HP NGOSS Software

Incident & Problem Management Extension Administration and Troubleshooting Guide

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Contents

Preface

This document describes the administration and trouble shooting tasks of Incident & Problem Management Extension version 1.0.0 developed based on HP Service Manager 7.11.

Intended Audience

This manual provides information needed for system administrator to perform the daily maintenance task of the IPM product.

Prior knowledge of Service Manager and related knowledge is required.

Unless otherwise specified, all operations and commands described in this guide must be performed by a system administrator logged in with general system privileges, i,e, as user administrator, falcon, etc.

Document Structure

The chapters in this document provide information as follows:

- Chapter 1 provides an overview of the Incident & Problem Management Extension.
- Chapter 2 provides information on the starting and stopping procedure.
- Chapter 3 provides information on Incident & Problem Management Extension administration.
- Chapter 4 provides information on Logging and Tracing.
- Chapter 5 provides information on trouble shooting.

Reference and Associated Documents

- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Telco CI Types Definition User Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - VIP Customer Self Service User Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Data Loading User Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Incident Management Enhancement User Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Intervention Management User Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Merge Customization function User Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Merge Customization function Localization User Guide

- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Installation Guide
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Installation Guide for Service Manager9.20
- HP NGOSS Incident and Problem Management Extension Version 1.0.0 - SOA Integration Installation and Configuration Guide

Terms and Acronyms

Table 1: List of Terms and Acronyms

Term	Description
SM	HP Service Manager 7.11/9.20
uCMDB	HP universal Configuration Management Data base product.
UTM	Unified Topology Manager
IPM	HP NGOSS SM Incident & Problem Management Extension Value Package

Support

Please visit our HP Software Web site at: http://www.hp.com/go/hpsoftwaresupport for contact information, and details about HP Software products, services and support.

- Troubleshooting information
- Patches and updates
- Problem reporting
- Training information
- Support program information

Chapter 1
Overview

1.1 Products Goals

HP NGOSS SM Incident & Problem Management Extension includes some enhancements compare to Service Manager7.11/9.20:

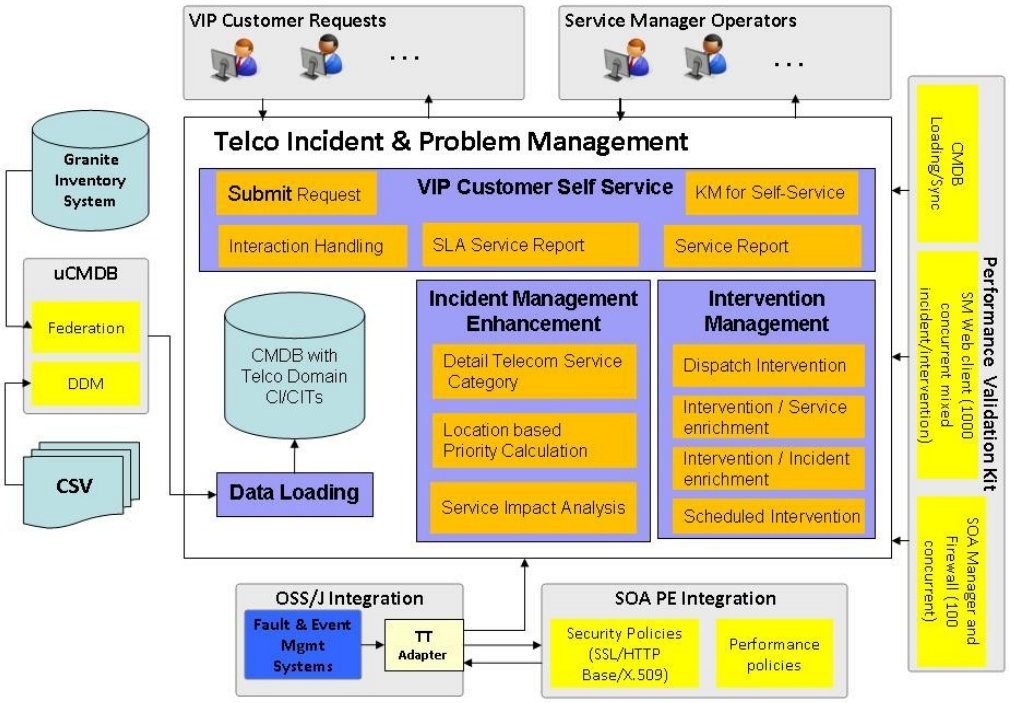


Figure1. Incident & Problem Management Extension Architecture

- Predefine category, domain and sub-domain used in Telecom ITSM domain.
- Develop an priority algorithm to seek the highest possible priority (based on the service hierarchy and location).
- Enables the simultaneous support of several interventions for the same incident and therefore the configuration element in connection with the incident, to expedite its resolution

- Service Manager Service Desk template definition (ESS) for the important business customers.
- Uses SOA PE Manager and OSS/J (JSR 91 Trouble Ticket) adapter to manage the customer sessions which spread in different spaces and give the customer better Economies of Scale
- Provide Out-of-the-box Telecom CI type, attributes and relationship information based on information within the TM Forum SID, the HP Telco Universe as well as project knowledge. Definition of how the solution ties in with the Telco Universe and uCMDB.
- Integration and federation of data from a sources such as inventory management systems (Telcordia Granite) as well as free-form sources such as CSV files into Service Manager via a common interface such as uCMDB and UTM. Features include data ETL (preparation, parsing, analysis, mapping, comparison, committing).Incident Management enhancement

1.2 Software Capabilities

1.2.1 Incident Management Enhancement

1.2.1.1 Workflow with TeMIP Integration

If an incident comes from TeMIP alarms, when the incident creates, the following steps should be done by automatically.

1) Look up the related resource CI with MO name.
2) Look up the related services CIs with the resource CIs.
3) Look up the related incidents with the services CIs and resources CIs.
4) Put all these information together and related to the incident as a reference.

When the four steps done, all the relevant information will stored in the incident information. When the Service Desk opens this incident, he can see the relevant services, resources, related incidents.

1.2.1.2 Telecom Category Definition

It is a Telecom-based hierarchy meant to easily classify the ticket in telecom domains. The three-level hierarchy (category, Domain, and Sub-

Domain) creates a “sentence” that clearly and uniquely defines the issue without ambiguity.

1.2.1.3 Priority Calculation

The priority Calculation can be configured. A parameter “$G.PriorityCalculationWay” is provided on the Format Control “login.DEFAULT” of HP Service Manager7.11 products. And user can define the calculation related to this parameter. Here is the value of the parameter.

Value	Description
1	**Standard priority calculation** Priority = (impact + urgency)/2
2	Priority related to the hierarchy of affected CIs of incident.
3	Remain for user to define.
4	Remain for user to define.
5	Remain for user to define.
…	Remain for user to define.

1.2.2 Intervention Management

The Intervention Management process is used to manage simultaneously tasks performed by different support team which can reduce the resolution time for the incident.

The functions of the intervention management process are:

- Create Interventions from an incident
- Assign interventions to the correct work group(s) either manually or automatically for execution
- Track and Manage progress of the intervention
- Track the historic activities of the intervention
- Manage the intervention queue

1.2.3 Configuration Management Enhancement

The package provides a set of configuration model of the services, assets and infrastructure and the relationships between service assets and configuration items in Telco fields. These CI types are defined based on M.3100.

Modeling the customer, service and resource configuration items and building their relationships.

Defines MO and CI relationship in SM to support the integration between SM and TeMIP. When an incident in created from TeMIP, MO information is sent. Through looking up the relationship table, affected CI will be found.

1.2.4 VIP Customer Self Service

From the self service component, VIP customer could do the following actions:

- Search Knowledgebase
- View the VIP customer's relevant requests.
- View the VIP customer's ordered services.
- Submit a request
- Search request

1.2.5 SOA Policy Enforcer V3.10 Integration

The package integrates HP Service Manager7.11 with HP SOA Policy Enforcer V3.10 enables the policy enhancement on the web services which HP Service Manager7.11 opens to external system.

SOA Policy Enforcer V3.10 will act as a web service manager in this integration. The web service consumer (third-party software, e.g. HP TeMIP product) can communicate with SM by calling web services managed on SOA Policy Enforcer to finish following SM incidents operations:

- Create Trouble Ticket
- Update Trouble Ticket
- Re-open Trouble Ticket
- Get Trouble Ticket Information
- Close Trouble Ticket

1.2.6 Generic Data Loading tool

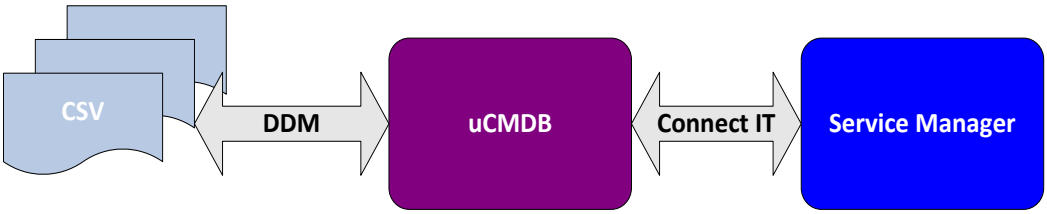
Generic Data Loading tool mainly implement loading data from external inventory system into Service Manager. There will be two ways to load the data from Granite into Service Manager.

1) Using uCMDB as a transit station.

a)Need to configure federation between uCMDB and Granite

b)Loading data from uCMDB into Service Manager via Connect IT.

2) Loading data from CSV file into Service Manager



The data models should be according to the Telecom CI types.

1.3 International support

IPM product only provides English and French version for Service Manager7.11 and only English version for Service Manager9.20 until now.

For the character encoding, the character encoding of all the configuration files is UTF-8.

Chapter 2
Starting and Stopping Procedure

2.1 Dependency

Before starting and stopping procedure, you must to verify the following prerequisites.

1. HP Service Manager7.11/9.20 Server has been installed and configured correctly.
2. HP Service Oriented Architecture Policy Enforcer 3.10 has been installed and configured correctly.
3. HP uCMDB9.0 has been installed and started successfully.
4. HP Connect-IT 3.90 has been installed successfully.
5. Incident & Problem Management Extension package has been installed successfully.

Note: HP Connect-IT3.90 only support Windows Operating System.

2.2 Starting Procedure

2.2.1 For Windows OS

2.2.1.1 Starting Service Manager

In the host of HP Service Manager is running on, using the following steps to start:

1. Click **Start** -----> **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Select the **HP Service Manager 7.11 Server**.

   Note: if you install HP Service Manager9.20, then you may select **HP Service Manager 9.20 Server**.
5. From the toolbar, click the **Start Service** button.

Note: You can configure Service Manager to start automatically

2.2.1.2 Starting HP SOA Policy Enforcer

In the host of HP SOA Policy Enforcer is running on, using the following command to start:

1. Click **Start** ----> **Control Panel**.

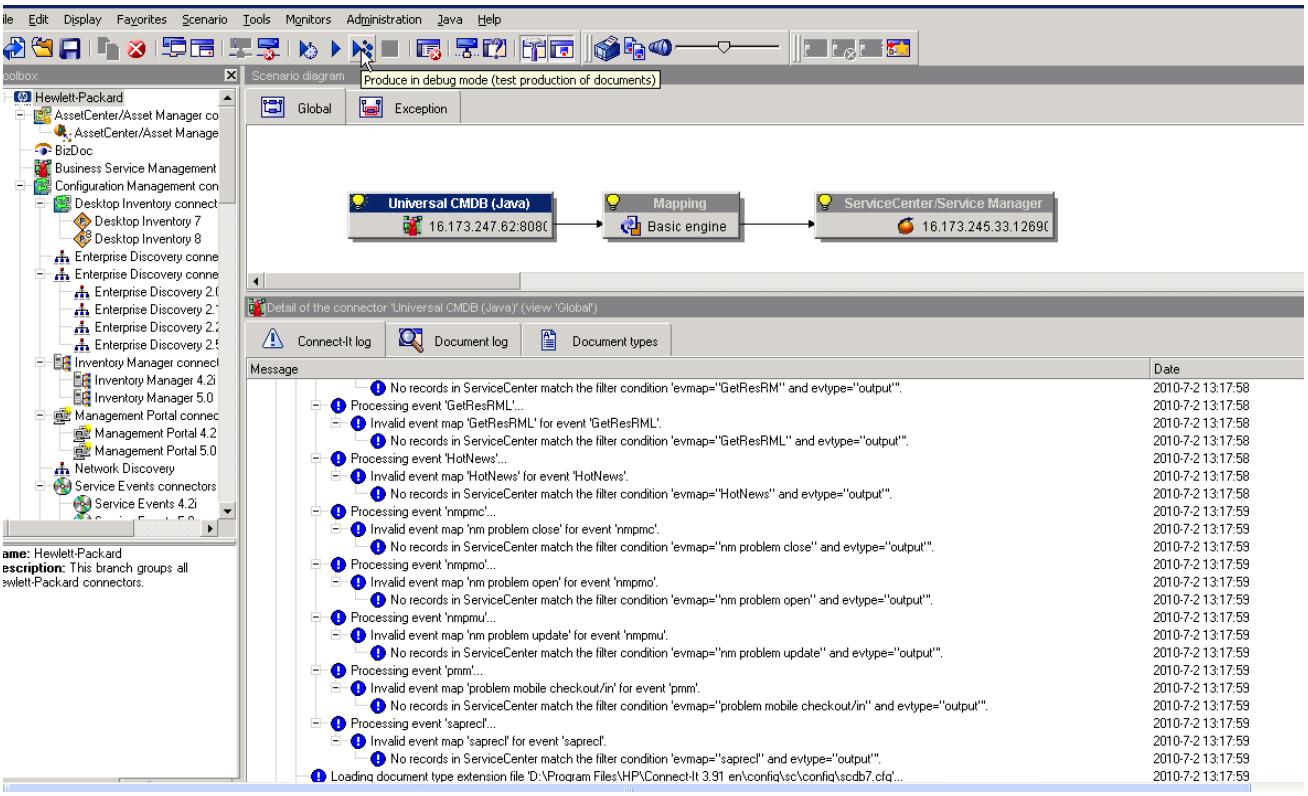
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Select the **HP Software SOA Policy Enforcer v3.10 Network Services**
5. From the toolbar, click the **Start Service** button to start broker server.
6. Select the **HP Software SOA Policy Enforcer v3.10 Broker**
7. From the toolbar, click the **Start Service** button to start network services.

Note: You can configure two services above to start automatically

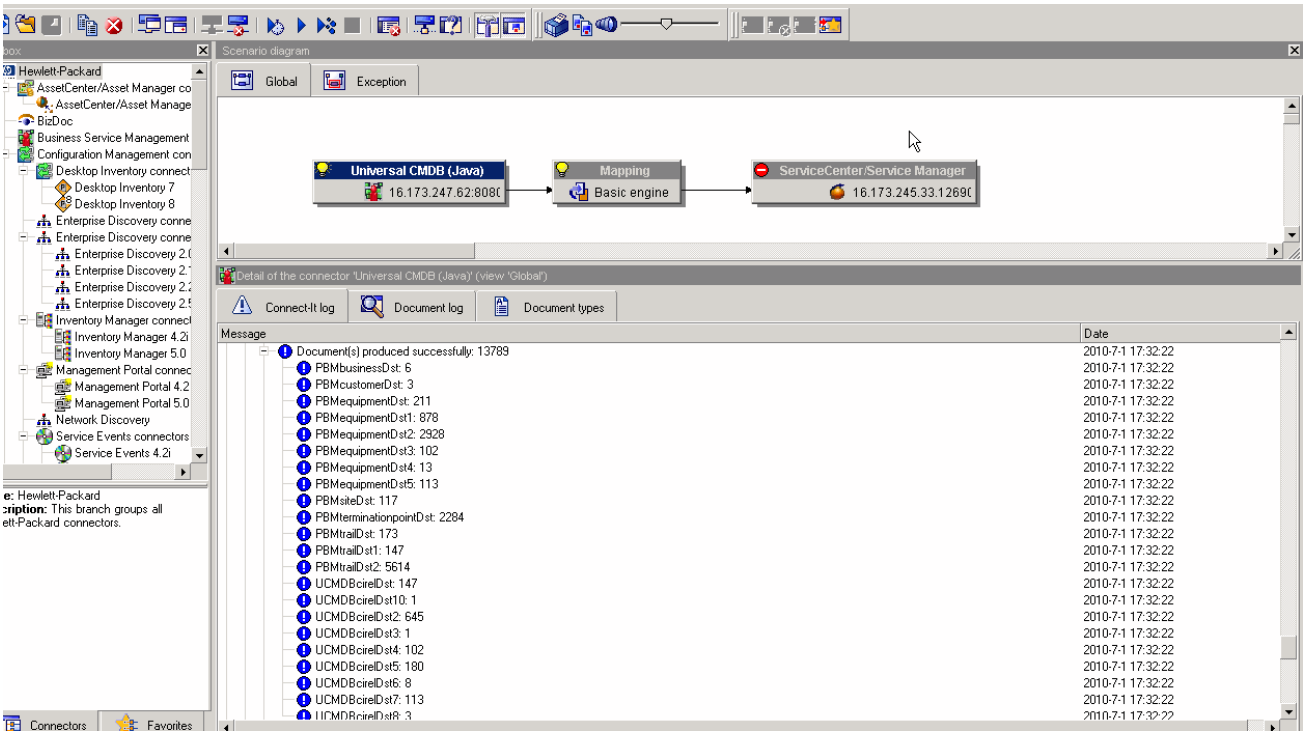
2.2.1.3 Run Data Loading scenario in Connect-IT scenario builder

In the host of HP Connect IT is running on, using the following step to build Generic Data Loading package:

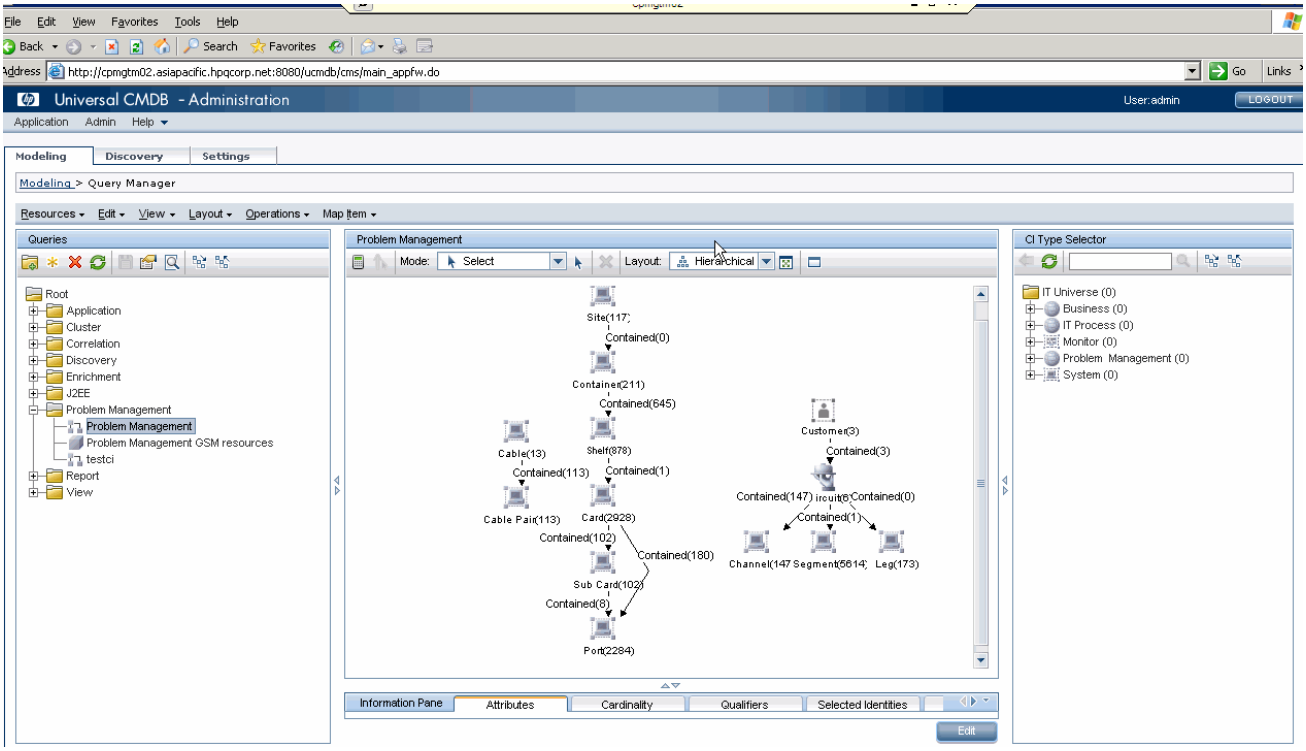
1. Open the PBMGranite.scn on the machine installed with Connect-IT. Click 'Produce in debug mode'



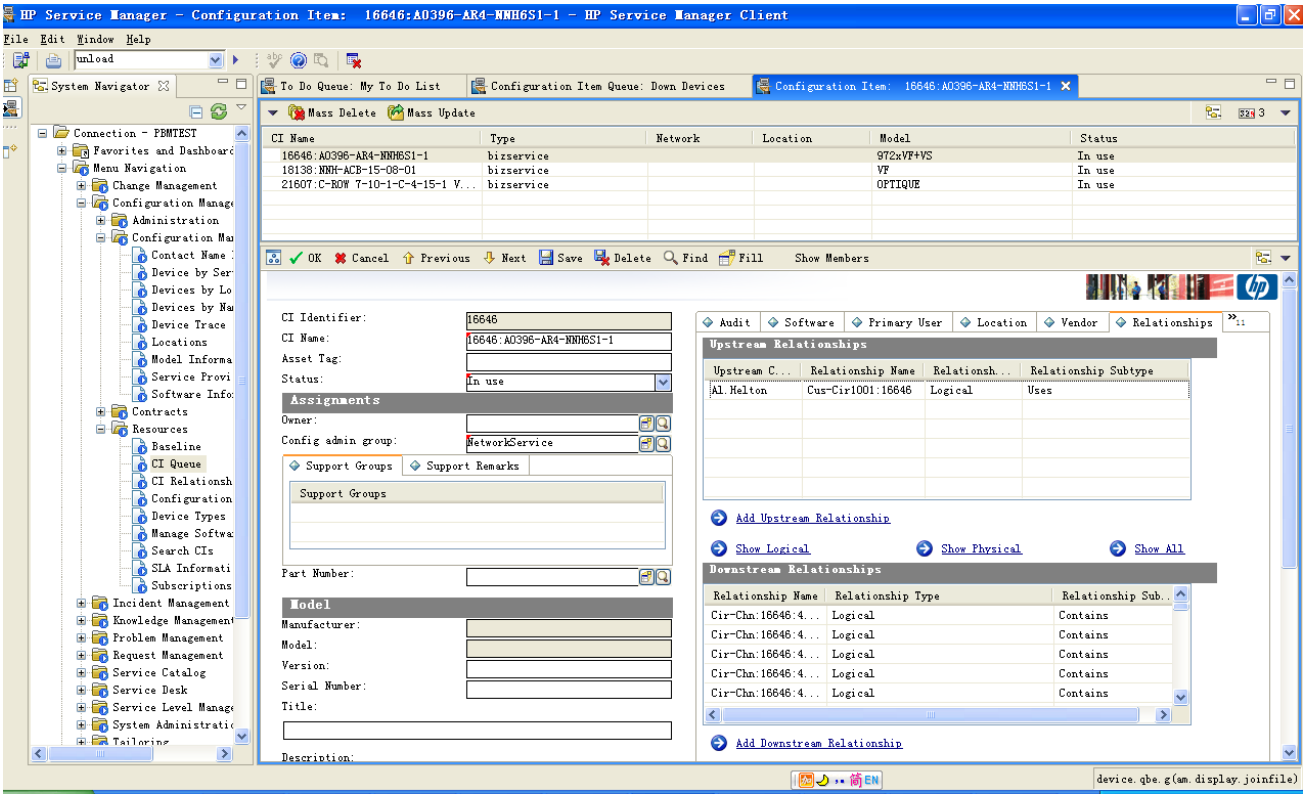
2. After successfully run the scenario, the result will be shown in Connect-IT log. You can see how many documents are produced, how many are processed successfully and how many are rejected.



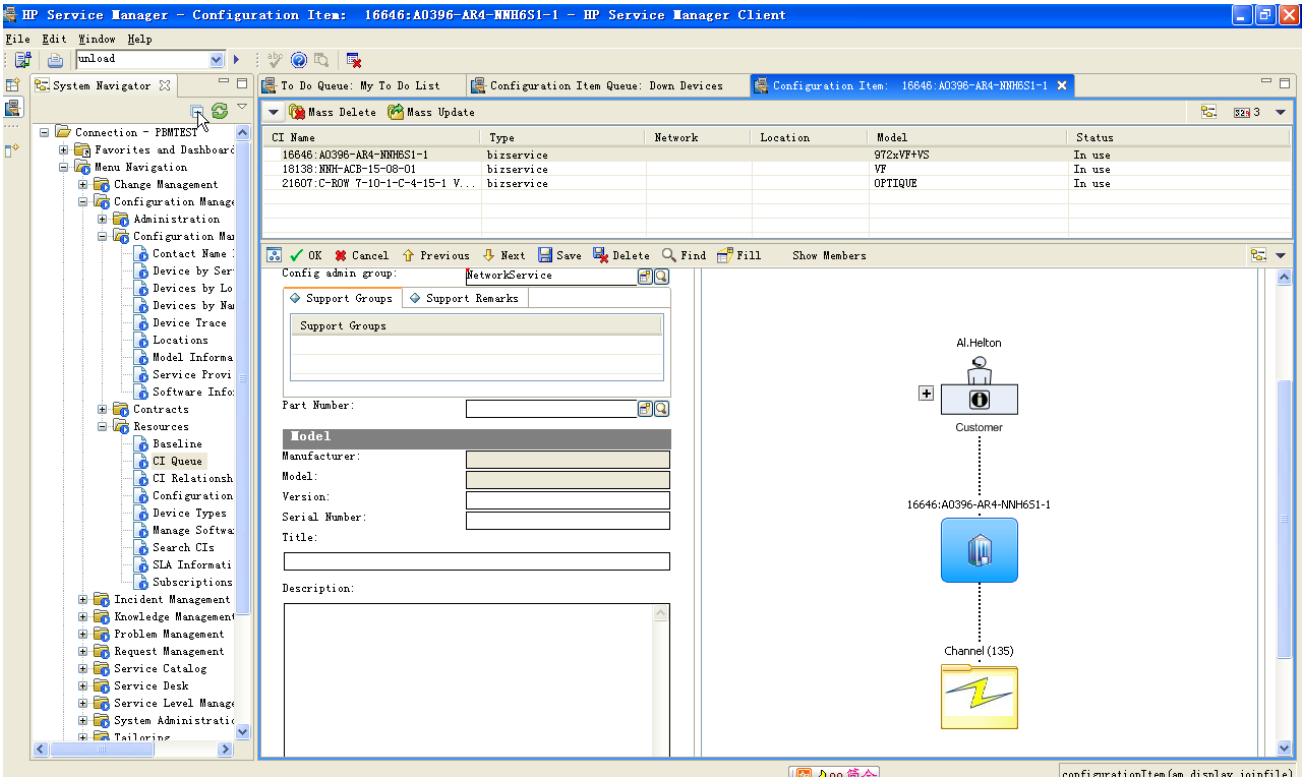
3. Compare the result with the query in UCMDB.



4. Check the result in Service Manager. CI and their relationship will be shown here.



You can also view the relationship from relationship graph.



2.2.1.4 Deploy Data Loading scenario using the Connect-IT service console

In the host of HP Connect IT is running on, using the following step to deploy Generic Data loading package.

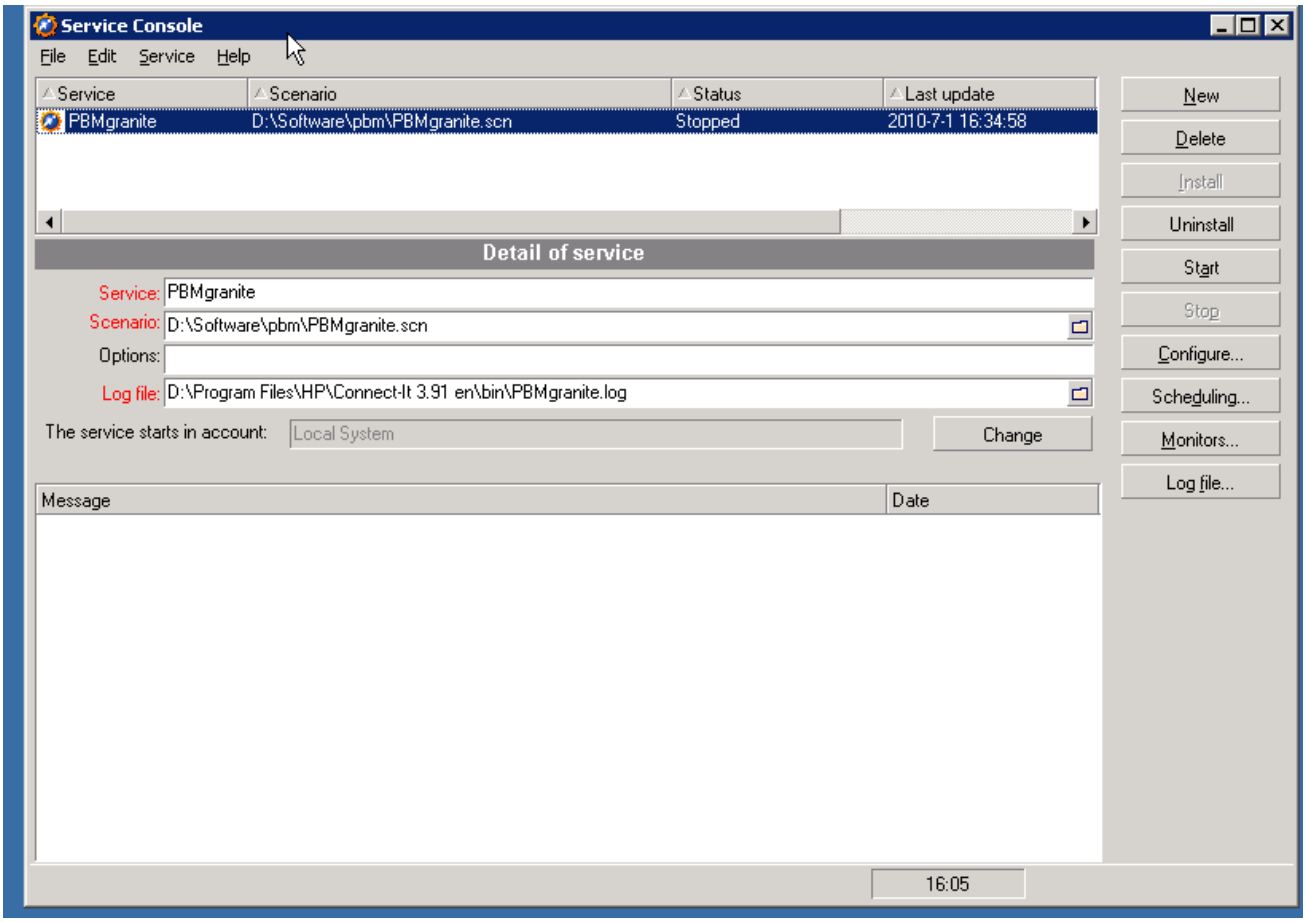
1. Open the HP Connect-It Service Console. Click New to deploy a new scenario.

2. Complete the details of the Service:

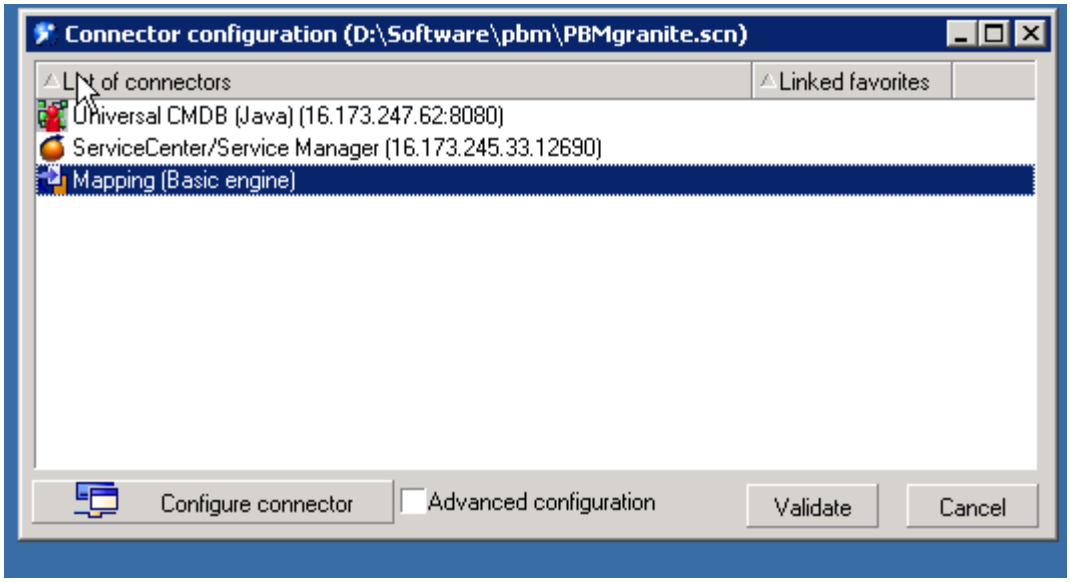
Service: enter PBMgranite

Scenario: browse to one of the scenarios above.

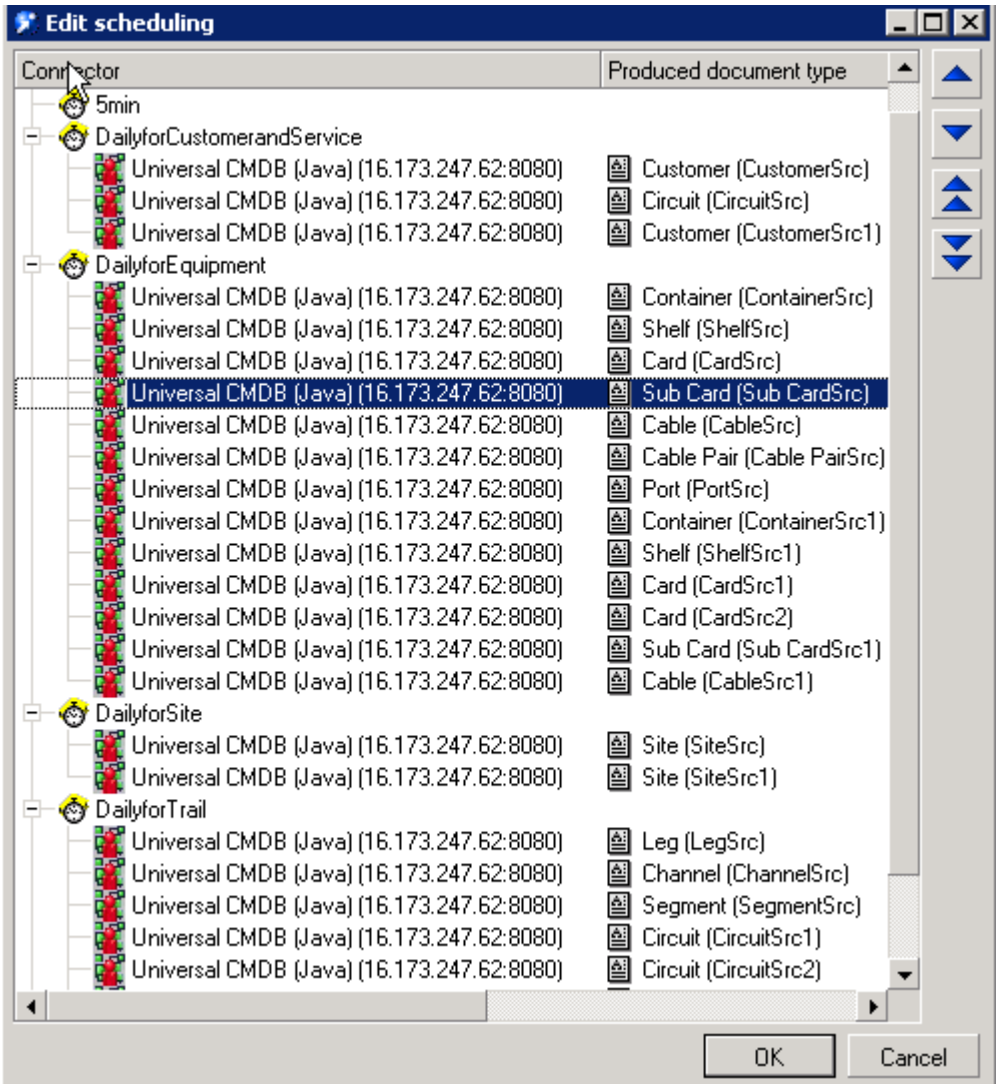
Log file Leave the other fields blank. A log file will be assigned.



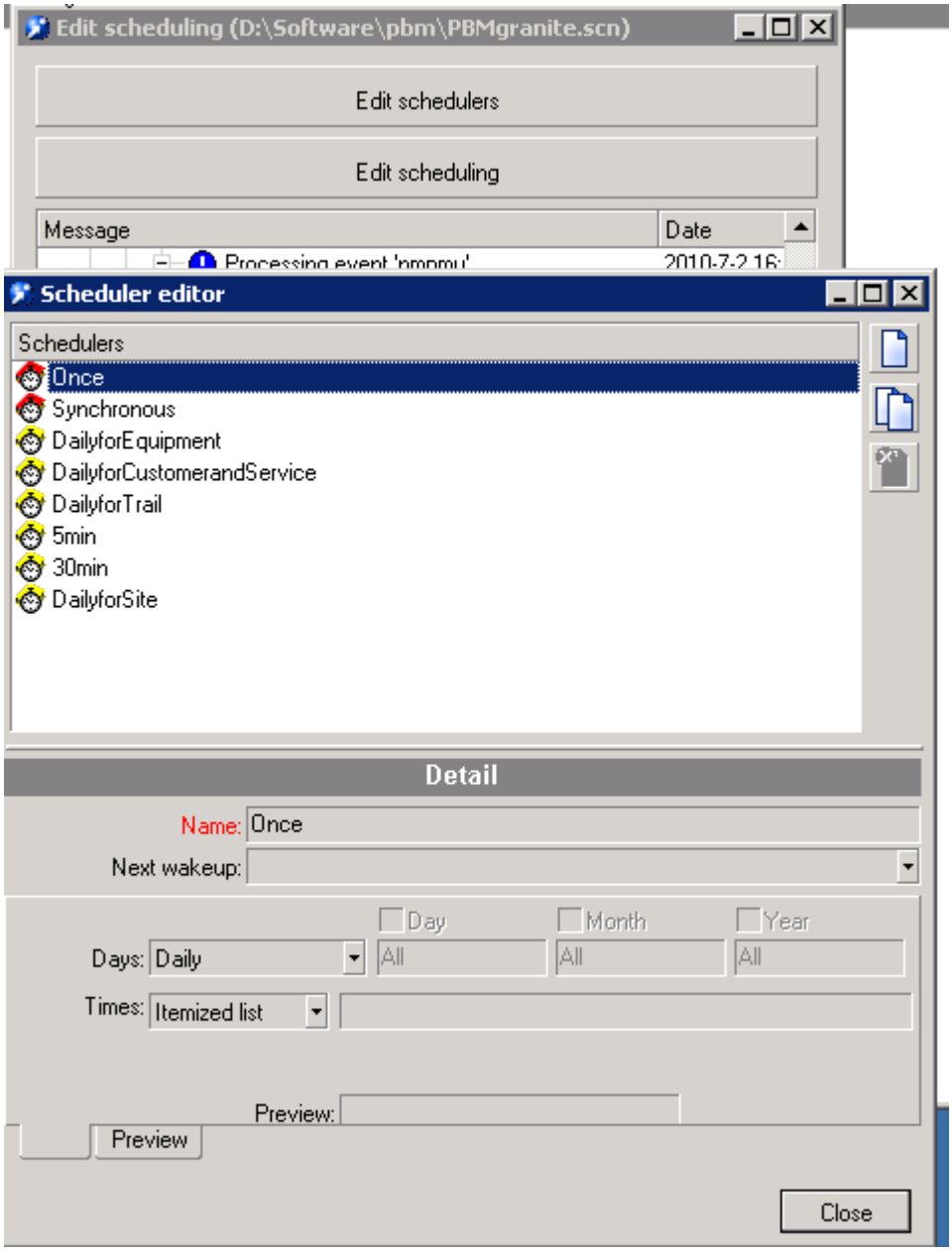
3. Click 'Configure' to configure the connector. Detail steps are the same as the description in 7-1. There is no need to configure the Mapping connector unless you wish to extend the integration.



4. Click Scheduling--Edit scheduling. The following schedule has been defined on this scenario. You can move the service by clucking the double-down arrow on the right.



5. If you need more complex scheduling, click 'Edit schedulers' on the previous window and create a suitable schedule.



6. Once back on the main console, Click Start to activate the scenario.

First time start the service, Connect-IT will load all data to HP SM.

At next schedule time, Connect-IT will compare UCMDB last update time with current time and do delta data loading to SM.

2.2.2 For HP UX/Linux OS

2.2.2.1 Starting Service Manager

In the host of HP Service Manager is running on, using the following command to start:

$ /opt/HP/ServiceManager7.11/Server/RUN/smstart

Starting sm

Starting sm system.start

2.2.2.2 Starting HP SOA Policy Enforcer

In the host of HP SOA Policy Enforcer is running on, using the following command to start:

1. Change directories to **<SOA Policy Enforcer install_dir>\bin\unix**.
2. Run the **networkservices** startup script to start network services.
3. Run the **broker** startup script to start broker server.

2.3 Stopping Procedure

2.3.1 For Windows OS

2.3.1.1 Stopping Service Manager

In the host of HP Service Manager is running on, using the following steps to stop:

1. Click **Start** -----> **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Select the **HP Service Manager 7.11 Server**.

Note: if you install HP Service Manager9.20, then you may select **HP Service Manager 9.20 Server**.

5. From the toolbar, click the **Stop Service** button.

Note: You can configure Service Manager to start automatically

2.3.1.2 Stopping HP SOA Policy Enforce

In the host of HP SOA Policy Enforce is running on, using the following steps to stop:

1. Click **Start** -----> **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Services**.
4. Select the **HP Software SOA Policy Enforcer v3.10 Network Services**
5. From the toolbar, click the **Stop Service** button to start broker server.
6. Select the **HP Software SOA Policy Enforcer v3.10 Broker**
7. From the toolbar, click the **Stop Service** button to start network services.

2.3.1.3 Stopping Generic Data Loading.

In the host of HP Connect IT is running on, using the following step to close Generic Data loading package.

Close the HP Connect-IT application.

2.3.2 For HP UX/Linux OS

2.3.2.1 Stopping Service Manager

In the host of HP Service Manager is running on, using the following command to stop:

$/opt/HP/ServiceManager7.11/Server/RUN/smstop

Attempting normal shutdown of SM
Server.....

Shutdown process completed

Report on HP Service Manager resources still in use:

No HP Service Manager Processes Running

No HP Service Manager IPC Message Queues in use

Found 1 IPC Shared Memory IDs in use

Found 1 IPC Semaphores in use

2.3.2.2 Stopping HP SOA Policy Enforce

In the host of HP SOA Policy Enforce is running on, using the following steps to stop:

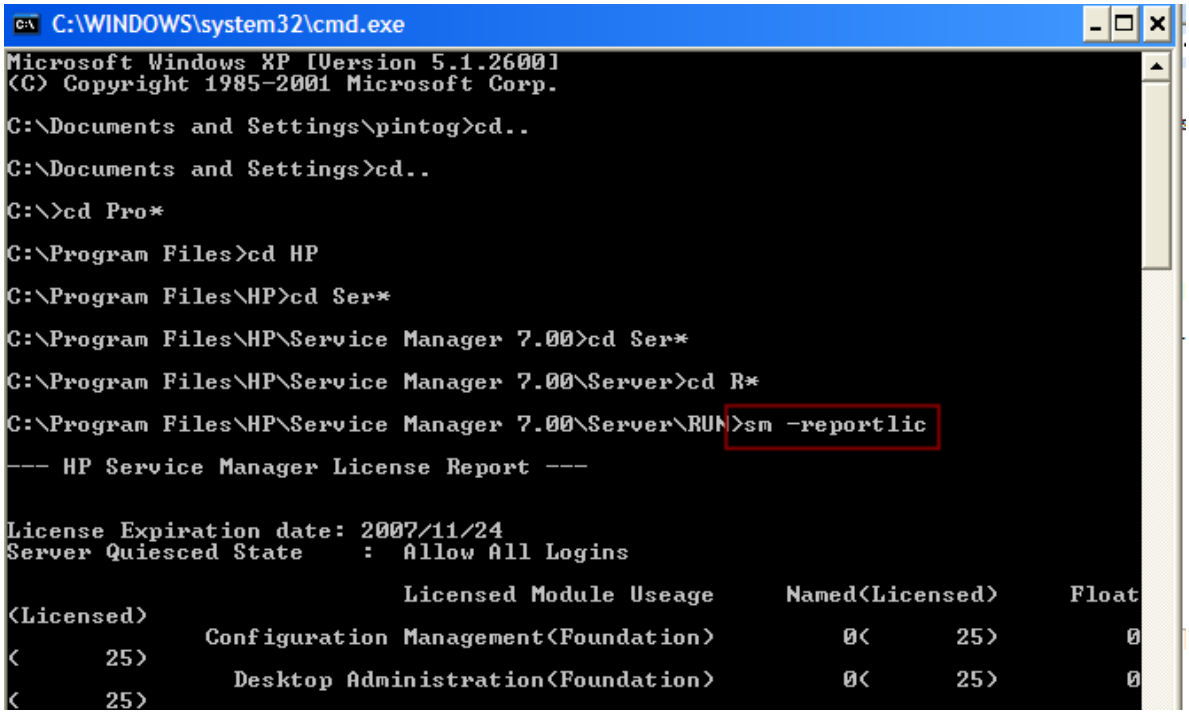
1. Open a command prompt.
2. Run the command **ps –ef | grep java**.
3. Find the SOA PE process.
4. Run the **kill** command to stop the process, for example:

   kill <process number>

Chapter 3
Administration

3.1 Verify Service Manager License

1. If the Service Manager service cannot started. Please check the License firstly.
2. Click **Start** -----> **Run.**
3. Enter **cmd** to open a command prompt.
4. Navigate to the Service Manager **RUN** directory by typing **cd C:\Program Files\HP\Service Manager 7.11\Server\RUN**.
5. Type **sm –reportlic** and hit enter to execute the command to view the license information.



6. Close the command window.

3.2 Verify Installation of IPM Kits.

The IPM Kits includes the following parts:

1) Incident and Problem_Management_V1.0.msi

Description:

This is for HP Service Manager7.11 running on windows operating system including windows2003/2008(32 and 64 bit). This part includes the following components of IPM:

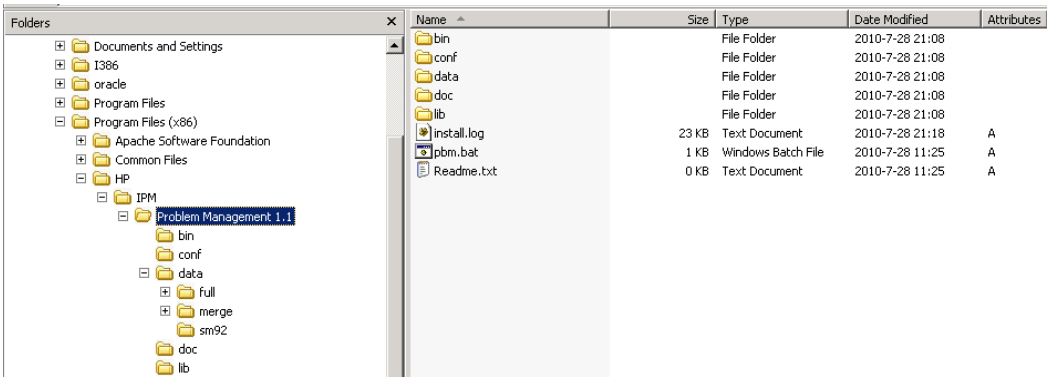
a) Incident Management Enhancement

b) Intervention Management.

c) Telco CI types kit.

d) VIP Self Service.

After you run the "Incident and Problem_Management_V1.0.msi" on your Service Manager7.11 Server. The following directory structure will be created.



Shown below is the detailed information of IPM directory structure:

C:\Program Files (x86)\HP\IPM\Problem Management 1.1 for Windows: it is the root directory of **Incident &Problem Management Extension** .

bin: it is a directory which contains all commands of IPM.

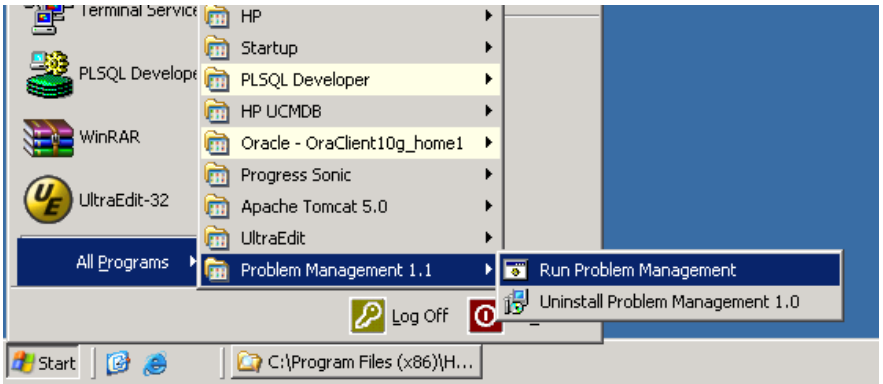
conf: it is a directory which contains a configured file of IPM.

data: it is a directory which contains all data files of IPM.

lib: it is a directory which contains all jar files of IPM.

install.log: After you launch the IPM configuration application, you will find this file in the directory. You can check the content of the file if any errors happens during the configuration process.

Then you can start from your start menu to launch the **Incident and Problem Management Extension** configuration application. You can refer to the following picture.



2) IPM installation package Linux and Unix OS.zip

Description:

This is for installing IPM package on HP UX11.31 Itanium and Linux(Redhat/Novell Linux Enterprise EditionV5) Operating system.

Please refer to <<*HP NGOSS Incident and Problem Management Extension Version 1.0.0 - Installation Guide for Unix and Linux OS.pdf*>> for how to install IPM on Unix and Linux Operating system. This part includes the following components of IPM:

a) Incident Management Enhancement

b) Intervention Management.

c) Telco CI types kit.

d) VIP Self Service.

3) Incident and Problem Management Data Loading Package_V1.0-1.1.zip

Description:

This part is only for Generic Data loading part. This part is compatible with both Service Manager7.11 and Service Manager9.20.

4) IPM installation package for sm92.zip

Description:

This is for HP Service Manager9.20 running on the following operating system.

- HP UX11.31 Itanium
- Linux(Redhat/Novell Linux Enterprise EditionV5)
- Windows 2003/2008(32 and 64 bit)

This part includes the following components of IPM:

a) Incident Management Enhancement

b) Intervention Management.

c) Telco CI types kit.

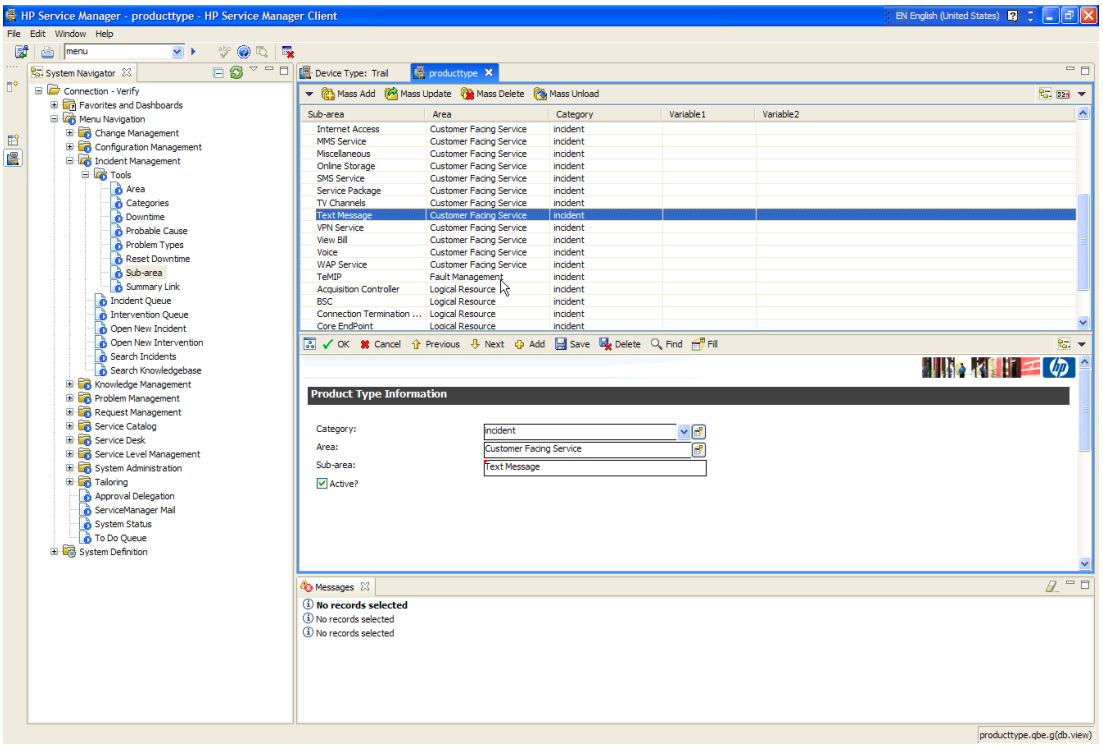
d) VIP Self Service.

3.3 Verify Incident Management Enhancement Component

Connect to HP Service Manager Server on client.

Click Menu Navigation ->Incident Management ->Tools

Double Click Sub-area -> Search

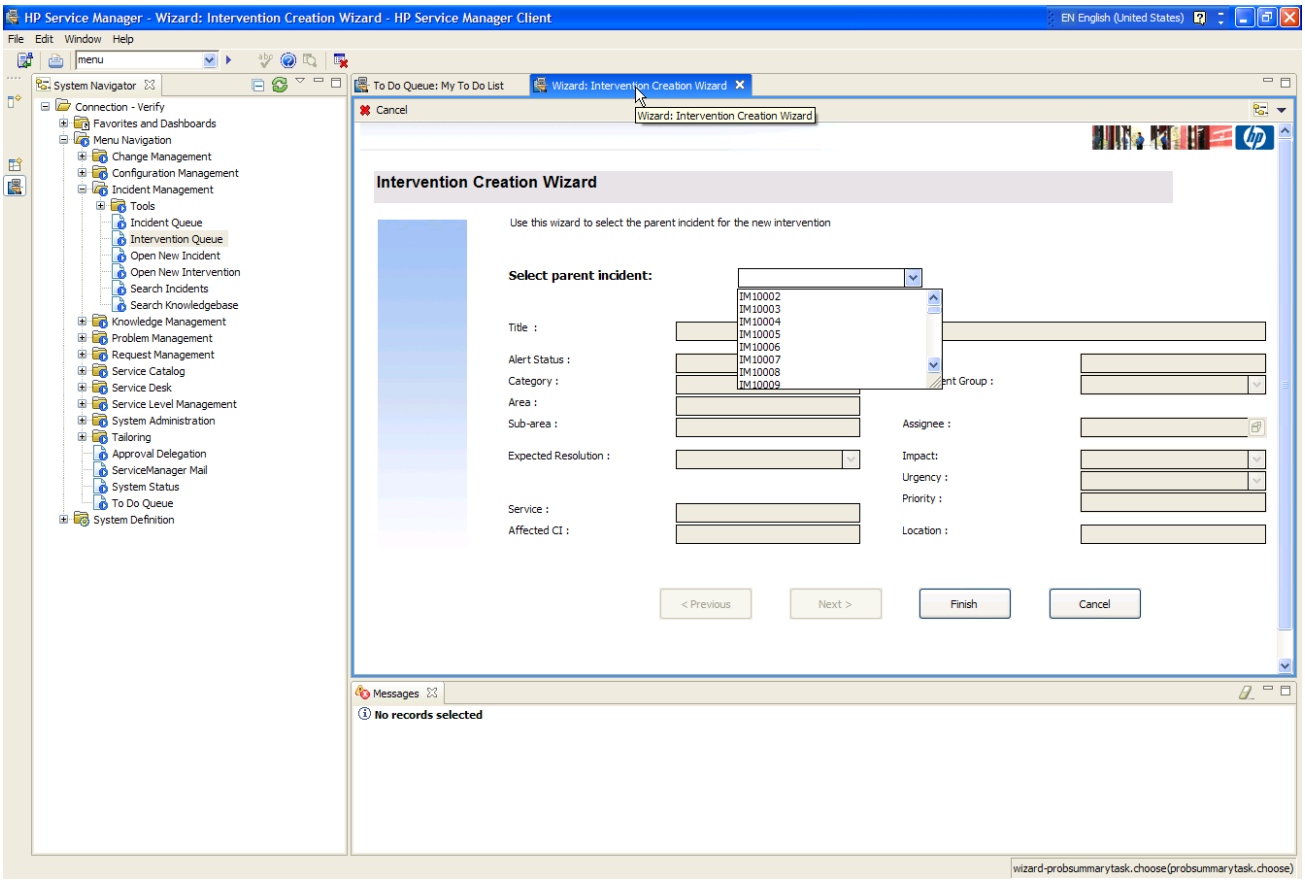


As show in hardcopy, Area “Customer Facing Service” is new category included in module Incident Management Enhancement.

3.4 Verify Intervention Management Component

Connect to HP Service Manager Server on client.

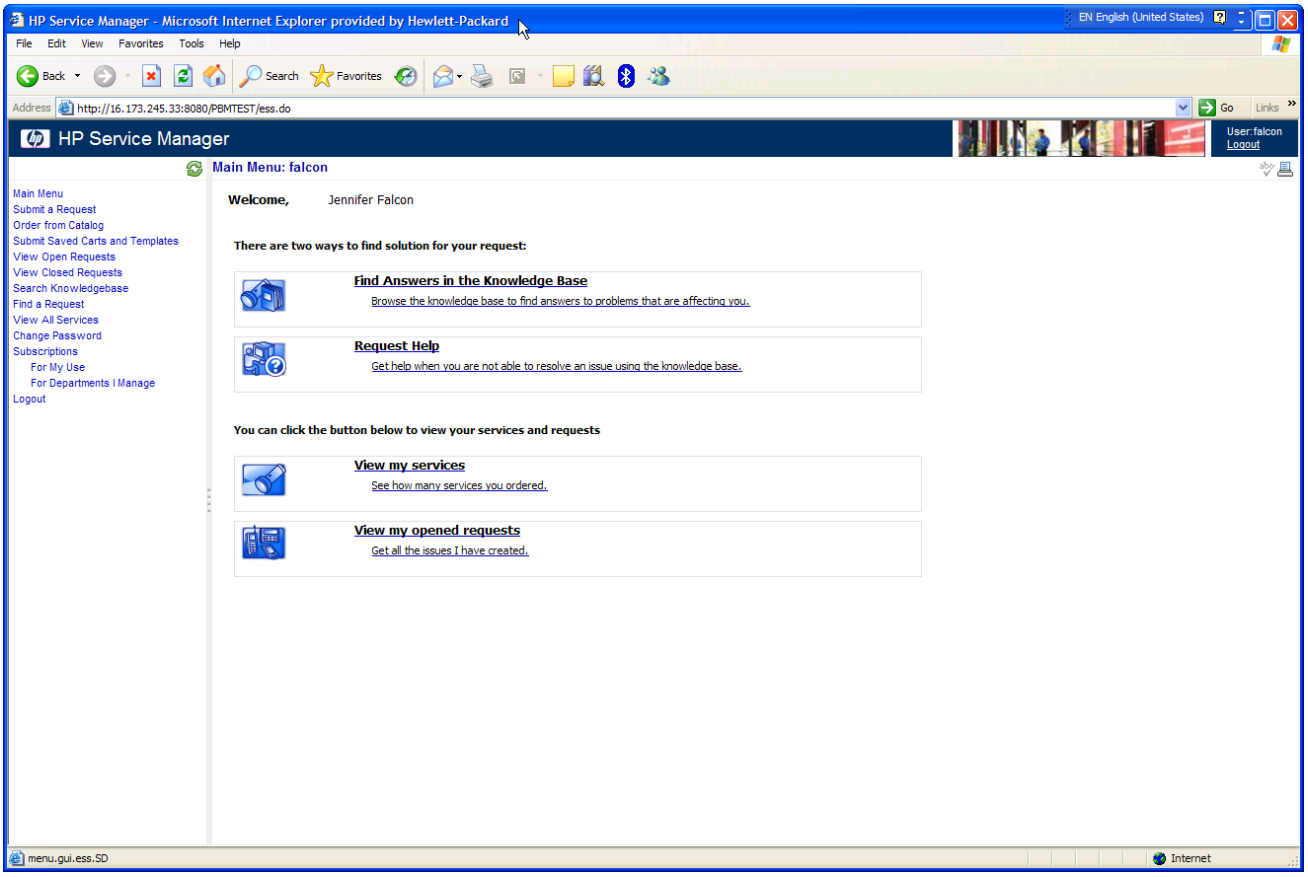
Click Menu Navigation ->Incident Management ->Intervention Queue



As show in hardcopy, Intervention Management has been load to HP Service Management.

3.5 Verify VIP Customer Self-Service component

Connect to HP Service Manager Server on web client.

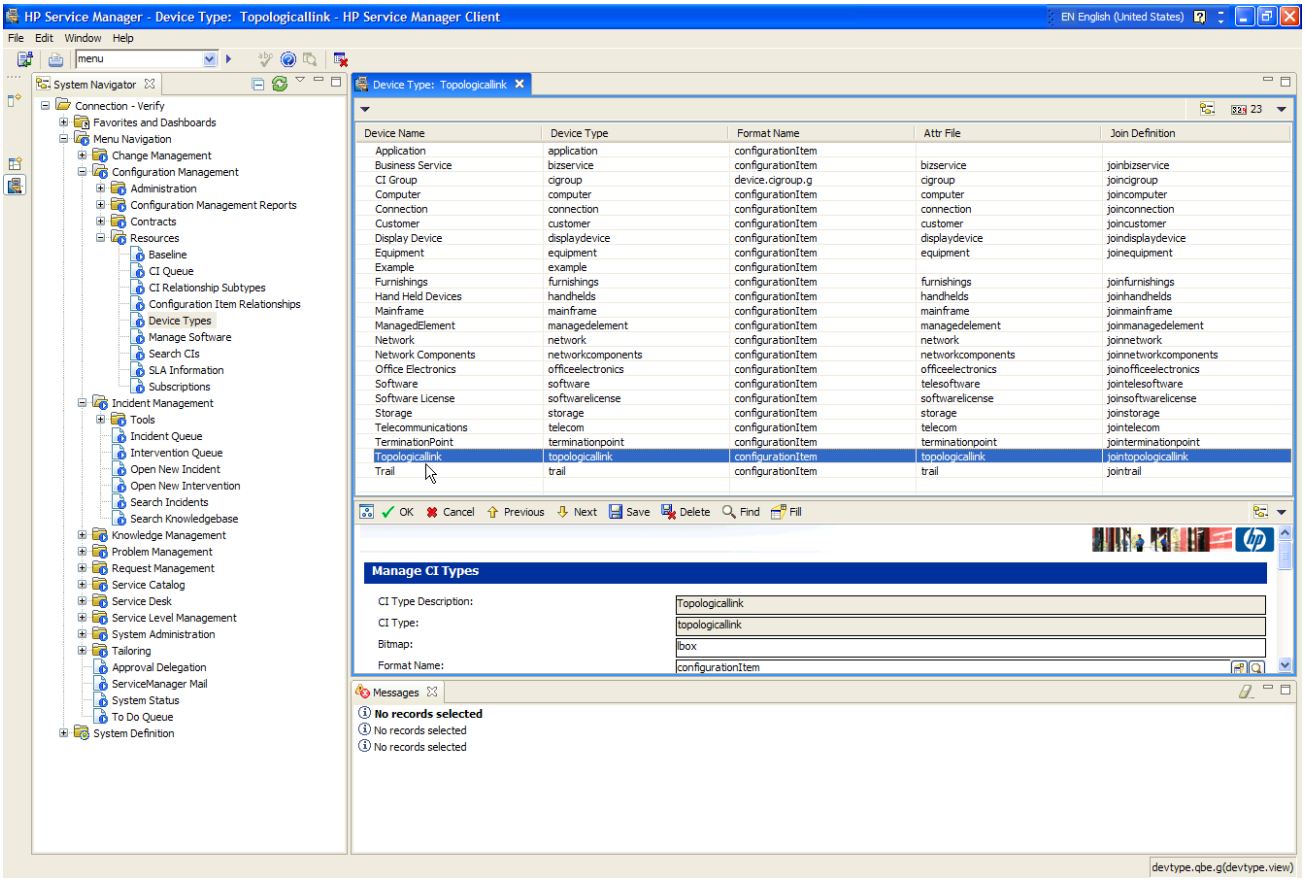


As show in hardcopy, features such as “View My Services” is unique feature of Verify VIP Customer Self-Service.

3.6 Verify Telecom CI Types Kit Component

Connect to HP Service Manager Server on client.

Click Menu Navigation -> Configuration Management -> Resources -> Device Types



As show in hardcopy, types such as “TerminationPoint” “Topologicallink” “Trail” are new added types included in Telecom CI Type Kit.

Note: As creating each CI type corresponds to creating each table in data base, so Telecom CI Type Kit module verification should be better excuted several minutes later after finishing installation.

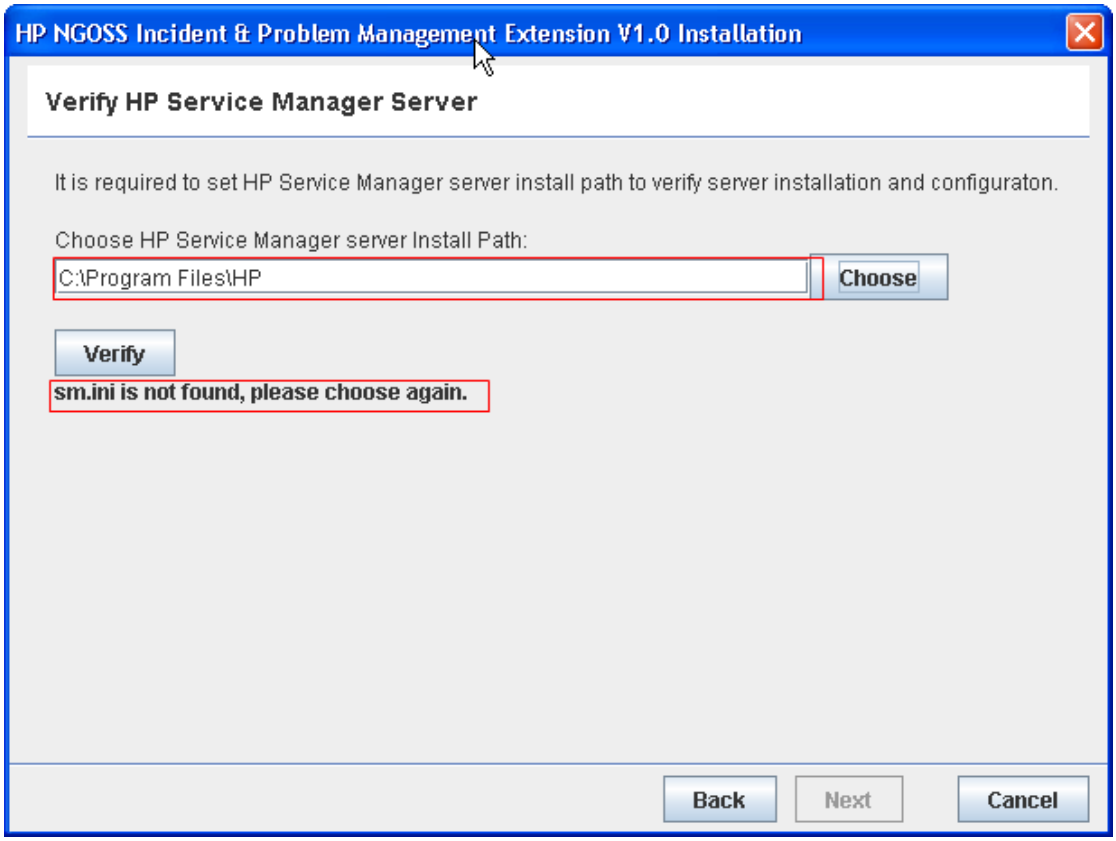
3.7 Verify Generic Data Loading Component

Please refer to chapter 2.2.1 for Generic Data Loading part.

Chapter 4
Troubleshooting

4.1 Verify HP SM Failed

1. After clicking button “Verify”, error message “sm.ini is not found, please choose again.” showed in the form as following:

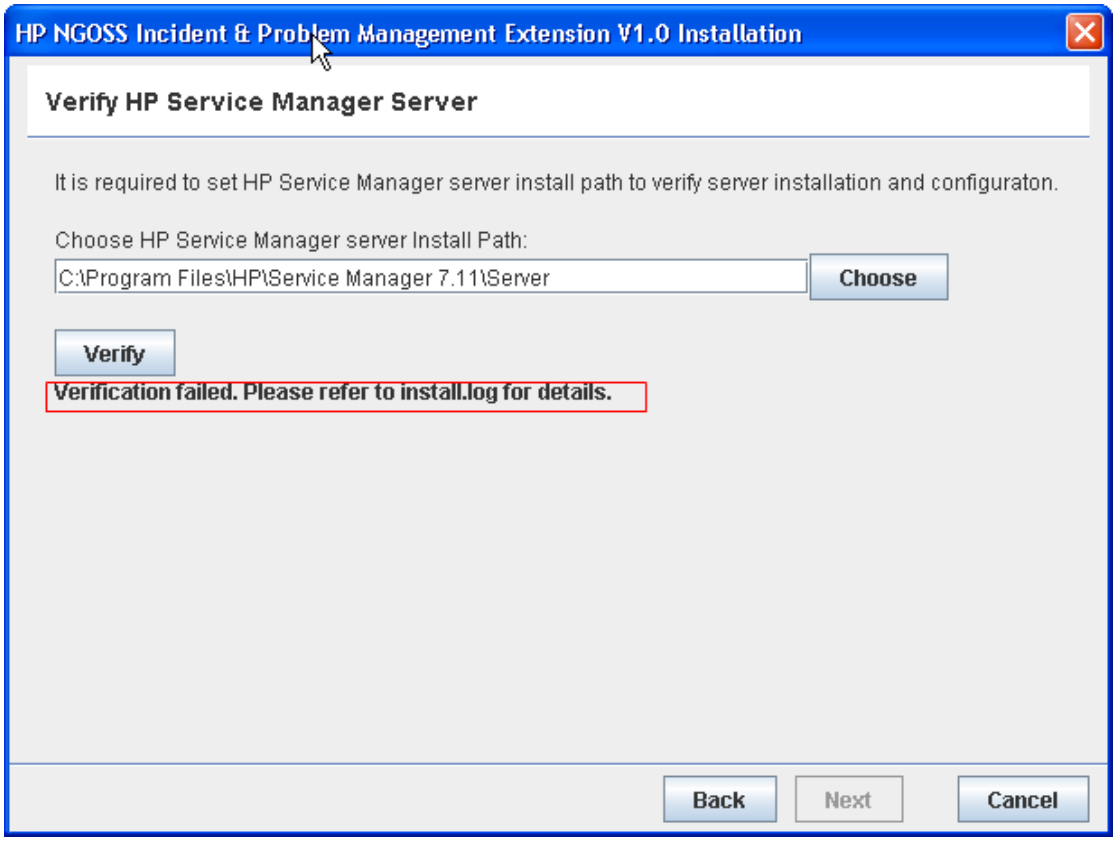


Cause: Choose the wrong HP Service Manager server install path.

Solution: Choose the correct HP Service Manager server install path and the default HP Service Manager server install path should be like as following:

C:\Program Files\HP\Service Manager 7.11\Server

2. After clicking button “Verify”, error message “Verification failed. Please refer to install.log for details.” showed in the form:



Cause:

- Set wrong system environment variable ORACLE_HOME
- HP SM server configured incorrectly such wrong port, error oracle username or password etc.

Solutions:

- Set correct system environment variable ORACLE_HOME
- You can refer to the log file install.log in install kit install path.
- Before verify the HP SM in this step, it’s strongly recommend to run the configuration tool of HP SM by running the following bat file:

  <HP SM Server INSTALL PATH>\ configure.bat

  Only HP SM Server configured successfully, verification in this step would be pass.

4.2 Load Modules Failed

3. Install kit crashed and form closed unexpectedly during loading modules and a log file which name likes *hs_err_pid588.log* will be created by Java Hotspot Virtual Machine that depicts the errors.

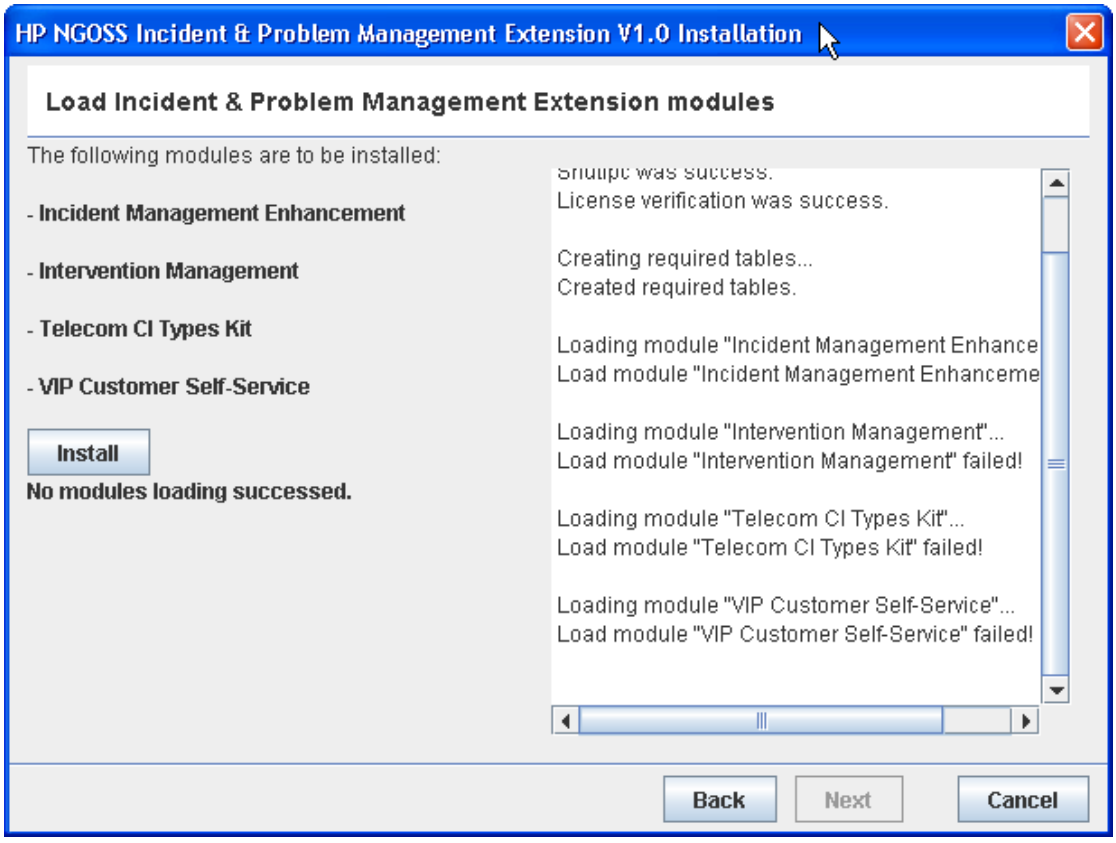
   Cause:

   System environment variable ORACLE_HOME not set and the default JDBC (version: 10.2.0.3.0) used in install kit is incompatible to the installed local oracle server or oracle client.

   Solution:

   Set system environment variable ORACLE_HOME.

4. Loading modules all failed:



Cause: HP SM server application not uploaded first.

Solution: Refer to section *2.2 Installation Preparation* step 3.

4.3 HP UCMDB CI Type federation lost

- Trouble Description:

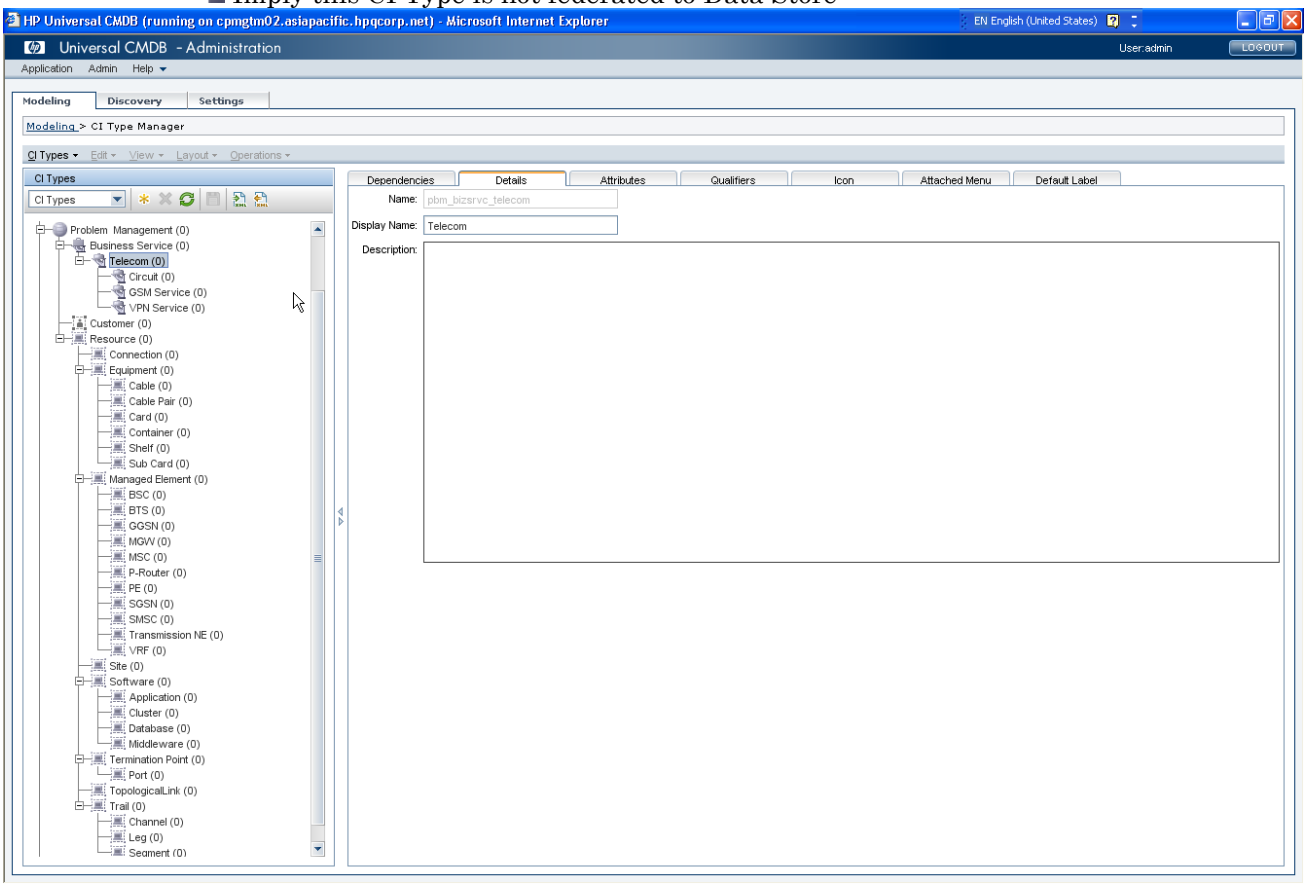
May be the reason of unstable HP UCMDB, the CI Type federation will lost unexpectedly which result in HP UCMDB can not retrieve data from object data store.

You can found the CI Type icon changed that the red arrow attaches to CI Type icon lost.

Take following icon for example:

 Imply this CI Type is federated to Data Store

 Imply this CI Type is not federated to Data Store

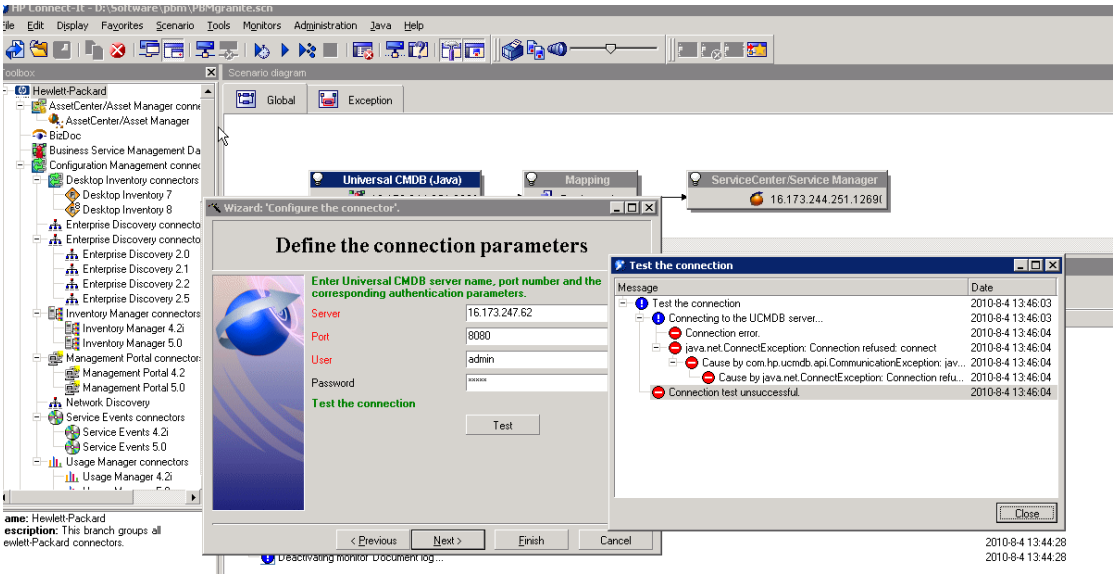


- Solution: Restart HP UCMDB Server

4.4 Connect-IT UCMDB Connector error

When you open connect-it scenario, firstly you need to test the connection of the connector on each side.

Right click the Universal CMDB (Java) connector and choose ‘Configure connector’, click ‘Next’ and ‘Test’, test the connection. If error messages display as the following, you need to check if UCMDB server is running normally. Restart UCMDB server if needed.



4.5 Connect-IT SM Connector error

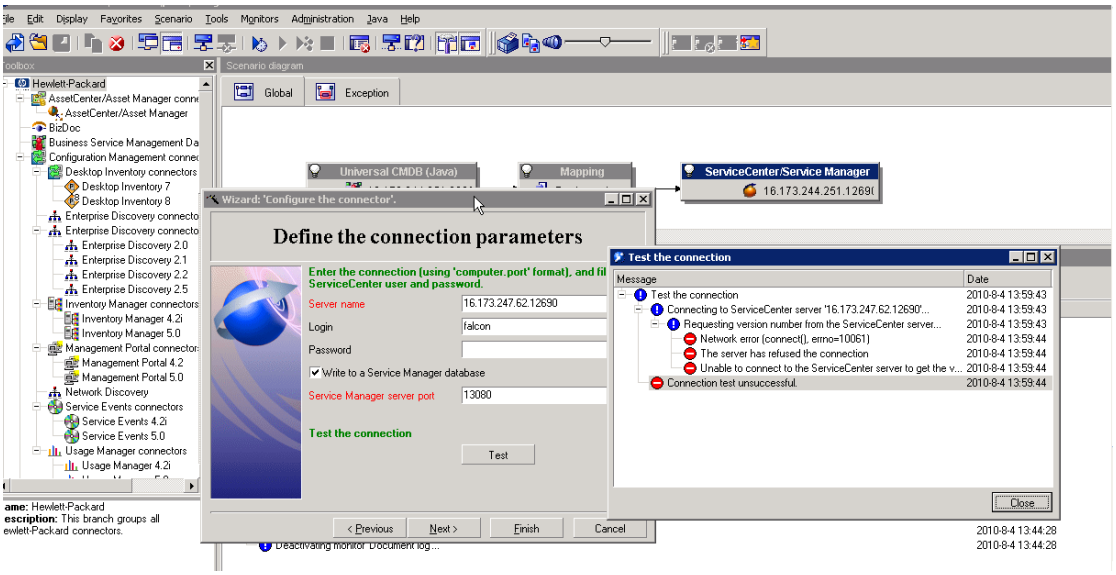
1. Right click the ServiceCenter/ServiceManager connector and choose ‘Configure connector’, ‘Next’ and ‘Test’, test the connection.

If error messages display as the following:

Network error (connect (),errnno=10061)

The server has refused the connectoion

Unable to connect to the ServerCenter server to get the version number

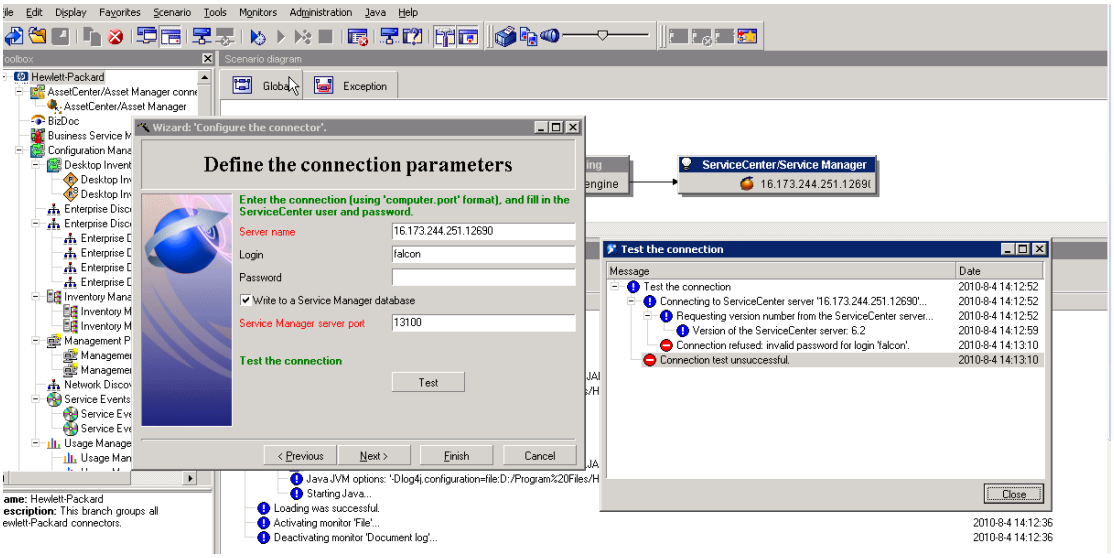


Solution:Go to the Service Manger server to check if sc listener is started.

2. Right click the ServiceCenter/ServiceManager connector and choose ‘Configure connector’, ‘Next’ and ‘Test’, test the connection.

If error messages display as the following:

Connection refused: invalid password for login ‘falcon’



Solution: Go to the Service Manger server to check if sm server is started.Or check if the port of SM server is correct.