HP Asset Manager

For the Windows® and Linux® operating systems

Software Version: 9.41

Integration with Data Center Infrastructure Management

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Introduction

Purpose of this guide

This guide covers three areas:

- It explains the benefits of integrating HP Data Center Infrastructure Management and Asset Manager
- It outlines the technical solution underlying this integration, and the practical steps needed to implement it.
- It explains the enhanced user facilities that the integration provides in both systems, and Best Practice procedures for using them.

What are the benefits of this integration?

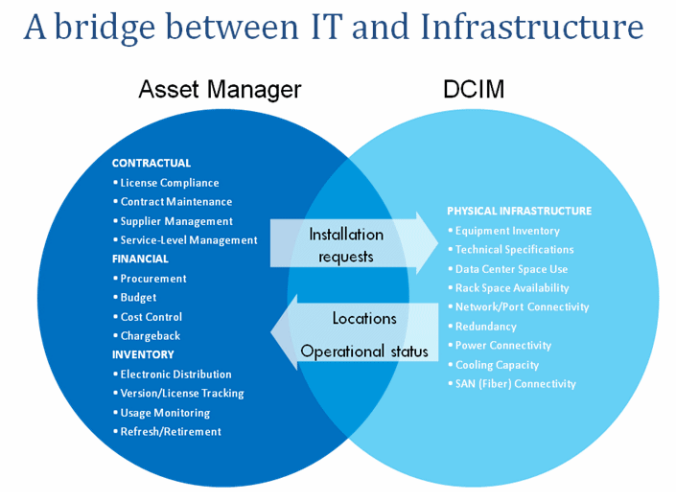
Integrating market-leading systems for Asset Management and Data Center Management provides substantial, wide-ranging benefits, at a low premium to the base cost of the two systems.

Integration between HP Data Center Infrastructure Management and Asset Manager provides a common ground for Data Center Managers and Procurement Managers to:

- Use powerful tools to monitor and report on data center operations
- Proactively manage capacity, based on business and IT forecasts:
  - Accurately predict new data center requirements
  - Manage consolidation projects
  - Right-size infrastructure resources
  - Stretch lifespan of existing data centers
  - Maximize ROI (Return on Investment)
- Make operational improvements
  - decrease time to provision equipment
  - reinforce 24x7 availability
- Enforce industry Best Practices via integrated and standardized processes: integration between the end-to-end procurement process and the provisioning process. Integration offers enhanced reliability and overall quality
- Perform compliance tracking and reporting
- Access enhanced inventory and floor plan information

- Improve energy efficiency (green initiatives)
- Offset rising energy costs

The following schematic summarizes the key processes impacted by Asset Management and Infrastructure Management, and how this integration helps bridge the gap.



As a result of this integration, Asset Manager's powerful procurement capabilities are complemented by the fine-tuned Data Center management and provisioning facilities of HP Data Center Infrastructure Management. The two workflows, for procurement and provisioning, can progress in parallel - synchronized and controlled at key status points.

Consider the key scenario where a new device needs to be installed in a Data Center. A user requests the new device in Asset Manager through a classical request. The device he wants to be installed is added to a request. A corresponding request is created in HP Data Center Infrastructure Management, to which more detailed installation details can be added.

Two workflows are then managed:

- **In Asset Manager: the procurement workflow starts**. The request is validated. New equipment is ordered if necessary, and eventually reserved from stock for the installation.
- **In HP Data Center Infrastructure Management: the provisioning workflow starts**. The power, network, space and storage are provisioned for the new devices to be installed.

For details of how these workflows operate in practice, see the section "Procurement and Provisioning Workflows " on page 29.

Note: HP Data Center Infrastructure Management is a packaged version of Aperture VISTA. Clients who purchase HP Data Center Infrastructure Management will receive and install Aperture VISTA. When you run Aperture VISTA, you will not see HP Data Center Infrastructure Management used in the interface. Links to Aperture VISTA from Asset Manager refer to it as HP Data Center Infrastructure Management. For the rest of this White Paper, HP Data Center Infrastructure Management will be used to refer to Aperture VISTA.

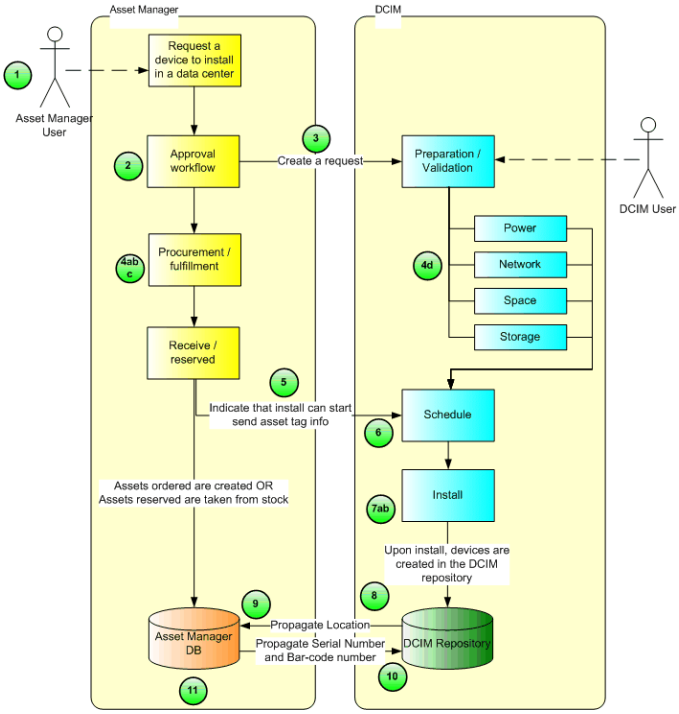
Who the integration will affect

This integration will streamline and enhance the workflows used by Procurement Teams and Data Center Provisioning Teams.

Integration with DCIM Overview

Procurement and Provisioning Use Case

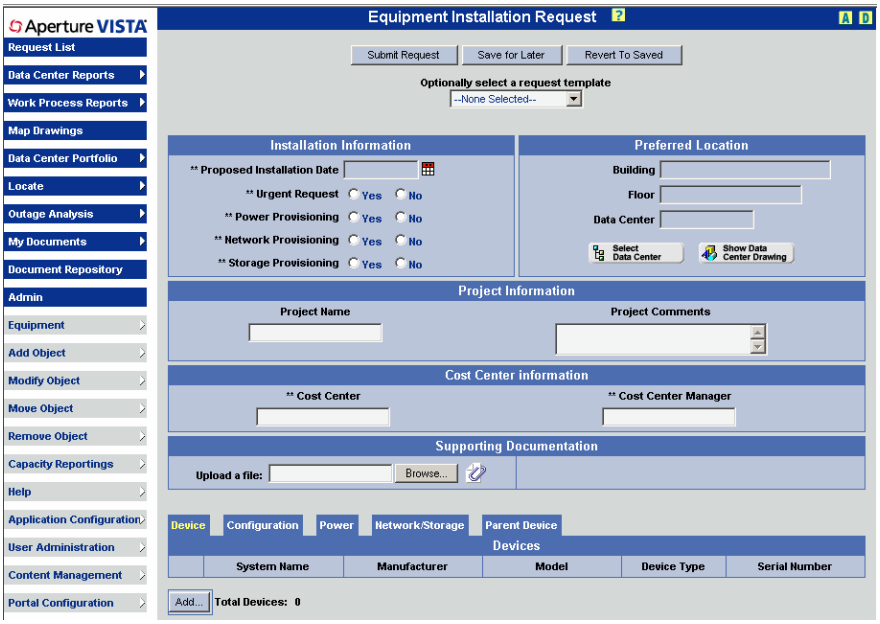
The schematic below gives an overview of how a request is initiated in Asset Manager, how procurement and provisioning proceed in parallel; and how actual installation is scheduled and fulfilled in HP Data Center Infrastructure Management.



Note: Process step numbers correspond to the steps in the Summary Workflow table later in this document.

System Enhancements

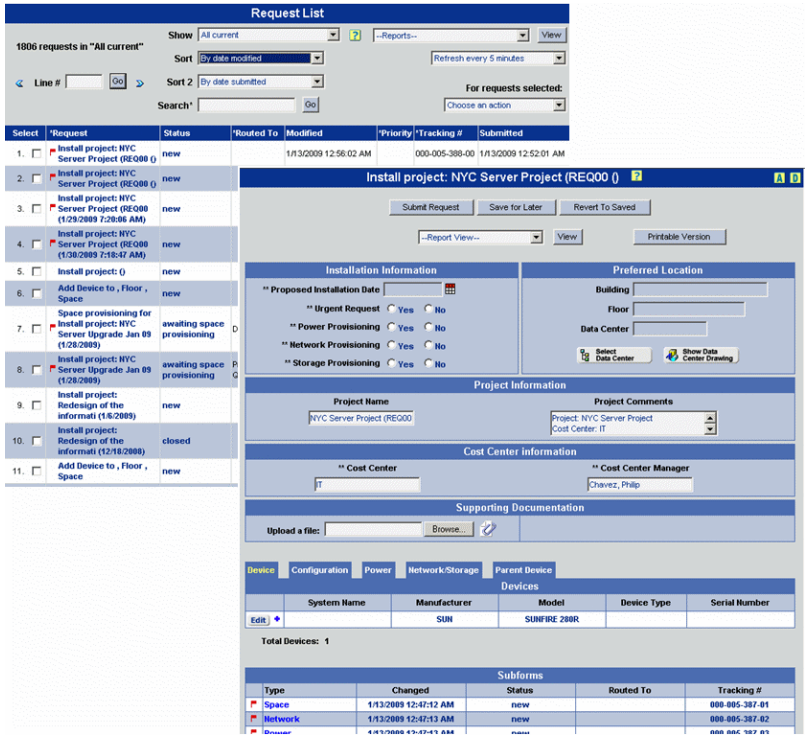
Without the system enhancements provided by the integration between Asset Manager and HP Data Center Infrastructure Management, clients wishing to create a request for installation in HP Data Center Infrastructure Management must do so manually, using HP Data Center Infrastructure Management's **Equipment Installation Request** form (see below) - whether or not the corresponding purchase request, request line(s) and purchase order have been created in Asset Manager.



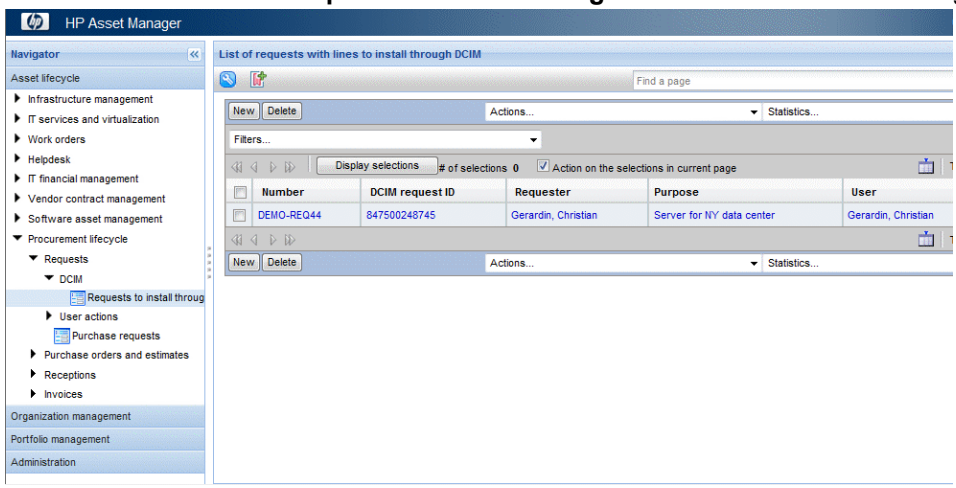
During Asset Manager's procurement cycle and HP Data Center Infrastructure Management's provisioning cycle, users of each system have no direct visibility of data from the other system. Any correspondences must be manually communicated and rekeyed.

Clients with the integration will benefit from the following key enhancements:

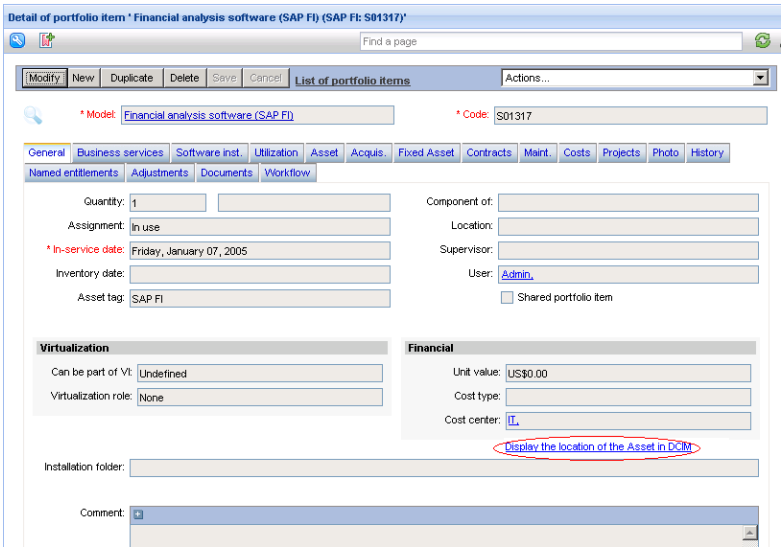
1. Requests to install through HP Data Center Infrastructure Management, created in Asset Manager, are listed on HP Data Center Infrastructure Management's **Request List** screen, from which they can be selected for editing on the **Install project** screen (which is based on the **Equipment Installation Request** screen). See the composite example below:



2. As requests progress through the Asset Manager procurement cycle, they can be monitored and edited from the new **Requests to install through DCIM** screen in Asset Manager:



3. From the Portfolio Item detail screen in Asset Manager, the location of the assets installed in HP Data Center Infrastructure Management can be directly retrieved using the link circled in red below:



4. HP Data Center Infrastructure Management users can identify and reconcile anomalies that may occur during data integration and synchronization, using the new **Asset Manager Reconciliation** report.

Terminology

HP Data Center Infrastructure Management object	Corresponding Asset Manager object
Location	Location
Equipment (also called Device) (1)	Asset and Portfolio Item
Symbol (2)	Product
Request	Request
Device	Request line

(1) In HP Data Center Infrastructure Management, before a device is installed, it is only present as a line in the request. The request is stored in the HP Data Center Infrastructure Management Portal database.

Once the device is installed in a data center, and only then, it is created in the HP Data Center Infrastructure Management Repository database.

(2) Symbols are stored in the HP Data Center Infrastructure Management Symbols database.

Implementing Required Components

Supported component versions

The integration is supported by the following product combinations:

- HP Connect-It 9.20
- Asset Manager 9.41
- HP Data Center Infrastructure Management 2.00 (Aperture VISTA 600)

Installing the integration package

Prerequisites

The following components must be installed before you deploy the Asset Manager-HP Data Center Infrastructure Management integration:

- Asset Manager
- HP Data Center Infrastructure Management (Aperture VISTA)
- HP Connect-It

For further details of installing each of these components, refer to the relevant documentation:

- Asset Manager **Installation and upgrade** guide
- Aperture VISTA **User's guide**
- HP Connect-It **User's guide**, chapter **Install**

Furthermore, as a prerequisite to the integration, the computer on which HP Connect-It is installed must have the following access configured, to permit the necessary data synchronization:

- To Asset Manager (via an ODBC connection)
- To the HP Data Center Infrastructure Management repository, portal and symbols database (via an ODBC connection)
- To the HP Data Center Infrastructure Management Web Services

For further details of how to configure the relevant connectors, read the following guidance sections:

For the Asset Manager connector:

- The HP Connect-It **Connectors** guide, chapter **Hewlett-Packard connectors**, section, **HP Asset Manager connector/ About the HP Asset Manager connector/ Remarks concerning the configuration of the Asset Manager applications**

For the ODBC connector:

- The HP Connect-It **Connectors** guide, chapter **Configuring connectors**, section **Configuring the connection/ Select a connection - ODBC connection**
- The HP Connect-It **Connectors** guide, chapter **Protocol connectors**, section, **Database connector/ Additional information**

Installing the HP Connect-It scenarios and connectors

The HP Connect-It connectors and scenarios required for the Asset Manager-HP Data Center Infrastructure Management integration, plus some other supporting files are supplied in the following folder: **<HP Connect-It installation folder>\scenario\apv\am52apv500**

The following scenario files are supplied, under the HP Connect-It installation folder:

- **scenario\apv\am52apv500\apvam_sync.scn**
  This scenario transfers data:
  - From Asset Manager to HP Data Center Infrastructure Management: Serial number and Bar code of the assets
  - From HP Data Center Infrastructure Management to Asset Manager: Location of the equipment
- **scenario\apv\am52apv500\amapv_provisioning.scn**
  This scenario transfers data:
  - From Asset Manager to HP Data Center Infrastructure Management: Requests' and request lines' request line status when their status shows that the assets have been received or reserved; Asset tag of the assets.
  - From HP Data Center Infrastructure Management to Asset Manager: Status of the request lines' request form ID. This scenario sets the value of the portfolio items' **Assignment** (seAssignment) field to **In use**; when appropriate.
- **scenario\apv\am52apv500\apvam_refdata.scn**
  This scenario transfers data from HP Data Center Infrastructure Management to Asset Manager: symbols and locations

You will also find the following new connectors installed:

- DCIM Portal
- DCIM Repository
- DCIM Symbols

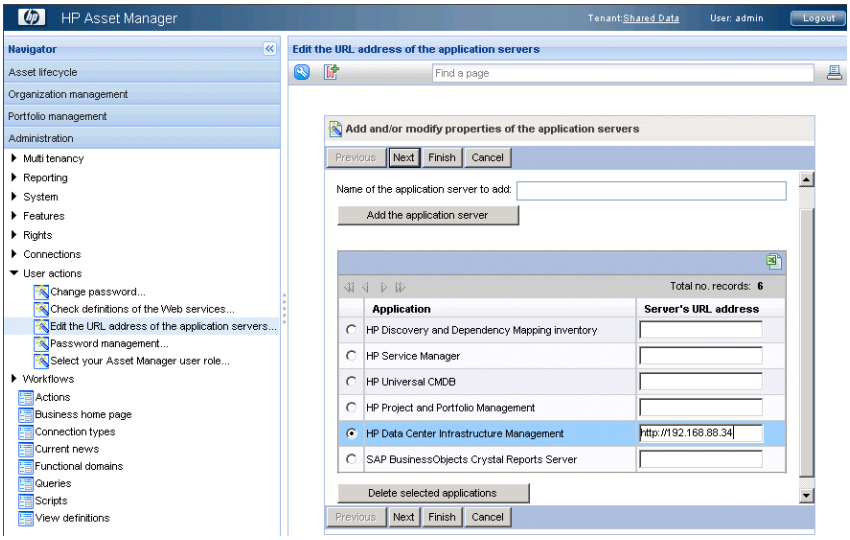
Customizing Asset Manager to support the integration

For the integration to work, you first need to make some manual modifications to Asset Manager:

Modifying the URL for the DCIM Location (sysCoreWebDCIMAssetLocation) Calculated field

The target URL for the **Display the location of the asset in DCIM...** link on the Portfolio Item detail screen needs to be configured with the right address. To do this:

1. Modifying the URL for the **DCIM Location** (sysCoreWebDCIMAssetLocation) Calculated field
2. Unfold the **Administration** branch from the navigation bar.
3. Select the link to the **Edit the URL address of the application servers...** (BstBackEndOpt) wizard.
4. Check that the URL of the HP Data Center Infrastructure Management Web Services server is correct (see example below) and then click **Finish**.



Optional:

If you want, you can configure a "Guest" user in HP Data Center Infrastructure Management that will be used to automatically logon to the HP Data Center Infrastructure Management software.

1. Use the **Admin** screen in HP Data Center Infrastructure Management, select **Users/ Add user...**, specify at least name and password)

2. Use the **Administration/ System/ Calculated fields** link from the Asset Manager navigation bar.

3. Select the **DCIM Location** (sysCoreWebDCIMAssetLocation) Calculated field.

4. Make the following edits in order to specify the user information:
   In the script of the calculated field, comment the line:

   ```
   strHtml = strHtml + "/WAS/AWEMain.aspx?opc=no&xcapp=newlocate&log=saved&xcsid=VISTA&xcltype=AMAssetLocation&ASSET_TAG="
   ```

   And uncomment or add the line

   ```
   strHtml = strHtml + "/WAS/URLService/AWEURL.aspx?opc=no&xcapp=newlocate&u=<your_guestuserid>&ps=<your_guest_password>&xcsid=VISTA&xcltype=AMAssetLocation&ASSET_TAG="
   ```

   In the uncommented line, replace:
   <your_guestuserid> with the Guest user login
   <your_guest_password> with the Guest user password

For further details of customizing Asset Manager, refer to the **Installation and upgrade**, **Advanced use** and **Administration** guides.

Customizing HP Data Center Infrastructure Management to support the integration

For HP Data Center Infrastructure Management to support the integration, the following customizations are needed:

1. Add fields to the **EMAC_Install** form
   a. AM_DEVICE_QTY
      i. Type: Integer

      ii. Placement: **Hidden Data** section
      (Click on the layout form to get the **Hidden Data** section) Select **Hidden Data** from the tree view and click Insert before or after, once required fields are set

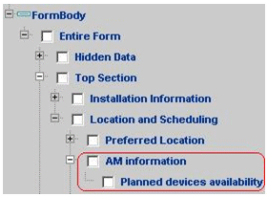
   b. AM_REQUEST_STATUS
      i. Type: Short Text(50)

      ii. Default Placement: **Hidden Data** section. You may wish to display this field so that users can confirm that an install is ready to proceed.

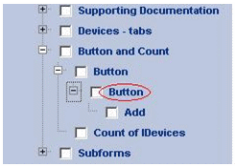
   c. AM_AVAILABILITY_DATE
      i. Type: Date & Time field

      ii. Placement: In a new section, below **Preferred Location**, under **Location and**

Scheduling in the Top Section of the form.



2. Hide the **Add** button for devices coming from Asset Manager:
   a. Add another section in the hierarchy right above the **Add** button.



   b. Hide add button for device multi-instance section if devices coming from Asset Manager. If devices are supposed to be filled in by Asset Manager, the DBI_AM_DEVICE_QTY field will have some value in it.
   Add a visibility rule to the new section:
      i. About: Visibility
      ii. Step: All steps
      iii. Conditioned On: DBI_AM_DEVICE_QTY
      iv. =
      v. Leave the value blank, as shown below:

3. Create a new silent locator, **EMI_SelectDeviceType_AM_Silent**
   a. Open the **EMAC_I_Device** form in **Form Configuration**. Click on Content. Select **EMI_SelectDeviceType** locator from the **Locate Buttons** list. Click **Edit**.
   b. Save the locator as **EMI_SelectDeviceType_AM_Silent**
   c. Check the **Silent** checkbox to make this a silent locator
   d. Keep the same search table, **vw_Device_Symbol_Data**, but change the search fields to include only the following:
      i. i. MANUFACTURER
         i. Hide this criteria
         ii. Init: DBS_MANUFACTURER

ii. ii. MODEL
    i. Hide this criteria

    ii. Init: DBS_MODEL

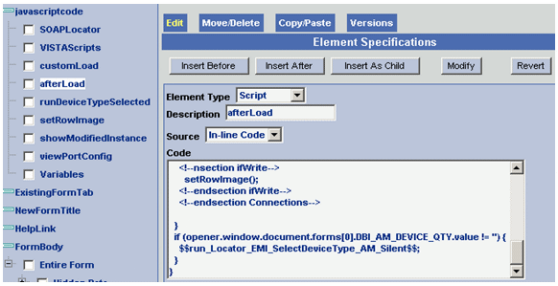
iii. iii. MODEL_INFO
    i. Hide this criteria

    ii. Init: DBS_MODEL_INFO

e. Save the changes

4. Add the following lines of JavaScript to the bottom of the **afterLoad()** function of the **EMAC_I_Device** form (see screenshot below):

```
if (opener.window.document.forms[0].DBI_AM_DEVICE_QTY.value != '')
{$$run_Locator_EMI_SelectDeviceType_AM_Silent$$;
  }
```



5. Add autoscript to the **Create** step of **EMAC_Install** to make sure all expected devices are added from Asset Manager
    a. Location: Directly inside the second **<DataDestination>** tag.

```
<Source type="field">
         <Name>DBI_IDEVICES_QTY</Name>
         <Validation>
             <Requirements>
                 <Requirement>
 <Source type="field">DBI_AM_DEVICE_QTY</Source>
 <Operation>NOT_EQUAL</Operation>
 <CompareTo type="value">
 <Value></Value>
 </CompareTo>
 </Requirement>
 </Requirements>
             <Operation>EQUAL</Operation>
             <CompareTo type="dbSelect">
                 <DBSelect field="AM_DEVICE_QTY" table="EMAC_Install" tar
get="FORMS">
                     <MatchFields>
```

```
                        <MatchField>
                            <Source type="Special">%%FLOWING_CONTAINER_I
D%%</Source>
                            <Target>FormID</Target>
                        </MatchField>                    </MatchFields>
                </DBSelect>
            </CompareTo>
            <ValidationErrorText>
                <ReplacementTags>
                    <ReplacementTag>
                        <Tag>%%NUM_EXPECTED_DEVICES%%</Tag>
                        <Source type="dbSelect">
                            <DBSelect field="AM_DEVICE_QTY" table="EMAC_
Install" target="FORMS">
                                <MatchFields>
                                    <MatchField>
                                        <Source type="Special">%%FLOWIN
G_CONTAINER_ID%%</Source>
                                        <Target>FormID</Target>
                                    </MatchField>
                                </MatchFields>
                            </DBSelect>
                        </Source>
                    </ReplacementTag>
                </ReplacementTags>
                <Text>The number of device records in the request does n
ot match the number expected to be sent from the system that originated t
he request.  Devices expected: %%NUM_EXPECTED_DEVICES%%</Text>
            </ValidationErrorText>
        </Validation>
    </Source>
```

b. Display Full steps: select the **Step Email and Rules** form. Choose step **Create** and click on the button **Specify "Create & Exit Script"**

c. Add the following script code directly inside the second <DataDestination> tag.

6. Add **autoscript** to the **Scheduling** step of the **EMAC_Install** form to check the Asset Manager request status before flowing.
Location: Add at the beginning of existing **<DataDestinations>** section on scheduling step:

```
<DataDestination type="NOACTION">
    <Source type="field">
        <Name>DBS_AM_REQUEST_STATUS</Name>
        <Validation>
<Requirements>
<Requirement>
<Source type="field">DBI_AM_DEVICE_QTY</Source>
```

```
<Operation>NOT_EQUAL</Operation>
<CompareTo type="value">
<Value></Value>
</CompareTo>
</Requirement>
</Requirements>
            <Operation>EQUAL</Operation>
            <CompareTo type="value">
                <Value>Received</Value>
            </CompareTo>
            <ValidationErrorText>
                <ReplacementTags>
                    <ReplacementTag>
                        <Tag>%%AM_REQUEST_STATUS%%</Tag>
                        <Source type="field">DBS_AM_REQUEST_STATUS</Source>
                    </ReplacementTag>
                </ReplacementTags>
                <Text>All devices must be received by the asset system prior
to scheduling the install.  The current asset request status is: %%AM_REQUES
T_STATUS%%</Text>
            </ValidationErrorText>
        </Validation>
    </Source>
</DataDestination>
```

7. Have the DBA run **AMVisualLinkView.sql** to create view for visual link (This file is supplied in the **<Connect-It installation folder>\datakit\apv\apv20** folder.)

8. Create a new visual link from the **Admin->External Interfaces** page
   a. Name: **AMAssetLocation**

   b. For the Visualize step, make the following changes:
      i. Message to show when loading drawing: **Loading VISTA drawing...**

      ii. Error message if drawing cannot be loaded: **Could not load VISTA drawing...**

      iii. ODBC Data Source: **VISTARep**

      iv. Source Table: **vw_DV_TD_DEVICE_RACK**

      v. ObjectID Column: **OBJECTID**

      vi. Use **ASSET_TAG** from the form to match **asset_number** in **vw_DV_TD_DEVICE_RACK**

9. Create an ODBC connection named **HP Asset Manager** to the Asset Manager database using the user that owns the Asset Manager tables.

10. Place the report layout file **VISTA - Asset Manager Reconciliation.rpt** on the WAS (Vista web server) machine so that it can be accessed when needed. (This file is supplied in the **<Connect-It installation folder>\datakit\apv\apv20** folder.)

For further details of customizing HP Data Center Infrastructure Management, refer to the Aperture VISTA documentation.

Customizing HP Connect-It

For HP Connect-It to support the integration, the following customizations are needed:

Configuring the Connectors in the HP Connect-It scenarios

From the Connector Configuration window of the HP Connect-It Service Console, you need to configure each of the connectors in turn.

Several types of connector are displayed, and not all connectors of the same type may appear contiguously in the list, so the following procedure should be treated as general guidance rather than strict step-by-step instructions.

The connectors include:

- The Asset Manager and ODBC connectors (configure as described in the **Prerequisites**)
- The three new data synchronization connectors supplied with the integration package
- The Web Services form connectors

For each of the three HP Connect-It scenarios supplied as part of the integration package (**apvam_sync.scn**, **amapv_provisioning.scn** and **apvam_refdata.scn**), you need to configure the connectors used by the scenario. To do this:

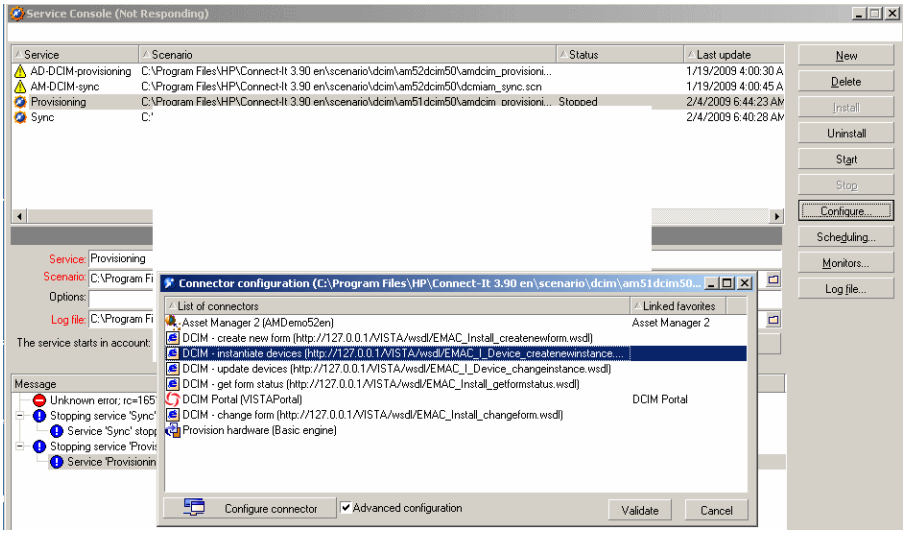
1. Launch the HP Connect-It Service Console (from the **Windows Programs/ HP/ Connect-It...** program group). (For more details, see the HP Connect-It **User's Guide**, chapter **Implementing an integration scenario**, section **Define a Connect-It service (Windows environment)/ The Service Console**)
2. Create a service (click **New** to start, specify a name in the **Service** field, and **Create** to validate).
3. Display the **Connector configuration** window (click **Configure...**).
4. For each of the above scenarios you need to configure the appropriate connectors:
   a. Double-click on the connector name.
   b. Navigate with the **Configure the connector** wizard and populate the required information.

The following table provides additional guidance for information that may not seem obvious to populate (fifth column):

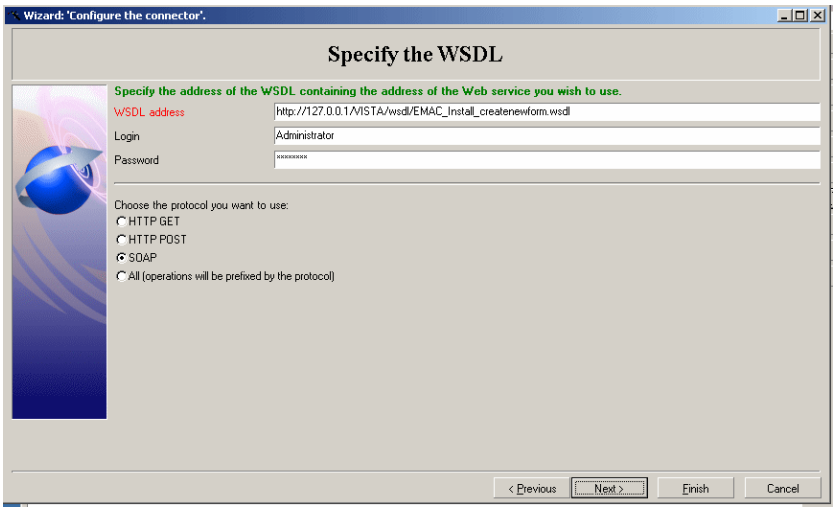
Corresponding HP Connect-It Scenario	Connector	Wizard page name	Field name	Information to provide
amapv_ provisioning.scn	APV - Portal	Configure the database server connection.	ODBC data source DSN	VISTAPortal
apvam_sync.scn	APV - Symbols	Configure the database server connection.	ODBC data source DSN	VISTASymbols
apvam_refdata.scn	APV - Repository	Configure the database server connection.	ODBC data source DSN	VISTARep

Tip: To understand in greater detail how each connector performs mappings between Asset Manager and HP Data Center Infrastructure Management, open the connector in Scenario Builder and use the **File/ Create a scenario documentation...** feature.

From the Connector configuration list, you also need to configure the WSDL form connectors (those with WSDL file extensions in the following example):



For each of these connectors, open the configuration wizard, and display the Specify the WSDL page:



Configure the fields as follows:

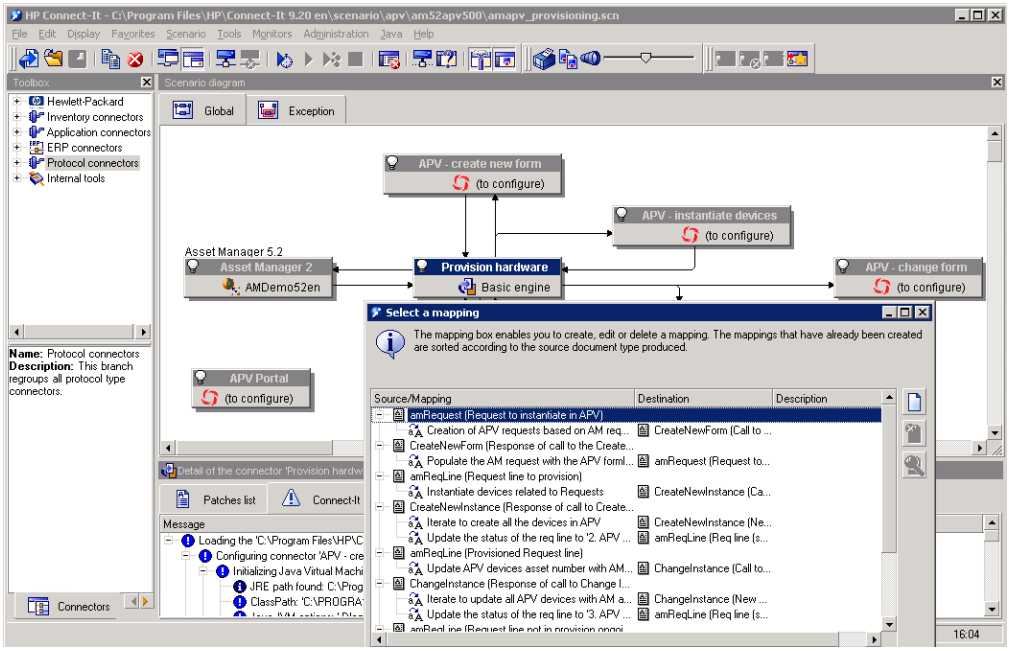
Connector	Wizard page name	Field name	Information to provide
All .wsdl connectors	Specify the WSDL	WSDL_ address	Adapt this to the ip address of the web services server
All .wsdl connectors	Specify the WSDL	Login and Password	Enter the ID and password needed to access the web services
All .wsdl connectors	Specify the WSDL	Choose the protocol...	SOAP

Configuring the mapping in the amapv_ provisioning.scn HP Connect-It scenario

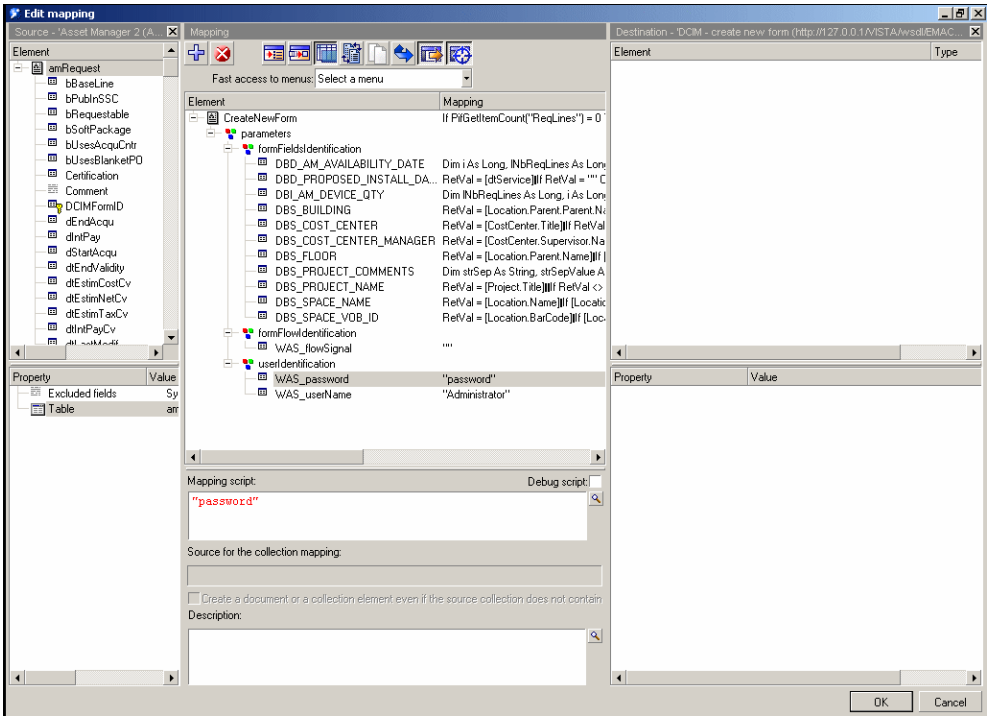
For the **Provisioning** connector of the **amapv_provisioning.scn** scenario, you need to configure a username and password as explained in the following example.

1. Launch the HP Connect-It Scenario Builder (from the Windows **Programs/ HP/ Connect-It...** program group).
2. Open the **amapv_provisioning.scn** scenario (File/ Open menu).
3. Select the **Provision hardware** connector:

4. Select the **Tools/ Edit a mapping...** menu:



5. Double-click the line below **amRequest (Request to instantiate in DCIM)**: This displays the mappings in a window, as in the following example:



6. To edit the password and username elements, select **Was_password** and **Was_username** in turn (under the **userIdentification** section, as in the above example) and as new mapping

values, enter the password and username needed to access the HP Data Center Infrastructure Management Web Application Server.

7. Check each of the other Source/mappings listed in the **Select a mapping** window and, if present, edit the **Was_password** and **Was_username**.

For further details of how configure connectors, refer to the HP Connect-It **Connectors Guide**, chapter **Configuring connectors**.

Creating and Updating Reference Information

Overview - Logical architecture

In order to create a request in HP Data Center Infrastructure Management based on one originating from Asset Manager, Locations and Symbols data must first be created in HP Data Center Infrastructure Management and then transferred to Asset Manager.

When you create a requests to install through HP Data Center Infrastructure Management in Asset Manager you can select Locations whose **Location type** (LocationType) = **Data Center**.

HP Data Center Infrastructure Management Symbols are transferred to Asset Manager as Products. Products destined for the Data Center are flagged as **Can be installed through DCIM** (bCanBeInstByDCIM).

Note: a symbol in HP Data Center Infrastructure Management contains details of Manufacturer, Model and Model Information (technical information that affects installation, such as size, energy consumption...).

Running the HP Connect-It Scenarios

Several HP Connect-It scenarios are provided for data transfer between Asset Manager and HP Data Center Infrastructure Management. You will run them for:

- Creating and Updating Reference Information
- Procurement and Provisioning Workflows

For further details of how to Start or Stop the scenarios, or to change their default configuration or scheduling parameters, refer to the HP Connect-It **User Guide**, in particular chapter **Managing an integration scenario**.

Note: The scenarios check for and synchronize new or modified data only when they are Started.

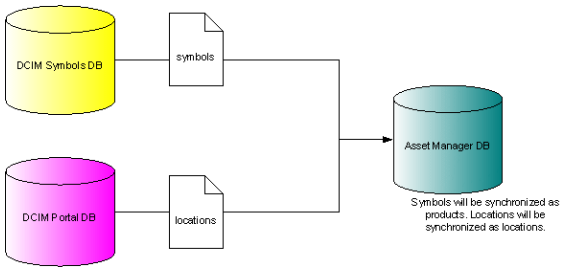
Best Practices:

- Set the **apvam_refdata.scn** scenario to run regularly, for instance daily, to keep the databases synchronized.
- Set the **apvam_sync.scn** and **amapv_provisioning.scn** scenarios to run more frequently, for instance every few minutes (according to your business volumes and processes), to keep live data adequately synchronized.

To make the initial transfer of reference data, you should use the **apvam_refdata.scn** HP Connect-It scenario.

The scenario should subsequently be scheduled to run regularly to add or update locations and symbols in Asset Manager. (However, the scenario does not delete obsolete data. To remove obsolete locations from those available in Asset Manager, change their **Location type** (LocationType) from **Data Center** to another value of your choice.)

Reference data synchronization



Post synchronization tasks

After HP Data Center Infrastructure Management Locations are transferred to Asset Manager as Locations, and HP Data Center Infrastructure Management Symbols are transferred to Asset Manager as Products, you may end-up with duplicate locations and products in the Asset Manager database. You need to remove duplicate records, and make sure you do not lose the flag **Location type** (LocationType) = **Data Center** for locations and **Can be installed through DCIM** (bCanBeInstByDCIM) for products while doing this.

Procurement and Provisioning Workflows

Summary Workflow

The following simplified workflow summarizes the integration between the Procurement and Provisioning processes that the integration between Asset Manager (AM) and HP Data Center Infrastructure Management (DCIM) provides using HP Connect-It (C-IT). The detailed procedures for using Asset Manager and HP Data Center Infrastructure Management, in relation to the integration, are presented after the table.

Step	System	Triggering event to move from previous step to current step	Activity	Initiation	Asset Manager Request Line Status updated (1)
1	AM		Request new device(s) to install in a data center	Manual	
2	AM	**Req. status** (seStatus) = Awaiting approval in Asset Manager request detail	Validate the Asset Manager Request	Manual or Workflow, according to your validation processes	
3a	C-IT	**Req. status** (seStatus) = Validated in Asset Manager request detail	Transmits the Asset Manager Request to DCIM (Web Service call)	Connect-It **amapv_ provisioning.scn** scenario	1. Pending transfer to DCIM
3b	C-IT	DCIM Install request created	Adds device records to newly created install request (series of Web Service calls)	Connect-It **amapv_ provisioning.scn** scenario	2. DCIM provisioning - waiting for devices
4a	AM	If asset cannot be reserved from stock, click **Quote/PO** in Asset Manager request detail	Raise Asset Manager Purchase Orders for new devices	Manual	

Step	System	Triggering event to move from previous step to current step	Activity	Initiation	Asset Manager Request Line Status updated (1)
4b	AM	When asset is delivered, click **Receive** in Asset Manager purchase order detail	Receive devices	Manual	3. DCIM provisioning - devices available
4c	AM	If asset exists in stock, click **Reserve** in Asset Manager request detail	Reserve devices	Manual	3. DCIM provisioning - devices available
4d	DCIM	**Req. status** (seStatus) = Validated in Asset Manager request detail	Provision DCIM Request. (Provisioning process advances in parallel based on the workflow definition: space, storage, power, location assigned...)	Manual	
5	C-IT	All assets installable through DCIM are received or reserved (Connect-It checks a few Asset Manager fields to deduce this)	Notifies DCIM that the install can start Transfer **Asset tag** (AssetTag) from Asset Manager asset to DCIM	Connect-It **amapv_ provisioning.scn** scenario	4. DCIM waiting for scheduling
6	DCIM	The **DCIM AM_ REQUEST_ STATUS** hidden field is populated (EMAC_Install form)	Schedule installation	Manual	5. Installation scheduled in DCIM

Step	System	Triggering event to move from previous step to current step	Activity	Initiation	Asset Manager Request Line Status updated (1)
7	DCIM	The **DCIM DBHS_ Status** field is set to awaiting equipment installation (EMAC_Install form)	Execute DCIM Request. (Engineers can display / print information needed to install devices.)	Manual	
8	DCIM	Engineer has completed the DCIM Request.	Close DCIM Request	Manual	
9	C-IT	The **DCIM DBHS_ Status** field is set to closed (EMAC_ Install form)	Sets the Asset Manager Portfolio item **Assignment** (seAssignment) field to **In use**	Connect-It **amapv_ provisioning.scn** scenario	7. Installation failure in DCIM 6. Installation complete in DCIM
10	DCIM	The **DCIM DBHS_ Status** field is set to closed (EMAC_ Install form)	Creates devices in the DCIM Repository database	DCIM automated process	
11	C-IT	When the **apvam_ sync.scn** Connect-It scenario is executed and finds a new device in the DCIM Repository database	Transmits location of DCIM devices to Asset Manager database	Connect-It **apvam_sync.scn** scenario	
12	C-IT	When the **apvam_ sync.scn** Connect-It scenario is executed and finds new values in the **Bar code/RFID** (BarCode) and/or Serial # (SerialNo) fields of the Asset Manager asset detail	Transmits **Bar code/RFID** and/or **Serial #** from Asset Manager assets to DCIM database	Connect-It **apvam_sync.scn** scenario	

Step	System	Triggering event to move from previous step to current step	Activity	Initiation	Asset Manager Request Line Status updated (1)
13	AM	Manual	Close Asset Manager Request. (Once all Request Lines are dealt with, set the Asset Manager **Req. status** (seStatus) (seStatus) to **Closed**)	Manual	

(1) The status is updated by the **amapv_provisioning.scn** HP Connect-It scenario based on the HP Data Center Infrastructure Management Request Status

Tip: To view the workflow in close-up, Zoom the document view.

The principal manual activities from this workflow are detailed below.

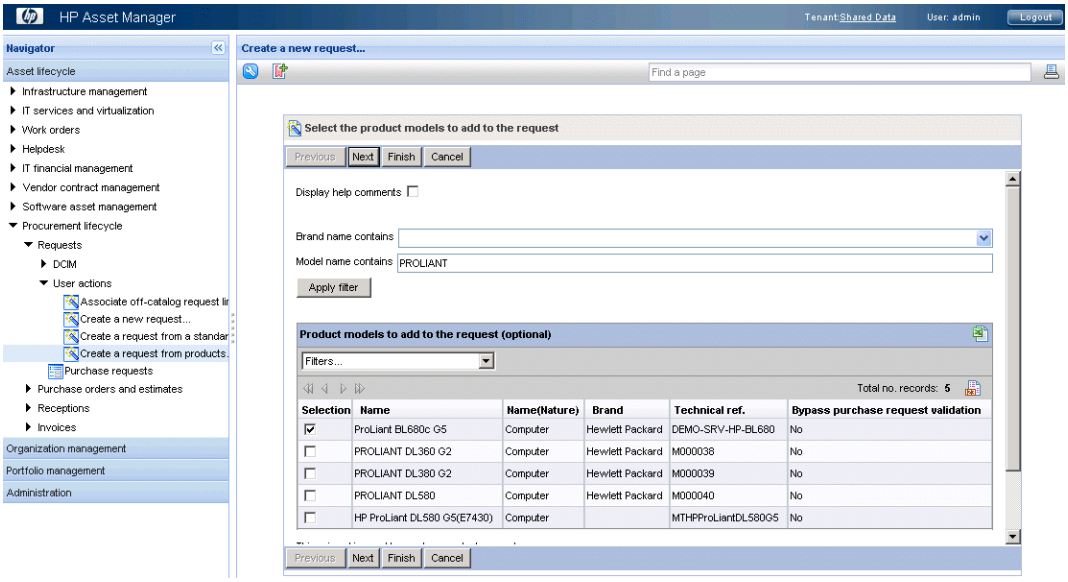
Note: the examples below use the Asset Manager Web client. The Windows client version of Asset Manager has a slightly different look-and-feel

1. Request new device(s) to install in a data center

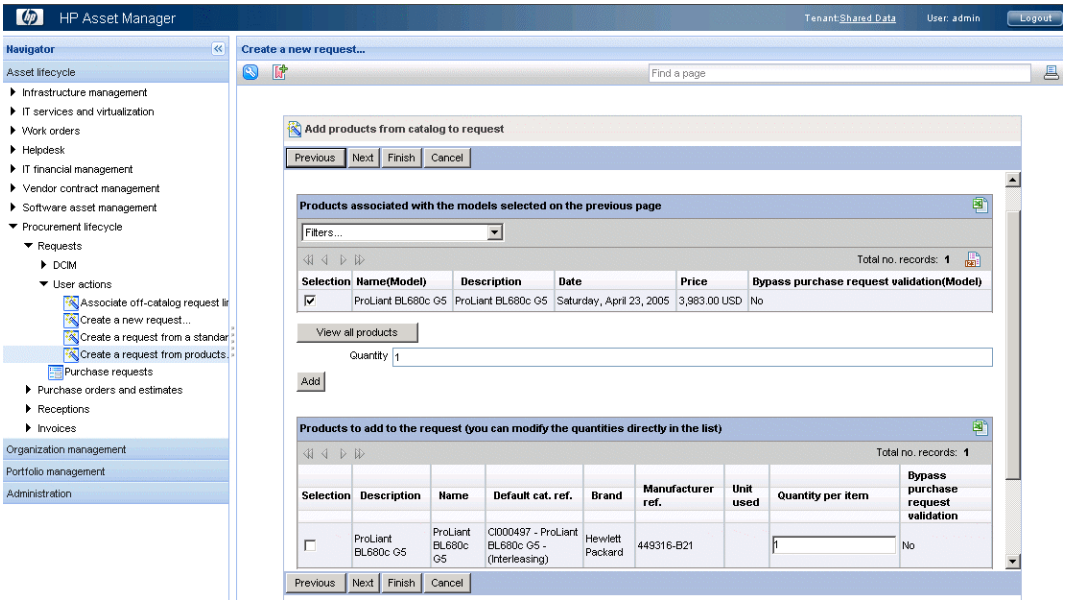
Asset Manager offers several ways to create a Request and its Request Line(s). For instance, you can use the **Create a request from products...** (sysProcRequestFromProduct) wizard:

Create Asset Manager Request

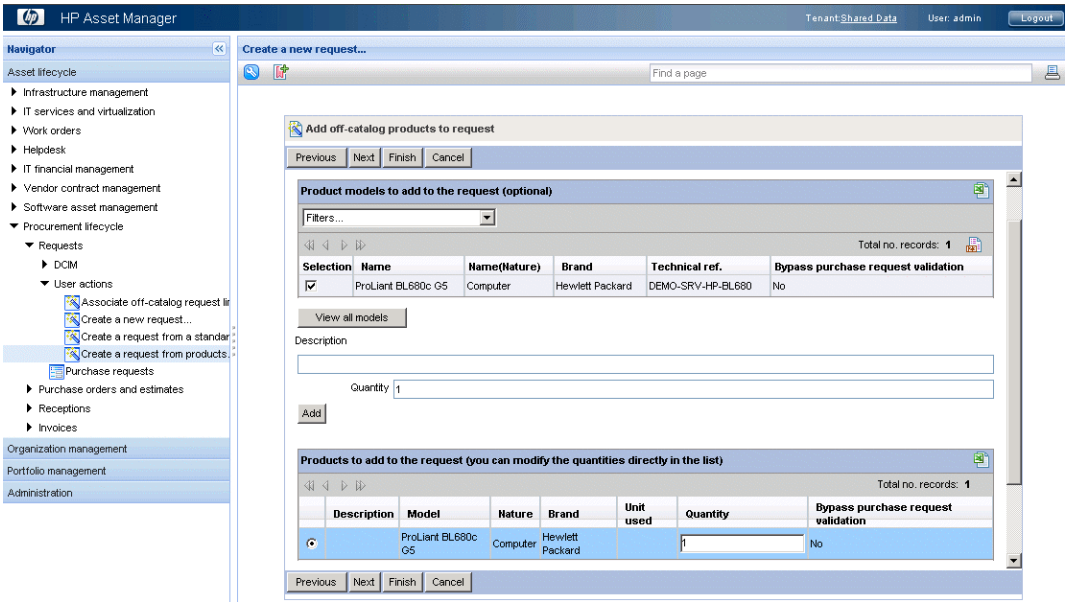
1. Launch Asset Manager.
2. Use the **Asset lifecycle/ Procurement lifecycle/ Requests/ User actions/ Create a request from products...** navigation bar entry. This launches the wizard. In the following example, the list of available products has been filtered to show only HP Proliant models:



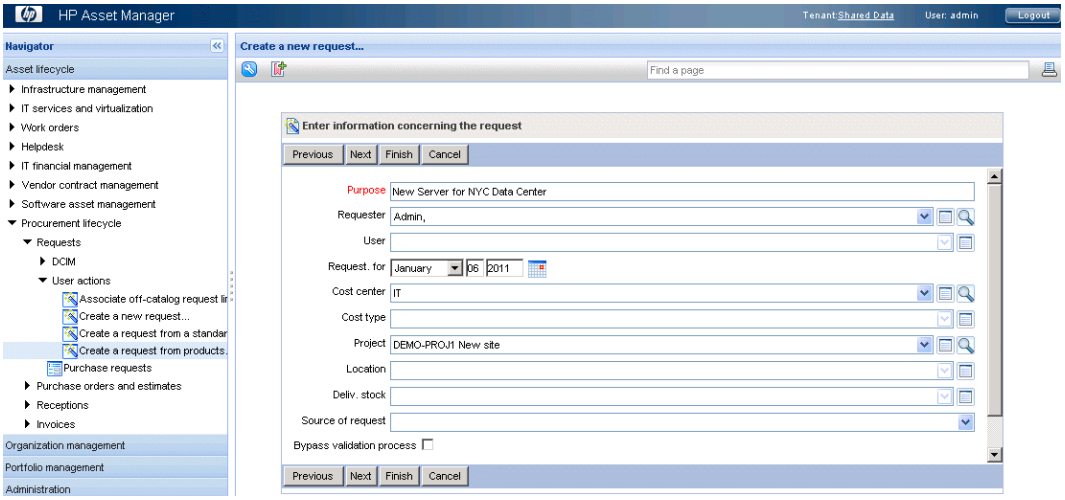
3. Select a model, then click **Next** to select corresponding Catalog Products and their quantity. **Best Practice:** for a request intended to be installed via HP Data Center Infrastructure Management, select only products that are flagged as **Can be Installed through DCIM** (bCanBeInstByDCIM), and specify only locations for which **Location type** (LocationType) = **Data Center.**) In the following example, one Proliant DL580 has been added:



4. Select off-catalog products to request and enter the corresponding quantity.



5. Click **Next** to add information such as Cost Center and Project, as in the following example:



6. A Summary screen offers you the chance to review details of the new request before you click **Finish**, which creates the Request record.

7. Change the **Req. Status** (seStatus) of the new Request to **Awaiting Approval**. (If you are using the Web client, click **Modify** from the Request detail screen to make the status drop-down list available, as in the following example.)

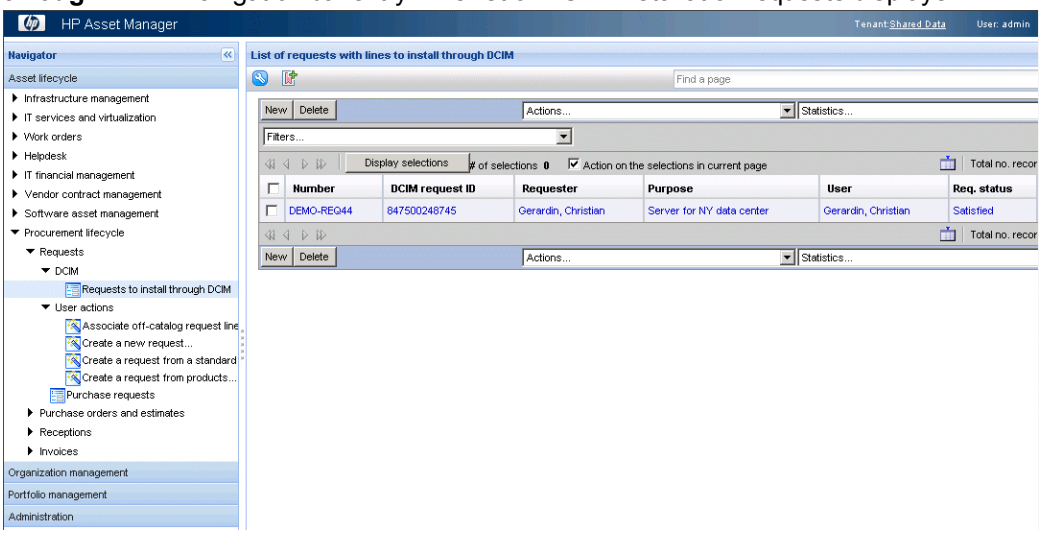
8. Click the **Save** button. If an Asset Manager purchasing workflow has been implemented, the Request will be routed to the appropriate approvers for validation.

Tip: You can click **Finish** at any stage in the wizard to create the Request, then return to it at a

later point to add or modify details.

Another way to create a request and its request lines is via the new **Requests to install through DCIM** screen.

1. Launch Asset Manager.
2. Use the **Asset lifecycle/ Procurement lifecycle/ Requests/ DCIM/ Requests to install through DCIM** navigation bar entry. The list of DCIM installation requests displays:



3. To create a new Request, select **New**.
4. Enter a Purpose, assign it to a **Project** (on the **General** Tab) and **Cost Type** and **Cost Center** (on the **Allocation** tab), add any other initial details, then click **Create**.

Add Asset Manager Request Lines

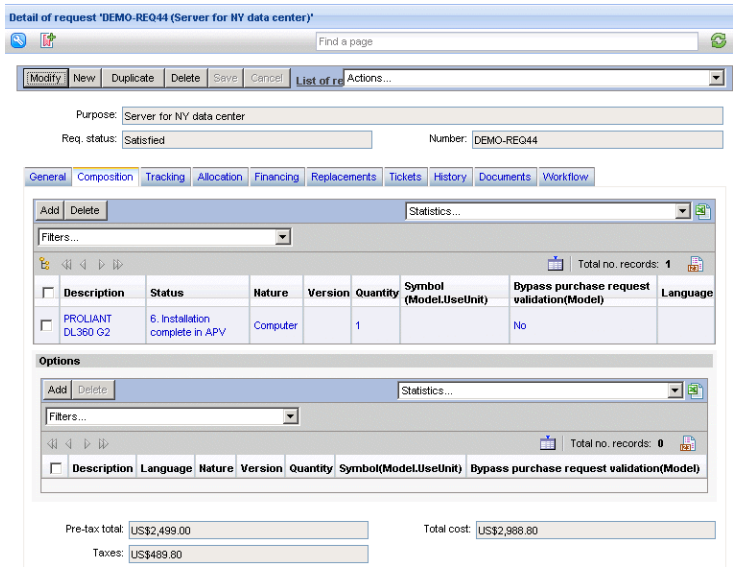
Note: To be installable via HP Data Center Infrastructure Management:

- Products selected on the Request Lines must be flagged as **Can be Installed through DCIM** (bCanBeInstByDCIM) on the **Portfolio management/ Catalog/ Products** screen (**Acquis.** tab, **Provisioning** section).
- The **Install through DCIM** (bInstByDCIM) flag must be checked on the Request Line detail screen.

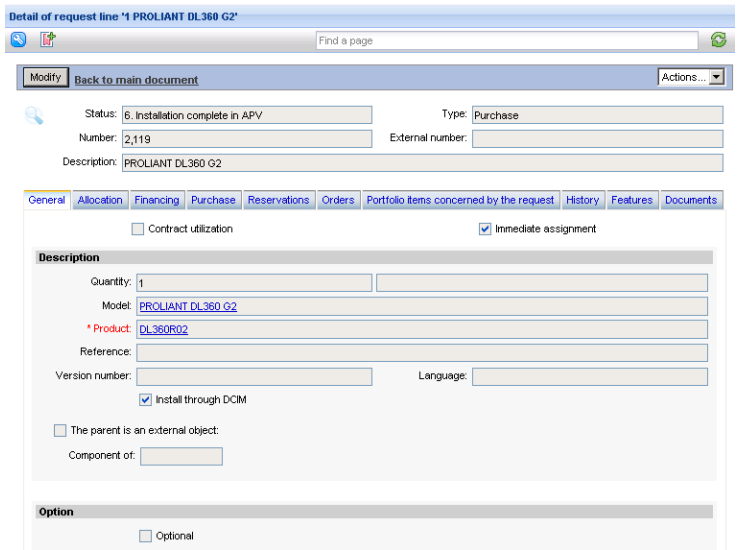
To add one or more Request Lines for specific devices to a Request:

1. On the Request list screen, click on the Request.
2. The Request detail screen displays.

3. Select the **Composition** tab, as shown below, and then click **Add**.



The Request Line detail screen displays, as in the example below.



4. Select a Product and specify any other details you wish to enter at this stage.

5. Click **Save** to create the Request Line.

2. Validate the Asset Manager Request

On the Request detail form, set the **Req. status** (seStatus) to **Awaiting Approval**, then click the Save button.

Best Practice: Try to not issue a Request without checking with the HP Data Center Infrastructure Management end-user that the **Location** (amLocation) on the Request corresponds to the final delivery location for the device(s). The location on a Purchase Order cannot be changed once it has been issued.

Equipment corresponding to the Request Lines now needs to be Reserved from stock (or first ordered and received into stock).

For further details of creating Requests and Request Lines, refer to the Asset Manager guide called **Procurement**, chapter **Procurement cycle**.

3a. HP Connect-It transmits the Request to HP Data Center Infrastructure Management

(Initiated by HP Connect-It Provisioning scenario **amapv_provisioning.scn**)

Assuming that the Provisioning scenario has been Started, details of the new request will be synchronized to HP Data Center Infrastructure Management.

3b. HP Connect-It adds device records to newly created install request

(Initiated by HP Connect-It Provisioning scenario amapv_provisioning.scn)

When the transfer of Request data to HP Data Center Infrastructure Management has occurred, a **DCIM Request ID** is assigned in the **formID** field, and is exported back to Asset Manager where it is displayed on the Request list and detail screens.

Note: Depending on the scheduling frequency of the scenarios, details of new requests or modifications to their status may not be visible immediately.

4a. Raise Asset Manager Purchase Orders for new devices

The next stage in the procurement workflow is to raise a Purchase Order for device(s) needed for Requests whose **Req.Status** (seStatus) has been set to **Validated**. (Unless equipment can be reserved directly from existing stock.)

From the Request detail screen select **Quote/PO** from the Actions drop-down list.

Using the wizard that launches, specify the Request Lines for which to raise the Purchase Order.

For further details of creating and managing Purchase Orders, see the Asset Manager **Procurement** guide, **Orders** chapter.

4b. Receive devices

For a Purchase Order whose **Ord. status** (seStatus) is Issued, you can record stock delivery by selecting the Order on the Orders list screen and selecting **Receive...** from the **Actions** drop-down menu.

This launches the **Receive...** (sysProcPOrderReceipt) wizard on which you can reconcile quantities ordered and received, for each Order Line on the Order.

Once the system has confirmed that all ordered stock has been received, the **Ord. status** (seStatus) of the Order is set to **Satisfied**.

4c. Reserve devices

1. To mark equipment in stock as **Reserved** (for an installation) select the initial Request from the Request list and launch the **Manage asset reservations for a request....** wizard (sysProcRequestStock).
2. Select the Request Line(s) to process, match them with Assets available in stock, change the reservation period if necessary, and click **Reserve the selected assets**.
3. Click **Finish** to process your reservations and close the wizard.

Note: If no unreserved devices are available in stock, you will have to raise a new Purchase Order and/or wait for an existing Order to be Received into stock (Satisfied) before proceeding.

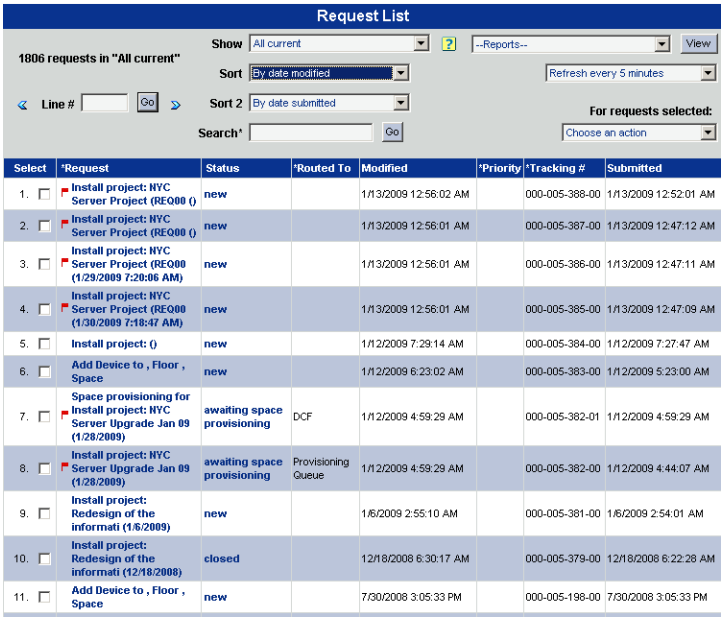
Once the devices have been flagged as **Reserved**, an Installation Scheduling slot can be specified on the HP Data Center Infrastructure Management installation request, and it can be flagged as **Scheduling Complete**. At this point all the requirements have been satisfied in the procurement and provisioning workflows for actual installation to proceed.

4d. Provision HP Data Center Infrastructure Management Request

Once a Request for a HP Data Center Infrastructure Management installation has been **Validated** in Asset Manager, its key details are exported to HP Data Center Infrastructure Management by HP Connect-It. The provisioning workflow is triggered in HP Data Center Infrastructure Management, and an Installation Request is created, followed by the corresponding Request Lines.

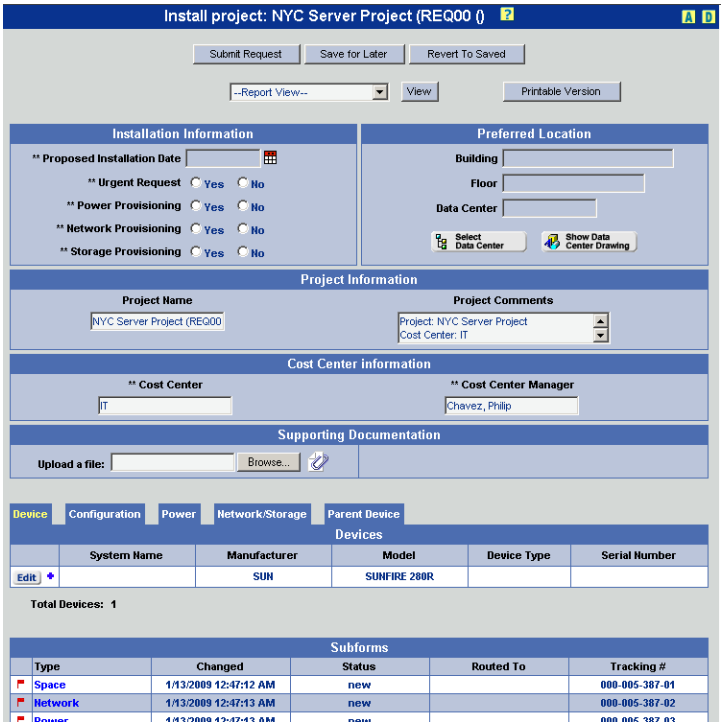
Follow this procedure to check for new purchase requests from Asset Manager for devices to install via HP Data Center Infrastructure Management.

1. Launch HP Data Center Infrastructure Management.
2. Open the HP Data Center Infrastructure Management Requests list (**Request List** link from the HP Data Center Infrastructure Management navigation bar).
   In the example below, several new server requests have been exported from Asset Manager (via the Provisioning scenario **amapv_provisioning.scn**) and are flagged at the top of the list.



3. Click a request to open the detailed **Install project** screen (HP Data Center Infrastructure Management equivalent of the generic **Equipment Installation Request** screen).

4. Edit additional details as required. For instance, selecting **Install Project 1** from the example list above would display the following details:



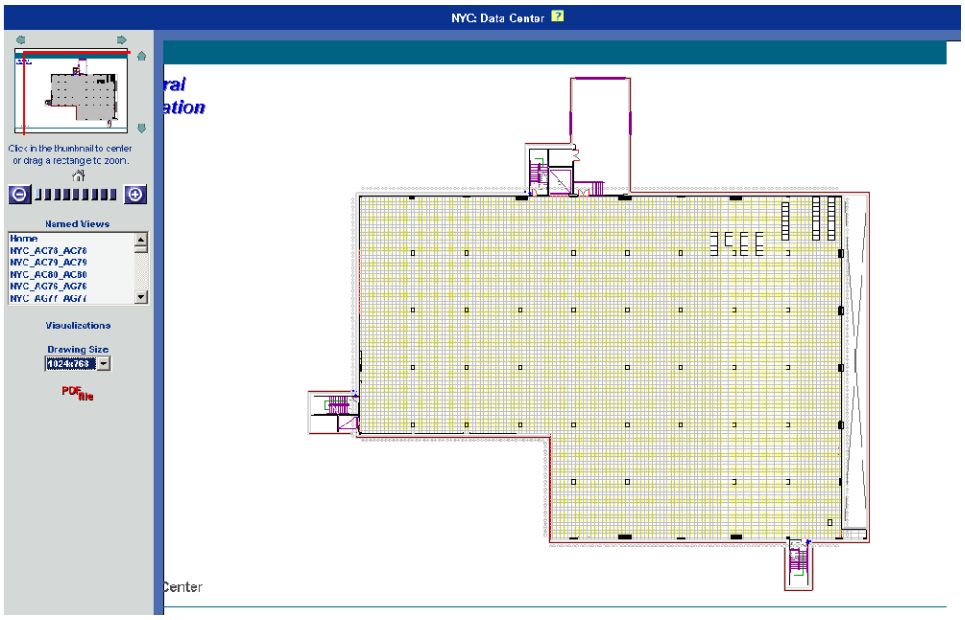
Tip: Fields for which information is still required are flagged with **.
Installation Information
This section lets you

- Assign a **Proposed Installation Date**
- Specify if the request is Urgent, and whether Provisioning for Power, Network and Storage is required.
  - If any of these are checked as requirements, they become prerequisites to the physical installation, and you will need to use the relevant Subforms or Views to give their specifications, and eventually to confirm that the Provisioning requirements have been met.
  - Note that any provisioning requirements will be listed as separate requests on the Request List.

Preferred Location

Note: The link to a location specified on Asset Manager Request is exported to HP Data Center Infrastructure Management. However if you change the location of the request in HP Data Center Infrastructure Management during the validation steps, that change is not automatically propagated back (neither to the Asset Manager Purchase Order nor the Request). It could even be that the Purchase Order has been sent to the supplier with the initially defined Location that is now obsolete. In such a case, you should contact an Asset Manager user to update the Purchase Order delivery location (N.B. this in turn can only be changed before the Purchase Order is issued.)

The **Select Data Center** button allows you to choose a new location from the hierarchical Tree View. For further details of using this form, refer to the Aperture VISTA **User's guide**.
You can also use the **Show Data Center Drawing** button to display a plan view of the selected Data Center. For instance:

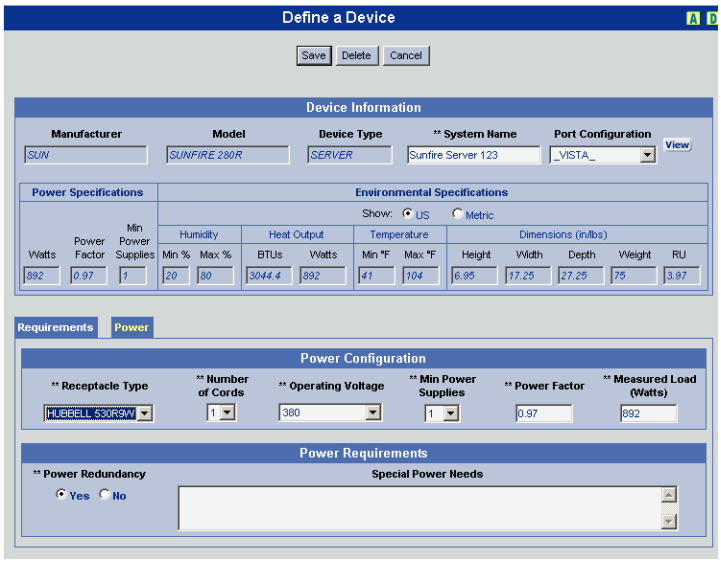


Project Information and **Cost Center Information**

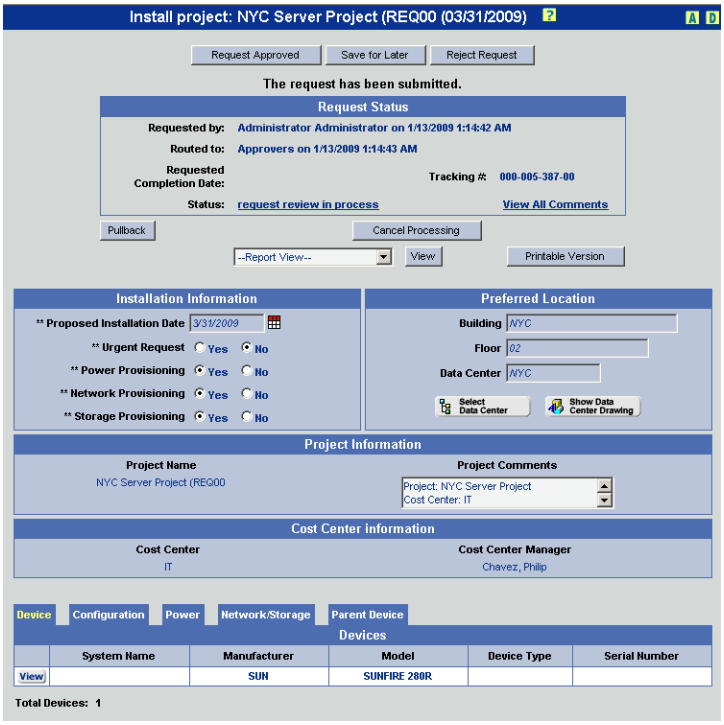
Note that these sections on the HP Data Center Infrastructure Management request are populated with details from the Asset Manager Request.

- Use the **Add / Edit** button listed next to Device(s) to add details of configuration items such as IP addresses, connections and storage components. (You cannot edit this section until you have completed the **Installation Information** and **Preferred Location** sections.)
- For proper workflow operation, each device record must be edited to contain data for all required fields.

For servers, you must specify a **System Name**, and **Power requirements**, as in the example below. Some other details are propagated, if specified, from Asset Manager (for instance **Device Type**).



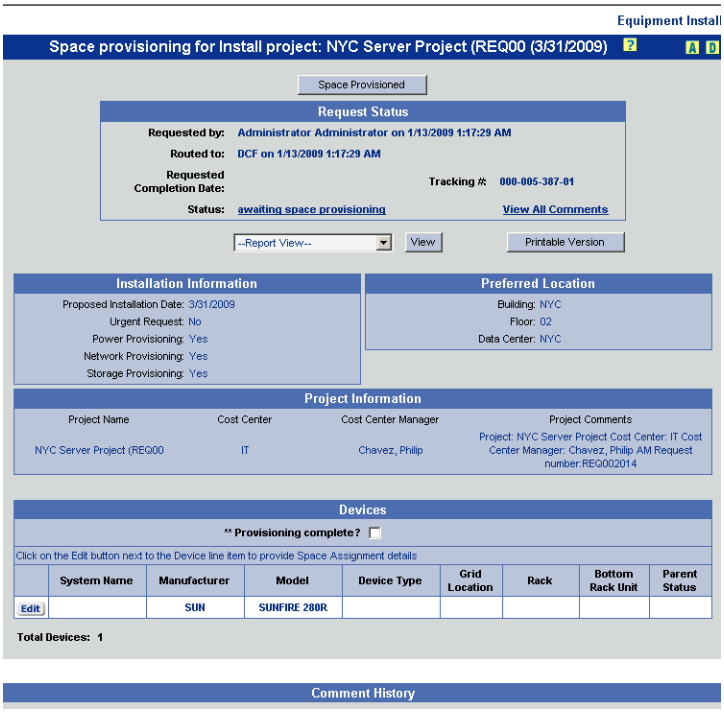
5. Click **Save** to return to the Install project screen.
6. When all the required fields have been populated, click the **Submit Request** button. A confirmation displays, as in the following example:



The request is routed to the appropriate Approvers.

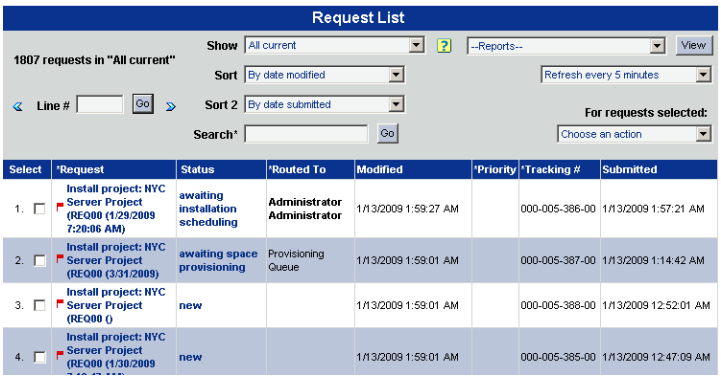
7. When Approval has occurred, you can use the Request Approved button to confirm this.

8. Any Provisioning requirements now need to be confirmed. For instance, in the example below, you are prompted to click the **Edit** button in the **Devices** section to provide space provisioning details.



Refer to the Aperture VISTA documentation for details of how to specify Rack location, etc.

9. Proceed in a similar manner for other required Provisioning details. Once these details are complete, and you have confirmed this, the status of the Request advances to **awaiting installation scheduling**, as in the example below:



Tip: To display the **Status History** screen for any Request, click on its Status.

5. Asset Manager notifies HP Data Center Infrastructure Management that install can proceed

(Initiated by HP Connect-It Provisioning scenario amapv_provisioning.scn)

Asset tags (AssetTag) are transferred from Asset Manager to HP Data Center Infrastructure Management. (Asset tags are assigned automatically to new devices in Asset Manager.)

The **AM_REQUEST_STATUS** field is updated on the **VISTA EMAC_Install** form. (This field is hidden by default, but can be displayed as part of the integration setup. See section "Customizing HP Data Center Infrastructure Management to support the integration" on page 17)

6. Schedule Installation

To specify a scheduled installation time for a given Request in HP Data Center Infrastructure Management:

1. Click on the Request List link.
2. Click on the Request name to open it in the **Install Project** form.
3. Complete the **Installation Scheduling** section, including a **Change Control Number**, and click **Scheduling Complete**.

The request status changes to **awaiting equipment installation**.

Note: before you can schedule the install, all devices linked to the relevant Request Lines must be marked as **Received** by Asset Manager.

7. Execute HP Data Center Infrastructure Management Request

At this point, engineers may wish to access the request details on the HP Data Center Infrastructure Management **Install Project** form, and then select **Printed Version** to print request details to support the installation.

8. Close HP Data Center Infrastructure Management Request

When installation of a Request is finished:

1. Reopen it in the HP Data Center Infrastructure Management **Install Project** form
2. Click **Edit** against the installed Device.
3. Record the **Barcode** and **Serial Number** of the installed device if these have not been transmitted from Asset Manager. (Repeat steps 2 and 3 for each device.)
4. Return to the HP Data Center Infrastructure Management **Install Project** form and click **Installation Completed**. At this point, the HP Data Center Infrastructure Management Request status changes to **closed**.

9. HP Data Center Infrastructure Management sets Portfolio Item Assignment (seAssignment) field to In Use

(Initiated by HP Connect-It Provisioning scenario **amapv_provisioning.scn**)

The **Assignment** (seAssignment) field in Asset Manager is updated to **In Use**.

10. HP Data Center Infrastructure Management creates devices in the Repository database

(HP Data Center Infrastructure Management automated process)

11. HP Data Center Infrastructure Management Transmits location of devices to Asset Manager database

(Initiated by HP Connect-It Synchronization scenario **apvam_sync.scn**)

12. Asset Manager transmits Barcode and Serial numbers to HP Data Center Infrastructure Management database

(Initiated by HP Connect-It Synchronization scenario **apvam_sync.scn**)

13. Close Asset Manager Request

At this point the databases are synchronized with complete information for the requests.

The status of the corresponding Asset Manager Request should be changed from **Satisfied** to **Closed** by the appropriate user.

For further details of the HP Data Center Infrastructure Management **Request List**, **Equipment Installation Request** and **Install Project** forms, refer to the Aperture VISTA **User's Guide**.

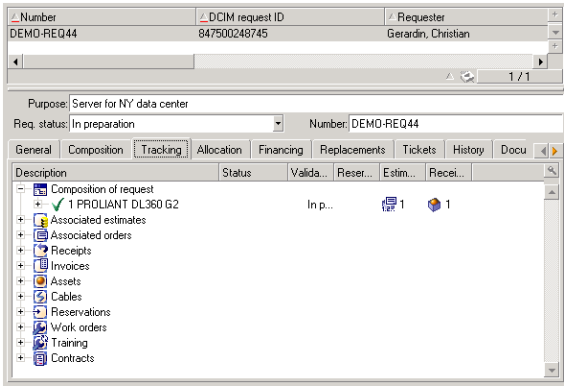
Asynchronous Activities

Tracking Request progress with Asset Manager

To recap, once a Purchase Request is validated, a corresponding Purchase Order can be generated. The workflow progresses as the corresponding materiel is Received, Reserved, and eventually Installed.

In the Windows client, you can track the status of all the stages of the procurement workflow, and drill down to full detail at each stage, via the **Tracking** tab on the Request detail screen, as in the following example from the Asset Manager Windows client.

In the Web client, you can use the **Track request lines** wizard to track the status.



Displaying the location of a device installed through HP Data Center Infrastructure Management

Displaying the location of a device installed through HP Data Center Infrastructure Management

1. From the detail of Request line screen, select the Portfolio items concerned by the request tab.
2. Select a Portfolio item.

   Tip: this is equivalent to selecting a portfolio item via the **Asset lifecycle/ Infrastructure management/ Portfolio items** navigation bar link).
   The Portfolio Item detail screen displays, as in the following example. When the portfolio item corresponds to a device that is or will be installed via HP Data Center Infrastructure Management, an additional link "**Display the location of the asset in DCIM**" displays below the **Cost center** field on this screen.

3. Click the Display the location of the asset in HP Data Center Infrastructure Management link. This launches the corresponding floor plan from the HP Data Center Infrastructure Management Repository.

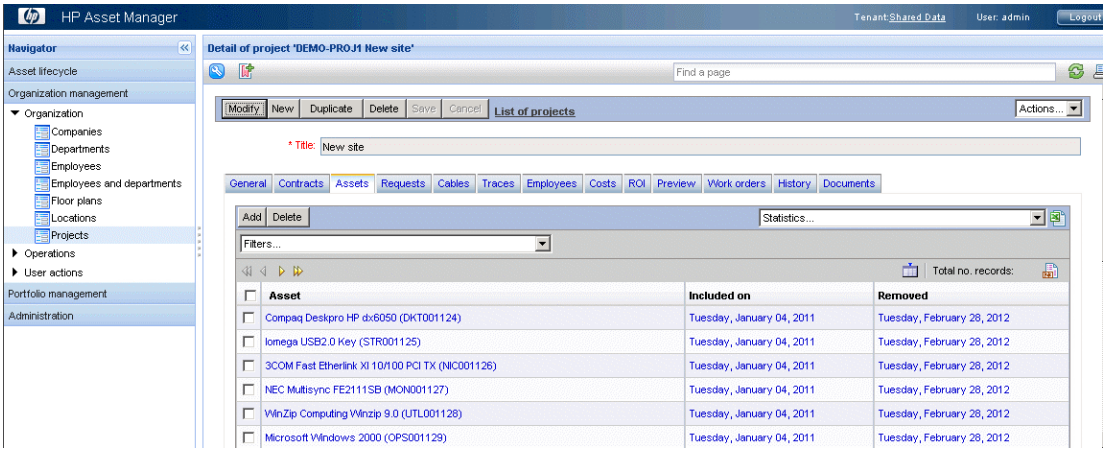
   Note: the URL for this link needs to have been configured during the setup stage of the

integration between Asset Manager and HP Data Center Infrastructure Management. See section "Modifying the URL for the DCIM Location (sysCoreWebDCIMAssetLocation) Calculated field" on page 16

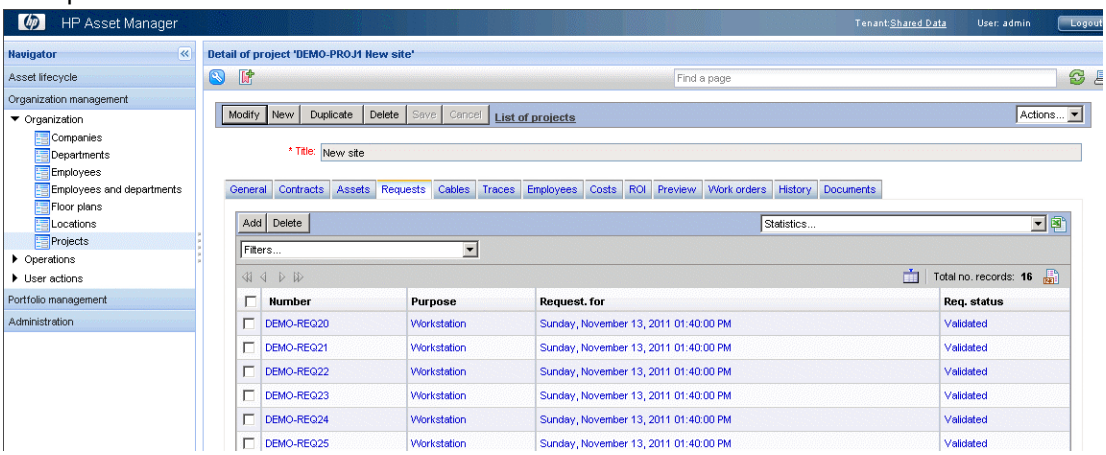
View Assets and Requests by Project in Asset Manager

You may find it useful to monitor the Assets or Requests linked to a given Project. To do this, follow this procedure.

1. Use the **Organization management/ Organization/ Projects** link on the navigation bar.
2. Select a Project from the list.
3. To view the list of Assets linked to the Project, select the **Assets** tab. The example below shows all the server assets linked to the NYC Server Project.



4. To view the Requests linked to the selected Project, select the **Requests** tab, as in the example below:



Reporting on Data Center installations

Overview

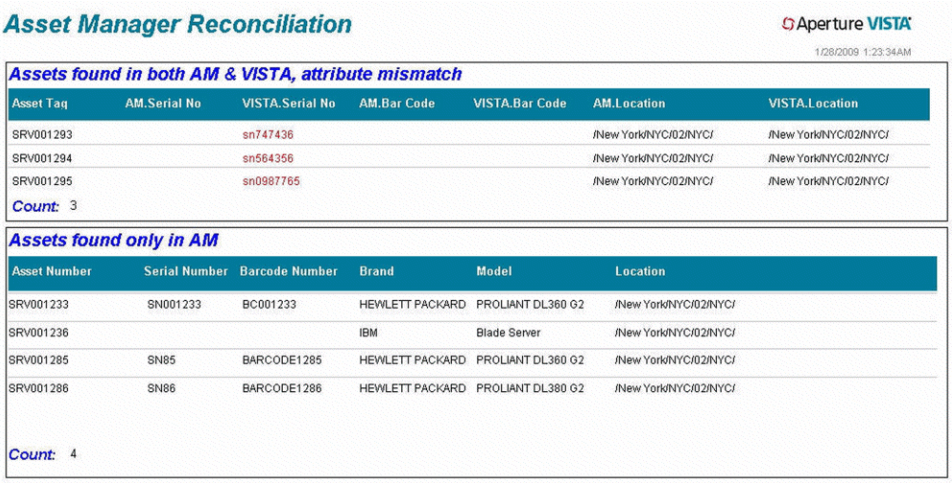
An SAP Crystal Report called **Asset Manager Reconciliation** is supplied in the integration package to help HP Data Center Infrastructure Management users identify and rectify anomalies in asset data. It attempts to match assets in the Asset Manager and HP Data Center Infrastructure Management by Asset Tag.

The report contains three sections:

Section	Details shown	Action to reconcile
Assets found in both AM and VISTA, attribute mismatch	Records successfully matched on the Asset Tag, but whose serial numbers in AM and VISTA do not match	Manually edit the mismatched attributes (you may need to contact an Asset Manager user)
Assets found only in AM	Assets in Asset Manager for which a corresponding match on Asset Tag in HP Data Center Infrastructure Management is not possible	Use the corresponding Location data to investigate the Device and edit records as needed
Assets found only in VISTA	Devices in VISTA which could not be matched to an Asset Manager Asset	Use the corresponding Location and Symbol data to investigate the Device and edit records as needed

Note: Sometimes a mismatch or missing asset record is due to the fact that a device has been decommissioned from a Data Center.

The report samples below show the information that appears in these sections:



Asset Manager Reconciliation

Aperture VISTA

1/28/2009 1:23:34AM

Assets found in both AM & VISTA, attribute mismatch

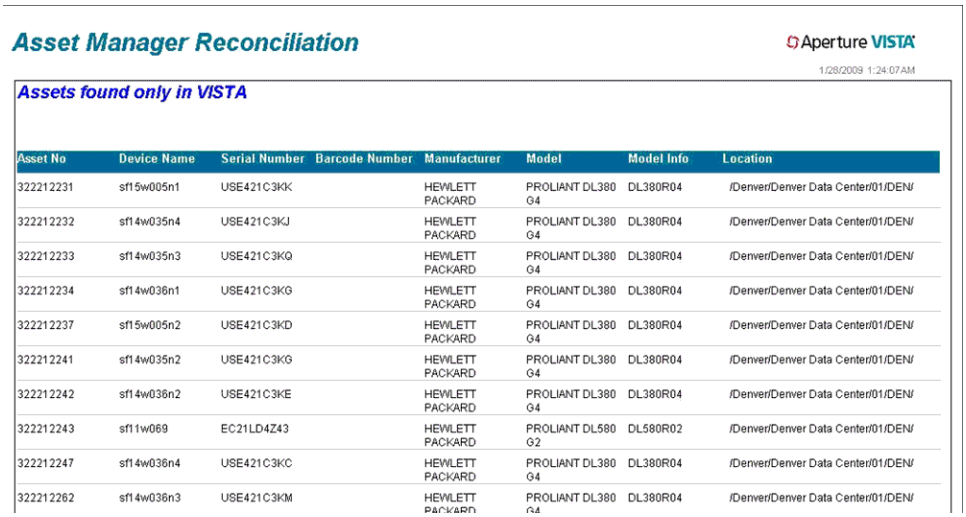
Asset Tag	AM.Serial No	VISTA.Serial No	AM.Bar Code	VISTA.Bar Code	AM.Location	VISTA.Location
SRV001293		sn747436			/New York/NYC/02/NYC/	/New York/NYC/02/NYC/
SRV001294		sn564356			/New York/NYC/02/NYC/	/New York/NYC/02/NYC/
SRV001295		sn0987765			/New York/NYC/02/NYC/	/New York/NYC/02/NYC/

Count: 3

Assets found only in AM

Asset Number	Serial Number	Barcode Number	Brand	Model	Location
SRV001233	SN001233	BC001233	HEWLETT PACKARD	PROLIANT DL360 G2	/New York/NYC/02/NYC/
SRV001236			IBM	Blade Server	/New York/NYC/02/NYC/
SRV001285	SN85	BARCODE1285	HEWLETT PACKARD	PROLIANT DL360 G2	/New York/NYC/02/NYC/
SRV001286	SN86	BARCODE1286	HEWLETT PACKARD	PROLIANT DL380 G2	/New York/NYC/02/NYC/

Count: 4



Asset Manager Reconciliation

Aperture VISTA

1/28/2009 1:24:07AM

Assets found only in VISTA

Asset No	Device Name	Serial Number	Barcode Number	Manufacturer	Model	Model Info	Location
322212231	sf15w005n1	USE421C3KK		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212232	sf14w035n4	USE421C3KJ		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212233	sf14w035n3	USE421C3KQ		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212234	sf14w036n1	USE421C3KG		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212237	sf15w005n2	USE421C3KD		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212241	sf14w035n2	USE421C3KG		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212242	sf14w036n2	USE421C3KE		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212243	sf11w069	EC21LD4Z43		HEWLETT PACKARD	PROLIANT DL580 G2	DL580R02	/Denver/Denver Data Center/01/DEN/
322212247	sf14w036n4	USE421C3KC		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/
322212262	sf14w036n3	USE421C3KM		HEWLETT PACKARD	PROLIANT DL380 G4	DL380R04	/Denver/Denver Data Center/01/DEN/

Installing and running the report

See steps 9 and 10 of section "Customizing HP Data Center Infrastructure Management to support the integration" on page 17

Before using the report for the first time, the following data synchronization needs to have occurred:

- Locations need to be transferred from HP Data Center Infrastructure Management to Asset Manager using HP Connect-It. These locations need to be normalized in Asset Manager (only one instance of each location), and flagged with **Location type** (LocationType) = **Data Center**.
- Asset tags need to be transferred from Asset Manager to HP Data Center Infrastructure Management using HP Connect-It.

You can run the report using the SAP Crystal Reports Viewer (installed by default on the HP Data Center Infrastructure Management server).

Note: While using the report to access the Asset Manager database, select then the ODBC connection named **HP Asset Manager**. To access the HP Data Center Infrastructure Management database, select the ODBC connection named **VISTARep** .

For further details of configuring these connections, see section "Configuring the Connectors in the HP Connect-It scenarios" on page 22

Summary

The integration of Asset Manager with HP Data Center Infrastructure Management (Aperture VISTA) is simple for existing users of either or both systems to implement. The costs for existing users are low, and the risks attached are minimal. The benefits are immediate and wide ranging. Notably, in terms of increased management visibility of data center operations, and the reliability and cost effectiveness of those operations.

Frequently Asked Questions

The following questions and answers, issues and solutions may help resolve the most common technical queries concerning this integration.

1. If for a given request in Asset Manager, one request line is **Installable through DCIM**, and another is not, does this cause any conflicts?
   ANS: In principle there are no conflicts in the system. Asset Manager exports to HP Data Center Infrastructure Management all and only the request lines for devices flagged as **Installable through DCIM**. However it is a recommended Best Practice to create your request so that all these request lines have the same Location (and this should be a Data Center for devices that are Installable through HP Data Center Infrastructure Management).

2. Must all the request lines for a given Asset Manager request have the same delivery location?
   ANS: The integration between Asset Manager and HP Data Center Infrastructure Management only takes the request location into account. Any location specified at the request lines detail will not be transferred and may be misleading in the case of request lines transferred to HP Data Center Infrastructure Management. A request has a single location, and this should be a Data Center for devices that are Installable through HP Data Center Infrastructure Management).
   However, HP Data Center Infrastructure Management devices associated to the request will be assigned more specific locations for installation, within that Data Center

3. What happens with the location associated to the Asset Manager request when the request is transferred to HP Data Center Infrastructure Management?
   ANS: If the location&';s **Location type** (LocationType) is Data Center and the location was imported from HP Data Center Infrastructure Management, the link between the request and the location is transferred to HP Data Center Infrastructure Management. In any other instances, the link between the location and the request is not transferred; Users will have to assign the right location in HP Data Center Infrastructure Management directly and will need to notify the delivery location to the person creating the purchase orders in Asset Manager.
   Note that new Data Center locations should be defined in HP Data Center Infrastructure

Management - these are then propagated to Asset Manager. (However, if a location is deleted in HP Data Center Infrastructure Management, this change is not currently propagated to the locations listed in Asset Manager. Workaround: In Asset Manager, change the **Location type** (LocationType) so that it is no longer listed as a **Data Center**.)

4. When trying to save request details in HP Data Center Infrastructure Management, I often get the following error message:

   ```
   The request was changed by someone else while you were looking at the reques
   t. No changes saved. Please try again.
   ```

   ANS: Try reducing the scheduling frequency of the HP Connect-It scenarios. This will reduce the likelihood that request data will be synchronized from Asset Manager while you are editing the same record.

5. Can I set a quantity other than 1 on a Request Line?
   ANS: Yes, the integration allows this. It will create as many devices in the HP Data Center Infrastructure Management request as are specified in the Asset Manager Request Line quantity field.

Reference Documents

Asset Manager, HP Connect-It and HP Data Center Infrastructure Management (Aperture VISTA) are each provided with their own comprehensive installation, user and reference guides. You should refer to these as required for further details and in-depth explanations of the concepts and procedures mentioned in this White Paper.

We appreciate your feedback!

If you have comments about this document, you can contact the documentation team by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Integration with Data Center Infrastructure Management (Asset Manager 9.41)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to ovdoc-ITSM@hp.com.