux

- Oracle Enterprise Linux Server with Red Hat Compatible Kernel v6.3
- Oracle Enterprise Linux Server with Unbreakable Enterprise Kernel v6.3

## Database

- Oracle Server 11g or later
- Microsoft SQL Server 2008 or later
- PostgreSQL Server 9.22 or later

## Application Servers

- Apache Tomcat, version 7.0.19

## Web Servers

- Jetty, version 7.6.0

## Web Browsers

- Windows Internet Explorer 7 or later, recommended to use Windows Internet Explorer 9
- Google Chrome on windows
- Firefox 10 and higher on windows

## Plug-ins

- JAVA 7 or later

The recommended JRE version is 1.7u25.

## HP Connect-It Requirements

### Hardware

#### Windows

- CPU: Dual-core 2 GHz or above
- RAM: 2 GB or above

#### Linux

- CPU: Dual-core 2 GHz or above
- RAM: 2 GB or above

### Operating System

Connect-It is a 32 bit application and only supports 32 bit interfaces.

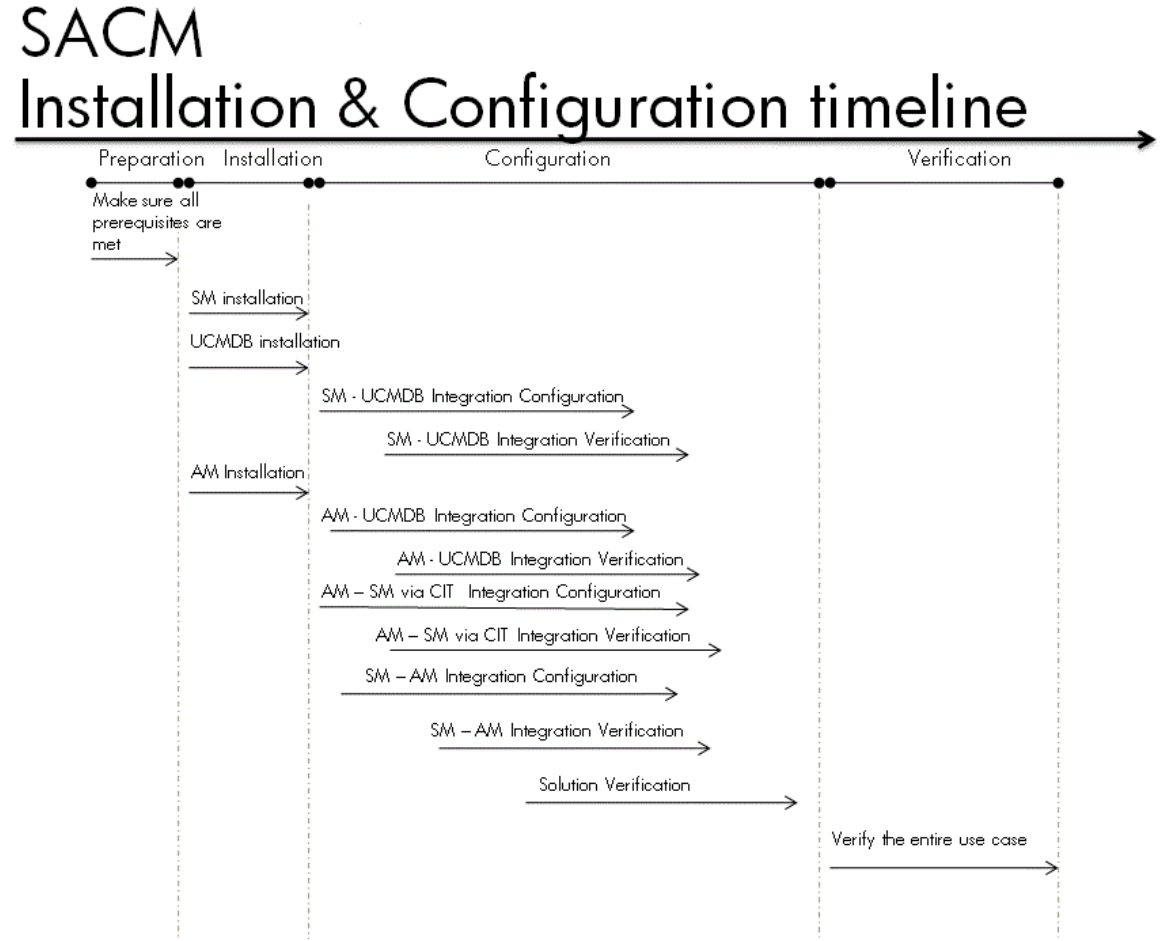
- x86-32 / Microsoft Windows
  - Windows Server 2008 SP1/SP2
  - Windows Vista
  - Windows 7 SP1 Enterprise
  - Windows 8
- x86-64 / Microsoft Windows
  - Windows Server 2008 SP1/SP2
  - Windows Vista
  - Windows 7 SP1 Enterprise
  - Windows 8
- x86-32 / Linux

- Red Hat Enterprise Linux 5 and 6 (32-bit and 64-bit)
- Oracle Linux 6

# SACM Project Planning

## HP Service Asset and Configuration Management

The various tasks that must be done in order to use the SACM solution appear in the following diagram:



## HP Asset Manager – Overview

HP Asset Manager (AM) helps IT organizations minimize their compliance risk, effectively manage their IT services, and maximize the utilization of IT.

AM supports the life cycle management of physical and logical assets. AM's modules—Asset Tracking, IT Procurement, Contract Management, Software Asset Management and Financial Management—will ensure that IT organizations get full visibility on their portfolio and can smoothly run operations and optimize their use of IT.

AM's main benefits are described as follows:

- **Asset Tracking:**

- Track and manage fiscally relevant physical and virtual assets throughout their life cycle
- Optimize IT spending
- Reduce the number of lost and unused assets
- Improve IT governance

- **IT Procurement:**

- Streamline IT procurement life cycle process
- Optimize purchase costs by tracking vendor prices
- Manage approvals and fulfillment of requests
- Measure contract objectives against vendor delivery metrics

- **Contract Management:**

- Automatically manage the operational state of contracts in use
- Track compliance with vendor terms and conditions
- Link assets to contracts (purchase, leasing, maintenance, support contracts)

- Monitor and re-evaluate contracts and suppliers
- Optimize cost of IT contracts
- **Software Asset Management (SAM):**
  - Ensure vendor software license compliance using out-of-the-box SAM best practices
  - Allow organizations to optimize what is already owned
  - Enable active management for the authoritative state of software CIs
- **IT Financial Management:**
  - Track cost of assets and business services
  - Define service offerings, manage user subscriptions
  - Support showback/chargeback for use of business services
  - Execute Budget Management Best Practices

## 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 Universal CMDB – Overview

HP Universal CMDB (UCMDB) 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 implements data model, data flow management, and data modeling capabilities, and also provides impact analysis, change tracking, and reporting capabilities to transform CMDB data into comprehensible, actionable information that helps answer critical questions and solve business problems.



## HP Connect-It – Overview

Connect-It is an Enterprise Application Integration (EAI) type integration platform. An EAI solution enables a company to integrate the different applications from which it can obtain or to which it can provide internal data (Internal support, equipment management software, and so on) or external data (ERP, B2B, B2C). Connect-It integrates not only data, but also a company's application processes.

You can use Connect-It to:

- Transfer information from one database to another.
- Duplicate the information from one database to another in real-time.
- Import information from e-mails, delimited text files, XML files or other formats into a database.
- Export information from a database to e-mails, delimited text files, XML files or other formats.
- Import NT Security-based information into a database.

# HP Service Manager and HP Universal CMDB Integration

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## Overview

This chapter describes the necessary steps to configure and verify the integration between SM and UCMDB and uses an out-of-the box configuration where a default set of configuration items (CIs) and their relations are synchronized between UCMDB and Service Manager.

# Set up Service Manager for Integration with Universal CMDB

## This task includes:

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## Add the UCMDB Connection Information to the System Information Record

1. Log on to your SM system as an administrator.
2. From the System Navigator, select **System Administration > Base System Configuration > Miscellaneous > System Information Record**.
3. Click the **Active Integrations** tab.
4. Select the **HP Universal CMDB** option. The form displays the UCMDB Web service field URL.
5. In the UCMDB Web service URL field, enter the URL to the UCMDB Web service API. The URL has the following format:  
  
**http://<UCMDB server name>:<port>/axis2/services/ucmdbSMService.**
6. In the UserId dialog box, enter your UCMDB user name and password and click **Save**.

## Add RESTful API to Operator's Capabilities


1. In the System Navigator, go to **System Administration > Ongoing Maintenance > Operators**.
2. Enter or select your search criteria, and then click **Search**.
3. Select an operator from the record list to view the operator record.
4. Click the **Startup** tab, add **RESTful API** in the **Execute Capabilities** section, and then click **Save**.

# Set up Universal CMDB for Integration with Service Manager

**This task includes:**

Create a New Integration Point .....36

## Create a New Integration Point


1. Log on to UCMDB as an administrator.
2. From the left-hand navigation pane, select **Data Flow Management > Integration Studio**.
3. In the Integration Point pane, click the **New Integration Point**  button. The New Integration Point dialog box opens.


Enter the following information:

| Name                            | Recommended Value           | Description   |
|---------------------------------|-----------------------------|---|
| <b>Integration Name</b>         | <b>SM Integration</b>       | The name you give to the integration point.                         |
| <b>Adapter</b>                  | <b>&lt;user defined&gt;</b> | Select the appropriate adapter for the version of SM you are using. |
| <b>Is Integration Activated</b> | <b>selected</b>             | Select this check box to create an active integration point.        |

4. In the **Adapter Properties** fields, fill in the relevant details.

| Name               | Recommended Value           | Description                           |
|--------------------|-----------------------------|---------------------------------------|
| <b>Hostname/IP</b> | <b>&lt;user defined&gt;</b> | The name of the SM server.            |
| <b>Port</b>        | <b>&lt;user defined&gt;</b> | The port through which you access SM. |

| Name               | Recommended Value | Description   |
|--------------------|-------------------|---|
| <b>Credentials</b> | <user defined>    | If SM credentials appear in the Credentials column, select them.<br><br>If no SM credentials appear, select <b>Generic Protocol</b> and click the <b>Add new connection details for selected protocol type</b>  button.<br><br>Enter the following information: <ul style="list-style-type: none"> <li>■ <b>Description.</b> Enter <b>Service Manager</b>.</li> <li>■ <b>User Name.</b> Enter the Service Manager user name. The default value is <b>falcon</b>.</li> <li>■ <b>User Password.</b> Enter and confirm a password.</li> </ul> |
| <b>Probe Name</b>  | <user defined>    | Select the name of the Data Flow Probe used to run population jobs.   |

5. Click **Test Connection**.
6. After the connection success message appears, click **OK**.
7. On the **Federation** tab, select the **Incident**, **Problem**, and **RequestForChange** CI types and click the **Save Integration Point**  button.
8. Log on to the JMX console.
9. From the UCMDB section, select **UCMDB:service=Multiple CMDB Instances Services**.
10. Invoke:
  - **setAsGlobalIdGenerator** and verify it succeeded.
  - **getGlobalIdGeneratorScopes** and verify it succeeded.




## Verify Service Manager and Universal CMDB Integration

**This task includes:**

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## Run the Data Push Jobs

**Note:** To verify that Data Push is working, find a CI in UCMDb that does not appear in SM.

1. Log on to UCMDb.
2. From the left-hand navigation pane, select **Data Flow Management > Integration Studio**.
3. In the Integration Point pane, click the correct integration.
4. Click the **Data Push** tab. The Job Definition pane appears.
5. Select your job and click the **Run Job – Sync All Data**  button to run the replication job.
6. When the Confirm synchronizing window appears, click **Yes**.
7. Click the **Refresh**  button and wait until the **Succeeded** message appears in the **Status** tab. The updated synchronization status appears.
8. Browse to your SM server.
9. From the System Navigator, select **Configuration Management > Resources > Search CIs**.
10. Click **Search**  and verify that all the CIs from UCMDb are listed in SM.
11. Double-click one CI that is replicated from UCMDb.
12. Drill down to the **Actual State** section and verify that all parameters are OK.
13. Click **View** in UCMDb and verify that UCMDb opens and you can view the CI.

## Run the Population Jobs

**Note:** To verify that population is working, create a new CI in SM.

1. Log on to UCMDB.
2. From the left-hand navigation pane, select **Data Flow Management > Integration Studio**.
3. In the Integration Point pane, click the correct integration.
4. Click the **Population** tab.
5. Select the **SM Configuration Items Population job** and click the **Run Job – Sync All Data**  button to run the population job.
6. When the Confirm synchronizing window is displayed, click **Yes**.
7. Click the **Refresh**  button and wait until the **Succeeded** message appears in the **Status** tab. The updated synchronization status appears.
8. Take the same action with the **SM Relations Population job**.
9. Log on to UCMDB and validate that the CI that was created in SM is validated in UCMDB.

# HP Asset Manager and HP Universal CMDB Integration

## This chapter includes:

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## Overview

This section describes the necessary steps to configure and verify the integration between UCMDB and AM as it comes out of the box, without customizing it to specific customer requirements.

**Note:** For more information about Asset Manager and Universal CMDB integration configuration, refer to the Discovery and Integration Content Guide - HP Integration in Universal CMDB.

## Set up Asset Manager for Integration with Universal CMDB

In order for the adapter to connect to the appropriate Asset Manager version, you must supply the Data Flow Probe/Integration Service with the appropriate Asset Manager API DLLs and Jars. To do this, follow these steps:

1. Copy the following files:
  - <Asset Manager Installation folder>\x64\\*.dll
  - <Asset Manager Installation folder>\websvc\lib\\*.jar
2. Create a package called AMPushAdapterAPI\_<AM Version Number>.zip. For example, for version 9.41, the package is AMPushAdapterAPI\_9.41.zip.



3. Paste the copied files to:

<AMPushAdapterAPI\_{AM Version Number}.zip>\discoveryResources\AMPushAdapter\amVersion\<AM Version Number>

For example, for version 9.41, the path is:

AMPushAdapterAPI\_9.41.zip\discoveryResources\AMPushAdapter\amVersion\9.41

4. Deploy the AMPushAdapterAPI\_<AM Version Number>.zip package.

The workflow used by SACM should be active in Asset Manager, to do this, following these steps:

1. Log on to Asset Manager client.
2. On the **Tools** menu, point to **Workflow**, click **Workflow schemes**.
3. Locate the **Update dtRecCreation** (SQL name: sysCoreUpCrTime) workflow and the **Update last modify time** (SQL name: sysCoreUpMdfyTime) workflow.
4. On the **General** tab, empty the **End** field of the **Validity** pane.
5. Save the changes.

## Set up Universal CMDB for Integration with Asset Manager

Create a new Integration Point for Asset Manager, to do this, follow these steps.

1. Log on to UCMDB.
2. Browse to **Data Flow Management > Integration Studio**.
3. Click the **New Integration Point button**.
4. In the **New Integration Point** dialog box, fill in the following **Integration Properties**.

| Field            | Required | Description  |
|------------------|----------|--|
| Integration Name | Yes      | Type the name (unique key) of the integration point. |

| Field                      | Required | Description   |
|----------------------------|----------|---|
| Integration Description    | No       | Type a description of the current integration point.  |
| Adapter                    | Yes      | Select <b>HP Software Products &gt; Asset Manager &gt; AMGenericAdapter</b> .   |
| Is Integration Activated   | Yes      | Select this option to indicate the integration point is active.   |
| Hostname/IP                | Yes      | Type the hostname or IP Address of the Asset Manager database.  |
| DB Type                    | Yes      | Select the database type your Asset Manager schema is located on.   |
| DB Port                    | Yes      | Type the communication port of the Asset Manager database.  |
| DB Name/SID                | Yes      | <ul style="list-style-type: none"> <li>■ DB2: type in the name of the Database Alias you defined in the database connection.</li> <li>■ Oracle: type the service name.</li> <li>■ SQL Server: type the name of the schema.</li> </ul>   |
| DB Owner Name              | No       | Enter the owner of the AM database schema.  |
| Credentials ID             | Yes      | Select Asset Manager Protocol. Create a new protocol, under Asset Manager Protocol, complete: <ul style="list-style-type: none"> <li>■ Asset Manager User Name: AM administrator's user name.</li> <li>■ Asset Manager Password: AM administrator's password.</li> <li>■ DB User Name: The AM database user's name.</li> <li>■ DB Password: The AM database user's password.</li> </ul> |
| AM Version                 | Yes      | Select the version of the Asset Manager this integration point connects to.   |
| AM Population Push Back ID | No       | Select <b>True</b> to allow the adapter to push the GlobalId of UCMDDB CI back to the corresponding AM entity.  |

| Field                       | Required | Description   |
|-----------------------------|----------|---|
| AM Other Connection Options | No       | Options can be used in the amdb.ini file. See Asset Manager Installation guide > Chapter 9: .ini, .cfg, and .res files > Amdb.ini File Entries.   |
| Enable Parallel Push        | No       | Select to allow parallel (multi-threaded) data push to Asset Manager. This improves performance. Note that you must configure SQL Server & DB2 to support parallel push. See "Prepare Asset Manager for Parallel Push". |
| Data Flow Probe             | Yes      | Select the name of the Data Flow Probe/Integration service used to execute the synchronization from.  |
| Additional Probes           | No       | Select additional probes to use when pushing to AM in order to increase redundancy.   |

5. Click **Test Connection** to make sure there is a valid connection.

# Verify HP Asset Manager - HP Universal CMDB Integration

## Run the Data Push Jobs

To verify that Data Push is working, create a Node CI in UCMDB, and then follow these steps.

1. Log on to UCMDB.
2. From the left-hand navigation pane, select **Data Flow Management > Integration Studio**.
3. Create a new integration point, select the **AM Generic Adapter**.
4. Select the Integration Pointer, click the **Data Push** tab page on top right corner from right part.
5. Select out of box push job, then click the **Full Synchronization - Runs the selected job, synchronizing all of the data** button.
6. When the **Confirm synchronizing** window appears, click **Yes**.
7. Click the **Refresh** button and wait until the **Succeeded** message appears on the **Status** tab. Then, updated synchronization status appears.
8. To check push result: Go to AM web client, select **IT equipment** to confirm that all discovered CIs from UCMDB appear in AM.

## Run the Population Jobs

To verify that population is working, create a Business Service CI whose status is not Retired/Consumed in SM, and then follow these steps.

1. Log on to UCMDB.
2. From the left-hand navigation pane, select **Data Flow Management > Integration Studio**.
3. In the **Integration Point** pane, select the **AM Generic Adapter**.
4. Select the Integration Pointer, click the **Population** tab page on top right corner from right part .

5. Select out of box population job, then click the **Full Synchronization - Runs the selected job, synchronizing all of the data** button.
6. When the **Confirm synchronizing** window is displayed, click **Yes**.
7. Click the **Refresh** button and wait until the **Succeeded** message appears on the **Status** tab. Then, updated synchronization status appears.
8. To check population result: From the left-hand navigation pane, select **Modeling > IT Universe Manager**.
9. Select the **Search CIs** tab . In the **CI type**, select **Node** and click **Enter**. Confirm that all CIs from AM appear in UCMDB.

# HP Asset Manager - HP Service Manager Integration

## This chapter includes:

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| Use the Request Self-Service to Verify Asset Manager- Service Manager Integration ..... | 60 |

## Overview

This chapter describes the necessary steps to configure and verify the integration between SM and AM following a request from the catalog. This integration enables the Employee Self Service (ESS) user of Service Manager to create a request which will be transferred to Asset Manager and will be processed there until completion (Service Catalog integration).

A typical request handled by this integration includes the procurement of new IT assets—such as the purchase of a new laptop computer for an employee or a new server for a data center.

## Prerequisites

Before integrating AM and SM, there is some data that needs to be synchronized via HP Connect-It (CIT). This data includes information about People, Places, Things (PPT, not CIs), commonly referred to as PPT in the description described in this chapter. Depending on the current customer implementation phase, the master data source can be either Service Manager or Asset Manager—or each product will contain master data for specific record types.

By default, the provided HP Connect-It scenarios transfer the same PPT types from AM to SM and from SM to AM. You cannot implement the scenarios as they are, because data replication would circle back

and forth. Therefore, you must decide whether the AM or SM database will store the reference data for each of the PPT types:

- Companies
- Vendors
- Locations
- Departments
- Contacts
- Models
- Stock rooms

Run scenarios to synchronize PPT data between AM and SM:

1. Install HP Connect-It 9.60.
2. Download the SACM 9.40 content pack from HPLN(<https://hpln.hp.com>) and unzip it to C:\SACM940.
3. The HP Connect-It scenarios depend on the SACM Integration Web Service. You need to add this web service to SM:
  - a. Log on to HP Service Manager client with administrative rights.
  - b. Select **Menu Navigation > Tailoring > Database Manager** in the navigation pane.
  - c. Right-click the screen in the right pane and select **Import/Load**.
  - d. In the **File Name** field, enter C:\SACM940\datakit\sc\sm94\SACMIntegration.unl.
  - e. Click **Load FG**.
  - f. Select **Menu Navigation > Tailoring > Web Services > Web Service Configuration** in the navigation pane
  - g. In the **Service Name** field, enter SACMIntegration.
  - h. Click **Search**.

Verify that you see a list of entries prefixed with **SACM**.

4. Open HP Connect-It , browse to C:\SACM940.
5. Select one of the following scenarios:
  - If the reference database for all PPT types is AM:
    - Use amsm-ppt.scn to transfer the PPTs from AM to SM.
    - Do not use amsm-ci-ppt-link.scn because links between CIs and Contact, Model, Vendor, Location and Department are managed by the amsm-ppt.scn scenario.
  - If the reference database for all PPT types is SM:
    - Use smam-ppt.scn to transfer the PPTs from AM to SM.
    - Use smam-wo.scn to transfer changes and tasks.
  - If the reference database for PPT types is a mixed solution between AM or SM according to PPT type:
    - Customize smam-ppt.scn so that PPTs referenced in SM are transferred to AM.
    - Customize amsm-ppt.scn so that PPTs referenced in AM are transferred to SM.
    - Do not use amsm-ci-ppt-link.scn because links between CIs and Contact, Model, Vendor, Location and Department are managed by the amsm-ppt.scn scenario.
    - Use smam-wo.scn to transfer changes and tasks.
6. For each scenario, define the AM details and SM details.
7. After all the details are defined in the components, click **Produce now** to run the scenario.

**Note:** In an environment where an Employee Self Service (ESS) Catalog integration is planned (as described in ["Use the Request Self-Service to Verify Asset Manager- Service Manager Integration" on page 60](#)), it is necessary to disable Contact synchronization in order to prevent possible data duplication.

To disable the synchronization of Contact records:

1. Open the amsm-ppt.scn scenario in Connect-It.
2. In the **Scenario diagram** pane, select the **Mapping** box, and then select the **Mappings** tab.



3. In the Detail of the connector 'Mapping' pane, uncheck **Creation of a contact** and **Update a contact**.
4. Save the changes and exit the scenario.

## Install and Configure Asset Manager Web Service

This section shows you how to install and configure AM web service. For more information about Asset Manager web configuration, refer to the Installation and upgrade guide.

1. Install JDK 7 and configure the environment variable of the JAVA\_HOME to JDK folder; for example, C:\Java\jdk1.7.0\_65.
2. Install Apache Tomcat7.0.42 to C:\Tomcat7042.
3. In order for some required libraries to be found by AM Web, make sure <Asset Manager Installation folder>\bin or <Asset Manager Installation folder>\bin\x64 is in an environment variable of path.
4. Implementing AM Automated Process Manager in Windows:
  - a. Browse to **Start > Run**.
  - b. Type `services.msc`.
  - c. Select **Asset Manager Automated Process Manager 9.41** and change the startup type to automatic.
  - d. Click **Start** and **OK**.
  - e. Browse to **Start > All Programs > HP > Asset Manager 9.41 en > Automated Process Manager**.
  - f. Click **File** to connect to the new database.
  - g. Select the relevant database and enter the credentials.
5. Start the Tomcat configuration console (In Windows, click **Start > All Programs > Apache Tomcat 7.0 Tomcat7 > Configure Tomcat**), click the **JAVA** tab, populate the following fields:

| Field                | Value  |
|----------------------|--|
| Java Virtual Machine | C:\Java\jdk1.7.0_65\jre\bin\client\jvm.dll   |
| Java Classpath       | C:\Java\jdk1.7.0_65\lib\tools.jar;C:\Tomcat7042\bin\bootstrap.jar  |
| Java Options         | <p>Add the following lines:</p> <pre>-Djava.library.path=&lt;Asset Manager Installation folder&gt;\bin -Dsun.lang.ClassLoader.allowArraySyntax=true</pre> <div style="background-color: #e0e0e0; padding: 5px; margin-top: 10px;"> <p><b>Note:</b> If you are running the x64 version of Windows Server 2008, the path needs to be replaced by <code>-Djava.library.path=&lt;Asset Manager Installation folder&gt;\x64 -XX:MaxPermSize=128m</code>.</p> </div> |
| Initial memory pool  | 512 (or another value adapted to your computer)  |
| Maximum memory pool  | 1024 (or another value adapted to your computer)   |
| Thread stack size    | 1000 (or another value adapted to your computer ; it should be less than the total RAM of the computer ; at least 250 Mb less than the total RAM of the computer)  |

6. Make a backup copy of <Asset Manager Installation folder>\websvc, and then edit the parameters in the <Asset Manager Installation folder>\websvc\package.properties file. For parameter descriptions, see the Installation Guide of Asset Manager.
7. Open a command-line prompt, go to the <Asset Manager installation folder>\deploy folder, run the command:

```
deploy.bat ..\websvc\package.properties
```

If you are running the x64 version of Windows Server 2008, run the following command instead:

```
deploy.bat /x64 ..\websvc\package.properties
```

8. Copy <Asset Manager installation folder>\websvc\AssetManagerWebService.war to C:\Tomcat7042\webapps.

9. Start Tomcat.

10. Open a browser and go to following URL:

http://<Name or IP address of the Asset Manager Web Service server>:<Asset Manager Web Service port>/AssetManagerWebService

For example, http://localhost:8080/AssetManagerWebService

11. Make sure that the following page appears.



## Install and Configure AM Web Service Proxy

The web service proxy is an interface that is used to convert a query to create a purchase request from the HP Service Manager catalog into a series of calls to Asset Manager web service which enable the purchase request to be created in Asset Manager.

You can install the web service proxy on any computer (for example, on the computer that runs Asset Manager web service).

1. Install Apache Ant ( <http://ant.apache.org>) on the computer where you want to set up the web service proxy.
2. Install Java SE.
3. Back up <Asset Manager installation folder>\esscat\build\ant.properties.default and rename the duplicated file to ant.properties.
4. Edit ant.properties and change the **ws.host**, **ws.port** and **ws.service** parameters to have the `http://<ws.host>/<ws.port>/<ws.service>` link point to the computer where Asset Manager web service is installed.
5. Open a command-line prompt and go to the <Asset Manager installation folder>\esscat\build\ folder.

Execute the following command:

```
ant webapp
```

6. Deploy the generated ServiceCatalog.war file on your application server by following the standard procedure.
7. Because the Java virtual machine launched by the application server uses a lot of memory, you need to increase the available memory to at least 256 MB. To do so, modify the JVM (Java Virtual Machine) **MaxPermSize** parameter with the following switch:

```
-XX:MaxPermSize=256m
```

If you are using the Tomcat application server, follow these steps.

- a. Start the Tomcat configuration console (**Start >All Programs > Apache Tomcat 7.0 Tomcat7 > Configure Tomcat Windows menu**).
  - b. Select the **Java** tab.
  - c. Add the following line to the Java Options section:  

```
-XX:MaxPermSize=256m
```
  - d. Close the Tomcat configuration console.
8. Create ESS reference records in Asset Manager.

The different items that need to be created beforehand in Asset Manager are:

- Employees that can connect to the database and use the request self-service system (amEmplDept table). These employees must have a user account and password.
- Employees for whom a request is made (amEmplDept table).
- Standard request and product models (amModel table).
- Standard requests (amRequest table), products (amCatProduct table) and off-catalog products (amModel table).

## Install and Configure HP Service Manager Website

This section shows how to install and configure Service Manager website.

### Installation

1. Stop and copy SM web tier war file to TOMCAT\_HOME\webapps\ and rename it to sm940.war.
2. Start Tomcat to deploy this war file.
3. Search and modify these value of parameters in web.xml under C:\Tomcat7042\webapps\sm940\WEB-INF\.

```
<context-param>  
  <param-name>secureLogin</param-name>  
  <param-value>>false</param-value>  
</context-param>
```

Set this value to **false** if Service Manager is not configured as secure login.

```
<param-name>serverHost</param-name>  
  <param-value>192.168.0.1</param-value>  
</init-param>
```

This IP address goes to the SM server. Generally, the param-value should be "localhost".

```
<init-param>  
  <param-name>serverPort</param-name>  
  <param-value>13080</param-value>  
</init-param>
```

The SM service port is specified in the installation wizard. The initial value is 13080. If that is incorrect, contact the technician who installed the SM server (sm.ini).

4. Remove `sm940.war`, and then restart Tomcat.
5. Test SM web with the following URL.

`http://<Name or IP address of the SM Web client server>:<SM Web client server port number>/<SM instance name>/index.do`

For example:

`http://localhost:8080/sm940/index.do`

6. For ESS user, test `http://<Name or IP address of the SM Web client server>:<SM Web client server port number>/<SM instance name>/ess.do`

For example:

`http://localhost:8080/sm940/ess.do`

## Configuration

If you already have a full version of HP Service Manager, make sure that you have installed HP Service Manager web for an ESS (Employee Self-Service) user or consult the HP Service Manager installation guide to install it.

1. Disable the request validation.
  - a. Log on to the SM website.
  - b. In the browser, select **Menus Service Catalog > Administration > Approval Activities**.
  - c. Select the first line of the **General Approval** table.
  - d. Click the **Remove Approval Activity** link.
  - e. Click **Finish**.
2. Enable the transfer of catalog items.

- a. Log on to the SM website with administrative rights.
  - b. Select **Menu Tailoring > Database Dictionary** in the navigation pane.
  - c. Enter `svcDisplay` in the **File name** field, click **Search**.
  - d. Select the descriptor entry in the table (first line of the table, do not click the name column).
  - e. Click the **New Field/Key** button.
  - f. Populate the **Name** field with the **optionList** value, the **Type** field with the character value, and click **Add Field**.
  - g. Edit the **optionList** entry in the table to populate the SQL Name field with `OPTIONLIST`, SQL Type with `IMAGE`, and SQL Table with `m1`, then click **OK**.
  - h. Click **OK**, click **SM Alters**.
  - i. Enter `svcDisplay` in the **File name** field, click **Search**.
  - j. Select the descriptor entry in the table (first line of the table) again.
  - k. Click the **New Field/Key** button.
  - l. Populate the **Name** field with the **optionOptions** value, the **Type** field with the character value, and click **Add Field**.
  - m. Edit the **optionOptions** entry in the table to populate the **SQL Name** field with `OPTIONOPTIONS`, SQL Type with `IMAGE`, and SQL Table with `m1`, and then click **OK**.
  - n. Click **OK**, click **SM Alters**.
  - o. Select **Tailoring > Database Manager**.
  - p. Click **More > Import/Load**.
  - q. In the **File Name** field, select the **<Asset Manager Installation folder>\esscat\sc\sm71\SCR42940.unl** file path, and then click the **Load FG** button.
  - r. Wait until you get a message like "SCR42940.unl file loaded".
3. Enable the transfer of images.

- a. Log on to SM website with administrative rights.
  - b. Select **Tailoring > Database Manager**.
  - c. Click **More > Import/Load**.
  - d. Right-click the **Database Manager** screen and select **Import/Load** in the contextual menu.
  - e. In the **File Name** field, select the **<Asset Manager Installation folder>\esscat\sc\sm71\QC8955.unl** file, and then click the **Load FG** button.
  - f. Wait until you get a message like "QC8955.unl file loaded".
4. Expose the detailed **Description** field in the ServiceCatalog web service so that the cart status can be updated by the HP Connect-It scenario.
- a. Log on to the SM website with administrative rights.
  - b. Select **Tailoring- Web Services > Web Service Configuration** from the navigation bar.
  - c. In the **Service Name** field, enter ServiceCatalog, click **Search**.
  - d. Select the **ServiceCatalog** entry in the list of results, uncheck the **Deprecated** option.
  - e. In the details of the ServiceCatalog web service, select the **Fields** tab.  
  
At the end of the list of fields, add a new entry with the following information:
    - o Field: detailedDescription
    - o Caption: DetailedDesc
    - o Type: StringType
  - f. Click **Save** and **OK**.
5. Expose the resolution field in the ServiceDesk web service so that images can be transferred from Asset Manager to HP Service Manager by the HP Connect-It scenario.
- a. Log on to the SM website client with administrative rights.
  - b. Select **Tailoring > Web Services > WSDL Configuration** from the navigation bar.
  - c. In the **Service Name** field, enter ServiceDesk, click **Search**.



- d. Select the **ServiceDesk** entry in the list of results.

In the details of the **ServiceDesk** web service, select the **Fields** tab.

- e. At the end of the list of fields, modify the resolution field with the following information:

- o Caption: Resolution
- o Type: StringType

- f. In the same list, modify the **resolution.code** field with the following information:

- o Caption: ResolutionCode

- g. Click **Save** and **OK**.

6. As the web service proxy acts as a link between HP Service Manager and Asset Manager Web Service, you will need to configure the links between these elements.

To configure the link between HP Service Manager and the web service proxy, configure the Catalog connector in HP Service Manager as follows:

- a. Log on to SM website with administrative rights.
- b. Select **Service Catalog > Tailoring > Catalog Connectors**.
- c. Click **Search**.
- d. Select the connector named **Open a Standard Request** in Asset Manager.
- e. On the **Expressions** tab, enter the path to the web service proxy just after **\$L.url**:

```
$L.url="http://<Name or IP address of the AM Web Service Proxy>:<AM Web Service Proxy port number>/ServiceCatalog/services/ServiceCatalog"
```

For example:

```
$L.url="http://ProxyServer:8080/ServiceCatalog/services/ServiceCatalog"
```

- f. Enter user account and password value for **\$L.login** and **\$L.pwd**, for example:

```
$L.login="Admin"
```

```
$L.pwd=""
```

7. Update the AM web service proxy JAVA script.

- a. Log on to the SM website with administrative rights.
- b. Select **Tailoring > Web Services > Run WSDL to JS**.
- c. Enter the URL for the WSDL of Asset Manager web service proxy.

The format is:

```
http://<Name or IP address of the AM Web Service Proxy>:<AM Web Service Proxy port number>/ServiceCatalog/wsd1/ServiceCatalog.wsd1
```

For example:

```
http://ProxyServer:8080/ServiceCatalog/wsd1/ServiceCatalog.wsd1
```

- d. Click **Proceed**.

This displays a window with the new Java script corresponding to the web service proxy.

- e. Click **Replace**.

You should get the following message:

```
Successful compilation of JavaScript function or expression.
```

- f. Click **Save**.

- g. Click **Compile**.

You should get the following message:

```
Successful compilation of JavaScript function or expression.
```

8. Activate the linker scheduler.

- a. Log on to SM website with administrative rights.
- b. Select **Miscellaneous > System Status**.
- c. Check linker that appears in the list.
- d. If the linker scheduler already appears in the list, restart it.
  - i. In the **Command** column of the linker line, enter **K**.
  - ii. Click the **Execute Commands** button.

- iii. Repeat this action until the linker line disappears.
      - e. Click the **Start Scheduler** button.
      - f. Double-click **linker-startup** in the list.
  9. Configure User profiles for ESS(Employ Self Service).
    - a. Log on to SM website with administrative rights.
    - b. Select **System Administration > Ongoing Maintenance > Operators**.
    - c. Enter `Template_SelfService` in the **Login Name** field, and then click **Search**.
    - d. On the **Self Service** tab, check the **Self Service Access Only** checkbox.
    - e. On the **Startup** tab, section **Execute Capabilities**, if `svcCatEmployeeRequester` is not in the list, add `svcCatEmployeeRequester` to the first empty line of the table
    - f. Save your changes

## Verify Asset Manager – Service Manager Normal Integration

To verify the normal integration of Asset Manager and Service Manager, follow these steps.

1. Log on to the SM website and open a new change request.
2. Browse to **Change Management > Changes > Create New Change**.
3. Enter all relevant data and mandatory fields.
4. Click **Save**.
5. Open HP Connect-It.
6. Open the scenario `smam-wo.scn`.
7. Fill the relevant parameters for each product.
8. Click **Produce Now**.

9. Log on to HP Asset Manager.
10. Browse to **Asset Lifecycle > Work Orders > Work Orders**.
11. Confirm that AM receives the change request .

**Note:** This out-of-the-box integration synchronizes all Change and Change Tasks records from Service Manager to Asset Manager. In the production environment, the user may want to limit the scope for specific Change categories. To achieve this, there is a need to modify the smam-wo.scn scenario.

## Use the Request Self-Service to Verify Asset Manager-Service Manager Integration

1. Run the OOB scenarios in Connect-It to synchronize the basic data from Asset Manager to Service Manager.
  - a. Open Connect-It 9.60, click **File > Open**.
  - b. Open and run scenarios located in <HP Connect-It installation folder>\scenario\ac\am94\esscat\am94sm933\ in the following order.
    - users.scn: Synchronization of employees
    - sso.scn: Synchronization of logins
    - categories.scn: Synchronization of standard request and product models
    - catalogitems.scn: Synchronization of standard requests, products and off-catalog products
    - status.scn: Synchronization of request/cart statuses
  - c. In the **Scenario diagram** window, modify the configuration of the SM web service connectors and AM connectors.
  - d. Save your changes.
  - e. Run the scenarios.

2. Check the operator in Service Manager.
  - a. Log on to SM website with administrative rights.
  - b. Select **System Administration > Ongoing Maintenance > Operators**.
  - c. Enter the logon name(amEmplDept.name in AM) in the **Login Name** field, for example, Shivute, who is administrator in AM.
  - d. On the **Self Service** tab, make sure that the **Self Service Access Only** option is selected.
  - e. On the **Startup** tab, the user has the following execute capabilities:
    - partial.key
    - partial.key.msg.skip
    - service desk
    - service catalog
    - change request
    - svcCatEmployeeRequester
    - svcCatDeptRequester
3. Create the request self-service.
  - a. Log on to the SM ESS website (<http://<Name or IP address of the SM Web client server>:<SM Web client server port number>/<SM instance name>/ess.do>) with a user account that has self-service right.
  - b. Select **Miscellaneous > Order from Catalog**.
  - c. Select a service catalog in the right list which is from Asset Manager, for example: Deskpro HP EliteDesk 800 G1 (000025).
  - d. Select the user in the list for **Request for** field, select the **Quantity**, add attachments if needed.
  - e. Click **Add to Cart**, you will get a message like :

Deskpro HP EliteDesk 800 G1 (000025) has been added to your cart.

- f. Click **View Cart/Checkout**.
- g. Click **Submit Request**.
- h. Enter values in the **Purpose** and **Urgency** fields.
- i. Click **Submit**.
- j. Log on to AM, from menu **Asset lifecycle > Procurement lifecycle > Purchase requests**, the request created in SM should be in the list.
- k. The request is then processed in Asset Manager and the standard procurement cycle is triggered.
- l. The status of the cart is updated in HP Service Manager through the status.scn scenario in HP Connect-It.

For more information about the HP Service Manager Service Catalog and the request creation procedure in HP Service Manager, refer to the Service Catalogs section of the HP Service Manager online help.

# CI's Reconciliation Priority Best Practices

## This chapter includes:

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| Priorities Logic .....           | 63 |
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## Overview

In the SACM Solution, as well as from the ITPS Suite perspective, UCMDB is the center CI repository. As such, it is populated with CI information from various HP and third-party products. Therefore, UCMDB must decide which source is more reliable and which source has the most accurate information.

UCMDB uses internal out-of-the-box reconciliation rules that make sure no duplications are created and the CI information is accurate. In addition, it also uses the Reconciliation Priority module that gives the Configuration Manager the power to determine for UCMDB which integration points are more reliable for which CI Types or Attributes (for more information, see Chapter 10 Reconciliation Priority in the HP UCMDB Data Flow Management Guide).

In the SACM Solution, UCMDB is populated with CI information from two products – AM and SM.

This chapter details the Best Practice guidelines and configuration instructions for how to prioritize the information received from AM and SM into UCMDB in order for your UCMDB to contain the most accurate CI information.

## Priorities Logic

Consider the following when building the priorities detailed in the following CI Reconciliation Priority Mapping table:

- UCMDB DDMA discovery reflects reality by its capability and is the most reliable source of information for discoverable CITs.
- Business services and applications information is most likely to be more accurate in SM as the owner of the Service Catalog.

- There are CITs that are coming from AM or SM—but not both. Thus, if it is a discoverable CIT, DDMA will get the highest priority, and AM or SM will get the lower priority. Otherwise, the relevant product will get the priority. For example, for the Asset CIT, AM gets the highest priority.



**Note:** The following table of priorities is based only on CITs and Attributes that are supported by the Out-of-the-Box (OOTB) population integration.

The CI Reconciliation Priority Mapping table maps the various CITs and attributes between the three products—UCMDB, AM, and SM. The table also contains the necessary values to be defined for each integration point using the following instructions.

| UCMDB CI / Attribute   | Data Source in the other products |   |              | Reconciliation Priority |     |     |
|--|-----------------------------------|---|--------------|-------------------------|-----|-----|
|  | AM                                | SM  |              | Discovery               | AM  | SM  |
| /Asset   | deviceAsset                       | N/A   |              | 100                     | 300 |     |
| asset_tag  | AssetTag                          |   |              |                         |     |     |
| /ConfigurationItem/BusinessElement/Service/BusinessService       | N/A                               | Business Service/<br>Business Service       | CIIdentifier | 100                     |     | 200 |
| name   |                                   |   |              |                         |     |     |
| /ConfigurationItem/BusinessElement/BusinessApplication           | N/A                               | Business Service/<br>Application Service    | CIIdentifier | 100                     |     | 200 |
| name   |                                   |   |              |                         |     |     |
| /ConfigurationItem/BusinessElement/Service/InfrastructureService | N/A                               | Business Service/<br>Infrastructure Service | CIIdentifier | 100                     |     | 200 |
| name   |                                   |   |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/Location                | amLocation                        | N/A   |              | 100                     | 200 |     |
| name   | Name                              |   |              |                         |     |     |
| location_type  | LocationType                      |   |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/Node                    | host                              | Computer                                    |              | 300                     | 100 | 100 |
| name   | TcpipHostName                     | N/A   |              |                         |     |     |
| serial_number  | AssetSerialNo                     | SerialNo                                    | 300          | 200                     | 100 |     |
| bios_serial_number   | N/A                               | BIOSId                                      |              |                         |     |     |
| discovered_os_name   | OperatingSystem                   | OS  |              |                         |     |     |
| discovered_os_version  | OSServiceLevel                    | OSVersion                                   |              |                         |     |     |
| memory_size  | IMemorySizeMb                     | PhysicalMemory                              |              |                         |     |     |
| discovered_vendor  | N/A                               | Vendor                                      | 300          |                         | 200 |     |
| node_role  | ComputerType                      | CI-SubType                                  |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/NetworkEntity/IpAddress | amNetworkCard                     | Computer/addlIPAddr                         |              | 300                     | 100 | 100 |
| ip_isdhcp  | bDHCPEnabled                      | N/A   |              |                         |     |     |
| ip_address   | TcpipAddress                      | N/A   |              |                         |     |     |
| ip_address_value   | ip_address_value                  | N/A   |              |                         |     |     |
| ip_address_property  | ip_address_property               | N/A   |              |                         |     |     |
| name   | TcpipAddress                      | AddlIPAddress                               |              |                         |     |     |
| ip_netmask   | SubnetMask                        | AddlSubnet                                  |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/NodeElement/Interface   | amNetworkCard                     | Computer/AddlMacAddress                     |              | 300                     | 100 | 100 |
| mac_address  | PhysAddress                       | AddlMacAddress                              |              |                         |     |     |
| name   | N/A                               | AddlMacAddress                              |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/NodeElement/CPU         | N/A                               | Computer/CPU                                |              | 300                     | 100 | 100 |
| name   |                                   | CpuName                                     |              |                         |     |     |
| cpu_id   |                                   | CpuID                                       |              |                         |     |     |
| cpu_clock_speed  |                                   | CpuClockSpeed                               |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/NodeElement/DiskDevice  | N/A                               | Computer/disk.device                        |              | 300                     | 100 | 100 |
| name   |                                   | DiskName                                    |              |                         |     |     |
| model_name   |                                   | ModelName                                   |              |                         |     |     |
| vendor   |                                   | DiskVendor                                  |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/NodeElement/FileSystem  | N/A                               | Computer/file.system                        |              | 300                     | 100 | 100 |
| disk_size  |                                   | DiskSize                                    |              |                         |     |     |
| mount_point  |                                   | MountPoint                                  |              |                         |     |     |
| filesystem_type  |                                   | FilesystemType                              |              |                         |     |     |
| disk_type  |                                   | DiskType                                    |              |                         |     |     |
| /ConfigurationItem/InfrastructureElement/RunningSoftware         | N/A                               | Running Software (???)                      |              | 300                     |     | 200 |
| discovered_product_name  |                                   | CIIdentifier                                |              |                         |     |     |
| product_name   |                                   | ApplicationName                             |              |                         |     |     |
| application_version  |                                   | ProductVersion                              |              |                         |     |     |
| vendor   |                                   | Vendor                                      |              |                         |     |     |
| version  |                                   | Version                                     |              |                         |     |     |

## CI Reconciliation Priority


One of the challenges of managing an asset in its lifecycle phase as an active CI is to have as much information on it as possible collected from various systems—in addition to Discovery (such as business-related information)—but at the same time prevent duplication in the CMS system and, most importantly, keep the data's integrity. For these reasons, UCMDB holds the reconciliation capability and, in addition, allows the Configuration Manager to set priorities for the various sources of CIs.

In the SACM Solution, we have three sources – AM, SM and DDM. As part of the Solution's assets, there are Best Practices guidelines on how to set the Reconciliation Priority between AM, SM and DDM.


### To configure CI Reconciliation Priority


1. Log on to UCMDB as an administrator.
2. From the left-hand navigation pane, select **Data Flow Management > Reconciliation Priority**.
3. In the CI Types pane, in the **Managed Object** tree, select the relevant CI type.
4. In the CI Type Overrides pane, select the integration name you wish to change the priority value for and click the **Priority** field to modify the value.


Repeat this step for every Integration Name you wish to change the Priority value for.

5. When the changes for the CI types are complete, click the **Save**  button in the CI Types pane.

### To set the priority for a specific attribute for a particular CI type:

1. Select the relevant integration name in the CI Type Overrides pane.
2. In the Attribute Overrides pane, click the **Add**  button. The Add Attribute dialog box is displayed.
3. Select the relevant Attribute from list and click **OK**. The selected CI Attribute appears in Attribute Overrides pane.
4. Modify the **Priority** value.

**Note:** If you add the wrong attribute to the list, use the **Reset Attribute**  button to reset the Attribute Overrides list. Be aware this action clears all values in the **Attribute Overrides** list.

5. When finished with the changes to that CI type, click the **Save**  button in the CI Types pane.

# Technical Reference

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## Overview

This appendix explains, for each database involved in the SACM integration, which data objects are sourced and mapped by which scenario or adapter, as well as the reconciliation keys used and any special requirements needed for data transfers to work properly.

## HP Service Manager <-> HP Asset Manager

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## Overview

### Overview of the HP Asset Manager – HP Service Manager integration

| Integration direction  | From AM to SM | From SM to AM |
|------------------------|---------------|---------------|
| Integration technology | HP Connect-It | HP Connect-It |

| Integration direction   | From AM to SM  | From SM to AM   |
|-------------------------|--|---|
| Populated data          | <ul style="list-style-type: none"> <li>• amsm-ppt.scn:                             <ul style="list-style-type: none"> <li>■ Companies</li> <li>■ Vendors</li> <li>■ Locations</li> <li>■ Departments</li> <li>■ Contacts</li> <li>■ Models</li> <li>■ Stock rooms</li> <li>■ Links between CIs and Contact, Model, Vendor, Location, Department</li> </ul> </li> <li>• amsm-ci-ppt-link.scn                             <ul style="list-style-type: none"> <li>■ Links between CIs and Contact, Model, Vendor, Location, Department</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• smam-ppt.scn:                             <ul style="list-style-type: none"> <li>■ Companies</li> <li>■ Vendors</li> <li>■ Locations</li> <li>■ Departments</li> <li>■ Contacts</li> <li>■ Models</li> <li>■ Stock rooms</li> </ul> </li> <li>• smam-wo.scn:                             <ul style="list-style-type: none"> <li>■ Changes and tasks</li> </ul> </li> </ul> |
| HP Connect-It scenarios | <ul style="list-style-type: none"> <li>• amsm-ppt.scn</li> <li>• amsm-ci-pptlink. scn</li> </ul>   | <ul style="list-style-type: none"> <li>• smam-ppt.scn</li> <li>• smam-wo.scn</li> </ul>   |

**Note:** These scenarios do not create CIs. CIs are created in AM directly or created in HP Discovery and Dependency Mapping Inventory and populated in AM.

AM CIs are populated/federated to UCMDB.

UCMDB CIs are populated to SM.

## What happens when a CI does not exist in SM

If a CI does not exist in SM yet when a PPT/CI link is presented, an AM output event is created by the HP Connect-It scenarios.

HP Connect-It will try and process the output events whenever the scenario is rerun.

Note that output events automatically expire according to the AM database options:

1. Start the AM Windows client and connect to the database.
2. Use the **Administration/ Database options...** menu.
3. Configure the **Event management/ Expiration time for output events (hours)** option.

## Reconciliation keys for amsm-ppt.scn

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### Companies

| Key in SM           | AM value searched for in the SM key |
|---------------------|-------------------------------------|
| company:customer.id | amCompany.Code                      |

Only AM companies for which **amCompany.Qualif1 = Parent company** are replicated.

For languages other than English, the <HP Connect-It installation folder>\config\ac\strings\qualif.str file must be customized. The ID of the string to modify in this file is **AMQUALIF\_PARENT**. Replace **Parent** company with the right string for your language.

The AM amCompany:Code field must be populated.

### Vendors

| Key in SM           | AM value searched for in the SM key |
|---------------------|-------------------------------------|
| vendor:vendor       | amCompany.Name                      |
| AND vendor:location | amCompany.MainSite:Barcode          |

## Locations

| Key in SM         | AM value searched for in the SM key |
|-------------------|-------------------------------------|
| location:location | amLocation.BarCode                  |

The AM **amLocation.BarCode** field must be populated.

## Departments

| Key in SM                   | AM value searched for in the SM key  |
|-----------------------------|--|
| dept:company +<br>dept:dept | <p>amEmplDept.Location.Company.Code Reconciliation uses the following rule:</p> <pre data-bbox="505 485 1365 810"> RetVal = RemoveSlashAtExtremity([FullName]) If [Location.Company.Code] &lt;&gt; "" Then RetVal = [Location.Company.Code] &amp; "/" - &amp; RetVal End If                     </pre> <p><b>Example:</b></p> <p>In AM, we have four departments:</p> <ul style="list-style-type: none"> <li>• Department <b>NameA</b><br/>                         FullName = <b>/NameA/</b></li> <li>• Department <b>NameB</b> under <b>NameA</b><br/>                         FullName = <b>/NameA/NameB/</b></li> <li>• Department <b>NameC</b> under <b>NameB</b><br/>                         FullName = <b>/NameA/NameB/NameC/</b></li> <li>• Department <b>NameD</b> under <b>NameC</b><br/>                         FullName = <b>/NameA/NameB/NameC/NameD/</b></li> </ul> <p><b>NameD</b> is linked to a location linked to a company with <b>amCompany.Code = COMPANY_CODE SM</b>.</p> <p>The key for <b>NameD</b> is <b>COMPANY_CODE/NameA/NameB/NameC/NameD</b>.</p> <p>The key for <b>NameC</b> is <b>NameA/NameB/NameC</b>.</p> |

Only AM departments for which **amEmplDept.bDepartment = 1** are replicated.

## Contacts

| Key in SM             | AM value searched for in the SM key                  |
|-----------------------|--|
| contacts:contact.name | amEmplDept.Name, Name.FirstName (amEmplDept.BarCode) |

**Note:**

- **amEmplDept.Name** can be up to 50 characters long, **Name:FirstName** up to 30 characters, and **amEmplDept.BarCode** up to 255 characters long.
- **contacts.contact.name** can only store 140 characters.
- If the **amEmplDept.BarCode** field does not exceed 55 characters, the reconciliation keys work fine.

## Models

| Key in SM     | AM value searched for in the SM key |
|---------------|-------------------------------------|
| model:part.no | amModels.BarCode                    |

**Note:** The AM **amModels.BarCode** field must be populated.

## Stock rooms

| Key in SM           | AM value searched for in the SM key |
|---------------------|-------------------------------------|
| stockroom:stockroom | amStock.Name                        |

## Reconciliation keys for amsm-ci-ppt-link.scn

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## Links between device CIs and PPT objects

| Key in SM   | AM value searched for in the SM key  |
|---|--|
| device:asset.tag  | amComputer.AssetTag  |
| Devices are linked to the following objects: <ul style="list-style-type: none"> <li>• Contact</li> <li>• Model</li> <li>• Vendor</li> <li>• Location</li> <li>• Department</li> </ul> | The same keys are used as for the transfer of PPTs themselves. See tables above. |

The AM **amComputer:AssetTag** field must be populated.

## Reconciliation keys for smam-ppt.scn

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The smam-ppt.scn scenario uses the SACMIntegration web service.

## Locations and their link to a company and a country

| Key in AM               | SM value searched for in the AM key |
|-------------------------|-------------------------------------|
| amLocation.BarCode      | location:location                   |
| amCompany.Code          | location:company                    |
| amLocation.Country.Name | location:country                    |

If no country can be found for which **amCompany:Code = location:country**, the location will be linked to a location with **amCompany:Code = Unknown country**.

Make sure the AM **amCompany:Code** field is populated.

Make sure the AM **amCountry:Name** field is populated with unique values.

smam-ppt.scn uses the **ScCountryToAc** map table in the catmod.mpt file to map SM countries to AM countries.

## Companies

| Key in AM               | SM value searched for in the AM key |
|-------------------------|-------------------------------------|
| amCompany.Code          | company:CompanyCode                 |
| amCompany.MainSite.Name | company:CompanyCode                 |
| amCompany.Sites.Name    | company:CompanyCode                 |

Make sure the AM **amCompany.CompanyCode** field is populated with unique values.

Make sure the AM **amCompany.Code** field is populated.

## SM Companies replicated as AM departments

| Key in AM                    | SM value searched for in the AM key |
|------------------------------|-------------------------------------|
| amEmplDept.BarCode           | company:CompanyCode                 |
| amEmplDept.Location.FullName | company:CompanyCode                 |

Make sure the SM **amCompany.CompanyCode** field is populated with unique values.

**amEmplDept.bDepartment** is set to **1**.

## Departments

| Key in AM           | SM value searched for in the AM key |
|---------------------|-------------------------------------|
| amEmplDept.FullName | dept:dept.structure                 |

**amEmplDept.bDepartment** is set to **1**.

A function converts **dept:dept.structure** to **amEmplDept.FullName**.

## Contacts

| Key in AM                   | SM value searched for in the AM key |
|-----------------------------|-------------------------------------|
| amEmplDept.BarCode          | contacts:contactname                |
| amEmplDept.Location.BarCode | contacts:location                   |
| amEmplDept.Parent.FullName  | contacts:dept                       |

Make sure the SM **contacts:locationcode** field is populated with unique values.

## Operators

| Key in AM                       | SM value searched for in the AM key  |
|---------------------------------|--|
| amEmplDept.BarCode              | operator:name  |
| amEmplDept.WorkUnit.Description | operator:name  |
| amEmplDept.WorkUnit.Model.Name  | The scenario links the employee to the model for which<br>amModel.Name = Hourly rate |

Operators is an extension of the contacts table.

After contacts have been imported, operators are imported to populate **amEmplDept.WorkUnit**.

A model is created in AM with **amModel.Name = Hourly rate**.

This model is linked to a nature (which must pre-exist) with **amNature.Code = TCO\_WORK\_UNIT** and also linked to a parent model which **amModel.Name = Work** unit and which will be created if it does not exist.

The parent model must also be linked to a similar nature.

This must be created by hand or can be retrieved through the import of **Financials – Line-of-business data (TCO-budgets-chargeback)**.

## Vendors

| Key in AM  | SM value searched for in the AM key   |
|--|---|
| amCompany.Name                                       | vendor:vendor   |
| amCompany.MainSite.FullName                          | <b>vendor:vendor.id +<br/>vendor:vendor.location</b>  |
| amCompany.MainSite.Country.Name                      | vendor:country  |
| amCompany.Contact.FirstName + amCompany.Contact.Name | <ul style="list-style-type: none"> <li>• vendor:contract.person</li> <li>• vendor:order.person</li> <li>• vendor:sales.mgr</li> <li>• vendor:service</li> </ul> |

Make sure **vendor:contract.person**, **vendor:order.person**, **vendor:sales.mgr** and **vendor:service** use the **<Last name>**, **<First name>** format.

This is split into **amCompany.Contact.FirstName** and **amCompany.Contact.Name** in AM.

Make sure the SM **vendor:vendor** field is populated with unique values. If two different SM vendors have the same value for the **vendor:vendor** field in SM in different locations, only the first vendor is imported to AM.

Make sure the SM **vendor:vendor.location + vendor:vendor.id** fields are populated with unique values. If two SM vendors have the same value for the **vendor:vendor.location** field and for the **vendor:vendor.id** field although they are linked to different locations (address differs), the two vendors will be linked to the same location (the first that was transferred to AM)

Make sure the AM **amCountry.Name** field is populated with unique values.

The HP Connect-It scenario uses the **SccountryToAc** map table in the catmod.mpt file to map **amCountry.Name**.

## SM vendor sites replicated as companies in AM

| Key in AM               | SM value searched for in the AM key                                      |
|-------------------------|--|
| amLocation.FullName     | <b>vendor:vendor.id + vendor:location</b> are used to create a full name |
| amLocation.Company.Name | vendor:vendor  |

Make sure the SM **vendor:vendor.id + vendor:location** fields are populated with unique values. If two SM vendors have the same value for the **vendor:vendor.id + vendor:location** fields although they are linked to different locations (address differs), the two vendors locations will result in a single location in AM (the first that was transferred to AM)

When vendors were created (see "[Vendors](#)" on the [previous page](#)), if two different SM vendors have the same value for the **vendor:vendor** field in SM in different locations, only the first vendor is imported to AM. So when the location created by this mapping is linked to a company, it may be associated to the wrong company.

## Stocks

| Key in AM                    | SM value searched for in the AM key |
|------------------------------|-------------------------------------|
| amStocks.Name                | stockRoom:stockroom                 |
| amStock.Supervisor.BarCode   | stockRoom:manager                   |
| amStock.DelivLocation.Field1 | location:location                   |

## Models

| Key in AM   | SM value searched for in the AM key |
|---|-------------------------------------|
| amModel.BarCode   | model:part.no                       |
| amModel.Brand.Name +<br>amModel.Brand.Com-<br>model:manufacturer<br>pany.Name | model:manufacturer                  |
| amModel.Nature.Code   | model:Category                      |

| Key in AM              | SM value searched for in the AM key  |
|------------------------|--|
| amModel.Parent.BarCode | model:Category   |
| amModel.Photo          | <pre> if [RetrieveSACMModelResponse.model.instance.attachments.attachment(0).name] = "" then RetVal = [RetrieveSACMModelResponse.model.instance.Model] + "_" + [RetrieveSACMModelResponse.model.instance.PartNumber] else RetVal = "SM_" &amp; [RetrieveSACMModelResponse.model.instance.attachments.attachment(0).name] end if                     </pre> |

**amModel.Nature.Code** is mapped using the **ScToAcNature** map table located in <HP Connect-It installation folder>\scenario\ac\ac53\sacm\mpt\catmod.mpt.

The natures listed in the **ScToAcNature** map table must exist in the AM database.

A model is not created in AM unless at least one of following is populated in SM: **model:Model**, **model:PartNumber**, **model:Category**.

## Reconciliation keys for smam-wo.scn

### This section includes:

|                                |    |
|--------------------------------|----|
| Changes > Workorders .....     | 78 |
| Tasks > Workorders .....       | 79 |
| For the corresponding CI ..... | 79 |

This scenario propagates details of unplanned changes and tasks from SM to AM as Work Orders.

The relevant links between CIs and PPT data are propagated from AM to SM by another HP Connect-It scenario.

### Changes > Workorders

| Key in AM        | SM value searched for in the AM key |
|------------------|-------------------------------------|
| amWorkOrder.WoNo | cm3r:header.number                  |

## Tasks > Workorders

| Key in AM        | SM value searched for in the AM key |
|------------------|-------------------------------------|
| amWorkOrder.WoNo | cm3t:header.number                  |

## For the corresponding CI

| Key in AM           | SM value searched for in the AM key |
|---------------------|-------------------------------------|
| amComputer.AssetTag | device:logical.name                 |