HP Universal CMDB

for the Windows and Solaris operating systems

Software Version: 8.01

HP Universal CMDB-HP Network Node Manager i (NNMi) Integration Guide

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Network Node Manager (NNMi) Integration

This chapter includes the main concepts, tasks, and reference information for NNMi integration with HP Universal CMDB (UCMDB).

This chapter includes:

Concepts

Tasks

Reference

Overview

This chapter describes how to integrate NNMi with UCMDB using Discovery and Dependency Modeling (DDM). Integration involves synchronizing devices, topology, and hierarchy of a customer's storage infrastructure in the UCMDB database. This enables change management and impact analysis to be effective across all business services mapped in UCMDB.

Note: UCMDB version 8.0 and DDM version 8.0 and later installer packages include full integration deployment. No additional discovery deployment is necessary.

Use Case

This document is based on the following use case:

- A UCMDB user wants to view the Layer 2 network topology supporting servers and applications. The requirement is to use NNMi as the authoritative source for that information with access via the UCMDB console.

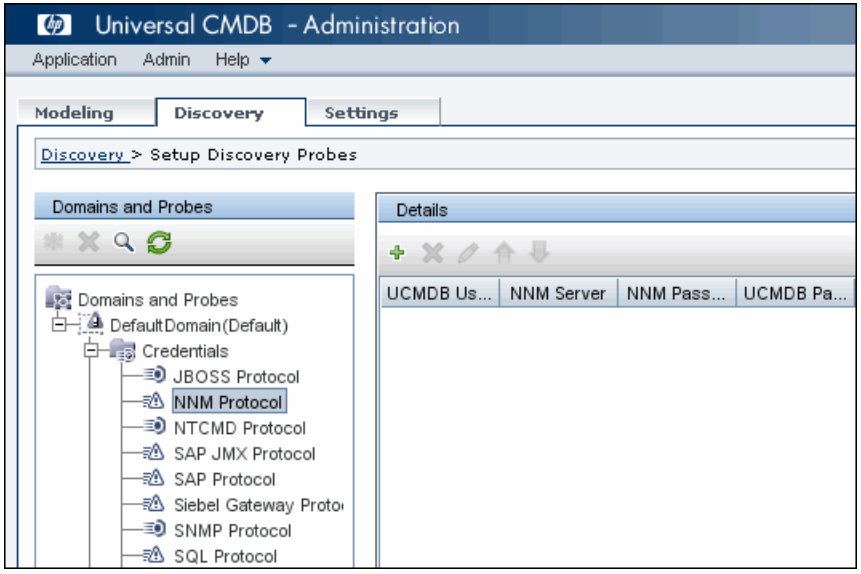
Run UCMDB/NNMi Integration

This task includes the steps to run the UCMDB NNMi integration jobs.

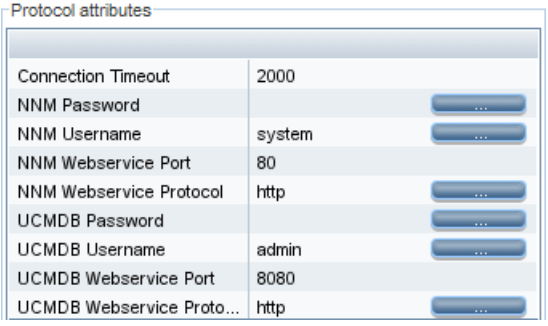
1 Set up the NNMi Protocol

For parameter details, see the *Discovery and Dependency Mapping Guide*.

a In the UCMDB application, select **Admin** > **Discovery** > **Setup Discovery Probes**.



b Under the relevant domain select **NNM Protocol** and click the **Add** icon to add a new NNM Protocol.



c Enter values for the protocol attributes. For details see “NNMi Protocol Parameters” on page 15.

d Click **OK** to save the protocol instance.

2 Set up Discovery Jobs

Discovery jobs form the controlling component of the discovery system. DDM uses patterns to perform the integration. The pattern is activated and then a discovery task is dispatched to and runs on a discovery probe.

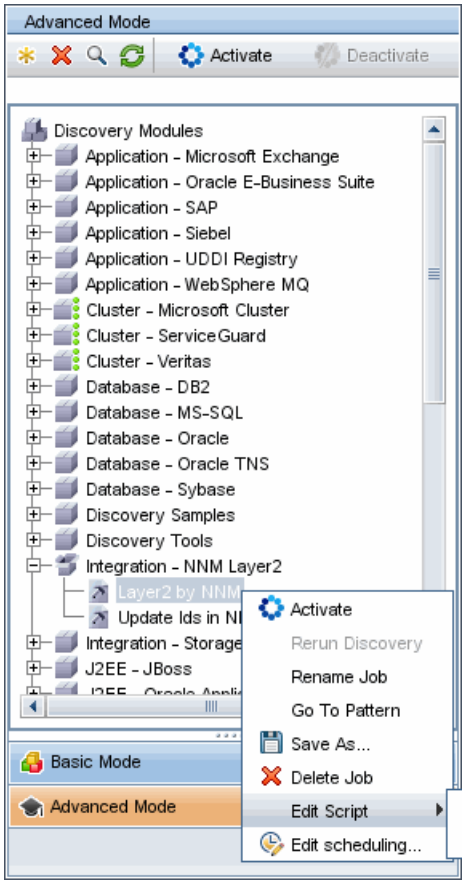
This task includes the steps to set up NNMi Layer 2. The discovery job connects to the NNMi Web service and retrieves NNMi discovered nodes, IPs, networks, interfaces, and Layer 2 connection information to create a Layer 2 CI in UCMDB.

Note: To avoid conflict, do not run the UCMDB Layer 2 discovery jobs when using the NNMi Layer 2 integration discovery.

---

a In UCMDB select **Admin** > **Discovery** > **Run Discovery** > **Advanced Mode**.

b Under **Integration - NNM Layer 2**, activate the job **Layer 2 by NNM**.



c Click the **Add CI** button in **Discovery Status** to add a trigger CI to this job.

d For the **By discovery TQL** list, select **ip_of_probe** and click **Search** to list the IP CIs of the probe.

e Select the IP of the probe to dispatch the job and click **Add**.

3 Job Execution

This task includes the steps to configure NNMi Update IDs. This discovery job updates the nodes in the NNM topology with the UCMDB IDs of the corresponding nodes in UCMDB.

a Monitor the **wrapperProbeGw.log** for job invocation, execution, and possible error messages.

Alternatively you can check **wrapperProbeGw.log** in **\hp\DDM\DiscoveryProbe\Discovery\logs**.

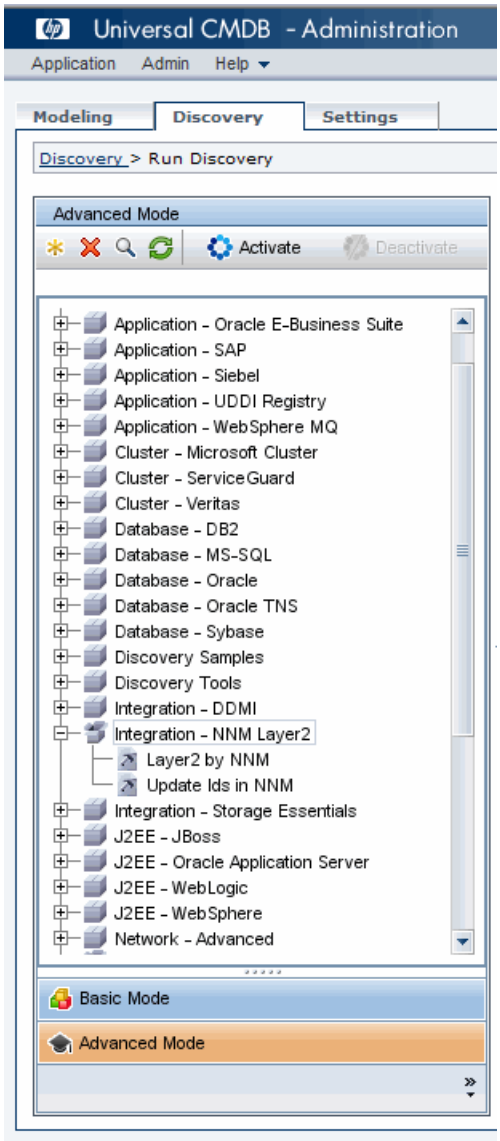
The following example shows typical successful job execution messages:

```
- The Job 'NNM Layer 2' started invocation (on 1 destinations)
- Starting NNM_Integration_Utils:mainFunction
- Server: it2tst10.cnd.hp.com, Port: 80, Username: system, MaxPerCall: 2500,
MaxObjects: 50000
- Service URL:
http://it2tst10.cnd.hp.com:80/IPv4AddressBeanService/IPv4AddressBean
- Service URL: http://it2tst10.cnd.hp.com:80/NodeBeanService/NodeBean
- Service URL: http://it2tst10.cnd.hp.com:80/IPv4SubnetBeanService/IPv4SubnetBean
- Service URL: http://it2tst10.cnd.hp.com:80/InterfaceBeanService/InterfaceBean
- Service URL:
http://it2tst10.cnd.hp.com:80/L2ConnectionBeanService/L2ConnectionBean
- OSHVector contains 45426 objects.
- The probe is now going to send back 45426 objects.
- This transfer may take more time than normal due to the large amount of data being
sent to the server.
```

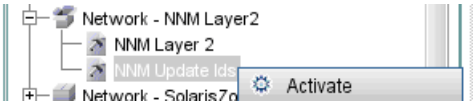
b For further debugging information, check **probeMgr-patternsDebug.log** in **\hp\DDM\DiscoveryProbe\Discovery\logs**.

c Due to the large volume of data discovered by this discovery job, it may take a while for the probe to send it all back to the server. If there are more than 20,000 CIs, the probe returns data in chunks of 20,000 objects at a time.

d In UCMDB select **Admin** > **Discovery** > **Run Discovery** > **Advanced Mode**.



e Under **Network - NNM Layer 2**, activate the job **NNM Update IDs**.



f Click the **Add** button in **Discovery Status** to add a trigger CI to this job.

g For Select the discovery TQL **ip_of_probe** and click **Search** to list the IP CIs of the probe. See step e on page 11.

h Select the IP of the probe to dispatch the job and click **Add**.

i Monitor the **wrapperProbeGw.log** for job invocation, execution and possible error messages.

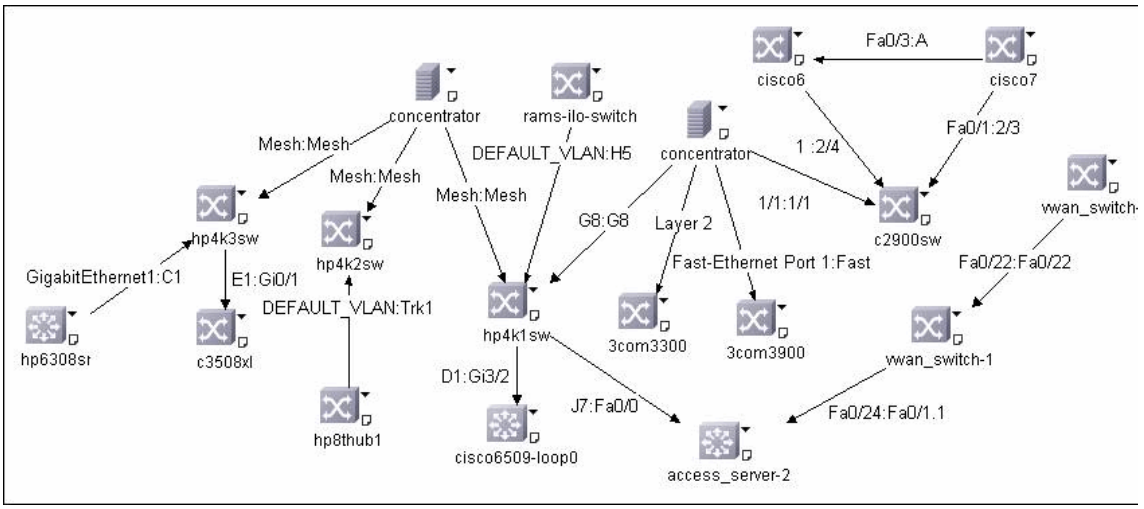
The following example shows typical successful job execution messages:

```
- The Job 'NNM Update IDs' started invocation (on 1 destinations)
- UCMDB Server: ucmdb75.fkam.cup.hp.com, UCMDB Port: 8080, UCMDB Username:
admin, UCMDB Protocol: http, UCMDB Context: /axis2/services/UcmdbService
- NNM Server: it2tst10.cnd.hp.com, NNM Port: 80, NNM Username: system
- Getting ready to update Custom Attribute UCMDB_ID on 8161 NNM nodes in NNM
- This process may take a while since the UCMDB_ID custom attribute in NNM can only
be updated one node at a time. Check probeMgr-patternsDebug.log for status update.
```

For further debugging information check **probeMgr-patternsDebug.log**.

Note: This job retrieves the UCMDB IDs of the NNM hosts from the UCMDB server using the UCMDB Web Services API. The job then updates the **CustomAttribute** on the corresponding node object on the NNM Server using the NNM web service. Because the NNM Web service allows updating of only one node at a time, this process might take a while depending on the number of nodes involved. Check **probeMgr-patternsDebug.log** for the update status.

The following diagram illustrates a typical NNMi Layer 2 view:



Connection Protocol Parameters

The following tables list the NNMi protocol parameters and the NNMi to UCMDB and UCMDB to NNMi protocol parameters.

NNMi Protocol Parameters

The following table lists the parameters that are used for the configuring the NNMi Protocol.

Field	Description
NNM Password	**Default value:** **openview**
NNM Server	Hostname or IP address of the NNM server.
NNM Username	User name with access to the web service.
NNM Webservice Port	**Default value:** **80**
UCMDB Password	**Default value:** **admin**
UCMDB Server	Hostname or IP address of the UCMDB server.

Field	Description
UCMDB Username	**Default value: admin**
UCMDB Webservice Port	**Default value: 8080**
UCMDB Webservice Protocol	Either **http** or **https**

NNMi Connection Protocol Parameters

The NNMi Management Server Connection Protocol Parameters appear in the NNMi protocol under **Setup Discovery Probes** in the main UCMDB menu.

The following table lists the parameters that are used for connecting NNMi to UCMDB. Coordinate with the NNMi administrator to determine the appropriate values for this section of the configuration file.

Field	Description
Host	The fully qualified domain name of the NNMi management server. This field is returned by the **nnmofficialfqdn.ovpl -t** command run on the NNMi management server.
Port	The port for connecting to the NNMi console. This is the port that the JBoss application server uses for communicating with the NNMi console. Set the NNMi port equal to the value of <port>. If the URL for accessing the NNMi console does not include a port specification, then use port 80 (for non-SSL connections).
User	The user name for connecting to the NNMi console. This user must have the **NNMi Administrator** or **Web Service Client** role.
Password	The password for the specified NNMi user.

UCMDB Connection Protocol Parameters

The following table lists the protocol parameters that are used for connecting UCMDB to the NNMi management server. These parameters appear in the NNMi protocol in **Setup discovery probes** in the main menu. Coordinate with the UCMDB administrator to determine the appropriate values for this section of the configuration.

Field	Description
Protocol	Either **http** or **https**.
Host	The host name of the UCMDB server.
Port	The port for connecting to the UCMDB Web service. If you are using the default UCMDB configuration, use port 80 (for non-SSL connections).
User	A valid UCMDB user account name with the UCMDB Administrator role. UCMDB works through Microsoft Internet Information Services (IIS) to authenticate user credentials. Specify a fully qualified Windows user in the format: <fully_qualified_domain_name>\<username>.
Password	The password for the specified UCMDB user.

Troubleshooting and Recommendations

- If DDM responds with AXIS error messages or the DDM is unable to connect to the remote Web services, make sure that the NNMi Web service, UCMDB Web service and AXIS JARs are placed in the DDM resources directory on the probe.
- If the NNMi Web service responds with the **cannot interrogate model** message, this usually indicates that the web service request made to the NNMi server was incorrect or was too complex to process. Check the NNMi JBoss logs for details.

- The volume of data retrieved from the NNMi server might be large. The recommended memory requirements for the DDM probe process is 1024 MB. The NNMi Web service allows for updating of the individual nodes, one at a time. If an excessive number of nodes are to be updated with the same UCMDB ID, it may take a while for the update pattern to complete.