Universal CMDB

Software Version: Content Pack 24.00 (CP24)

Release Notes

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Contents

HPE Universal CMDB Content Pack Release Notes

This document provides information about HPE Universal CMDB (UCMDB) and Universal Discovery (UD) Content Pack 24.

What's New in Content Pack 24

This section provides information about new features and enhancements to Content Pack 24.

Updated Versions for Discovered Applications

Added support for discovering the following application versions to the existing discovery jobs:

- Cisco UCS 3.x
- Docker 1.1x.x
- Docker Community Edition (CE) 17.0x
- Docker Enterprise Edition (EE) 17.03
- F5 BIG-IP Local Traffic Manager (LTM) 12, 13
- HPE NonStop J06.x, K06.x, L06.x
- Libvirt 1.x, 2.x, 3.x

Discovered Operating Systems

Added support for discovery and inventory (including agent support) for the following operating systems:

- Linux Ubuntu Server/Desktop 17

Added support for scanner scheduler for the following operating systems:

- Apple OS X 10.9, 10.10, 10.11, 10.12 (macOS Sierra)

New and Extended Discovery

Added support for the following discoveries:

- Cisco Prime Infrastructure Discovery: Discover Cisco Prime Infrastructure by Web Services.
- Host Platform by Shell Discovery: Discover the platform information for a host using the Shell protocol, such as the platform vendor and cloud instance ID. Currently, it only supports Amazon EC2 instances.
- IBM Workload Partition (WPAR) Discovery: Discover IBM WPAR topology.
- New capabilities of the existing Amazon Web Services (AWS) Discovery:
  - Added the capability for discovering Amazon Elastic Block Store (EBS), Amazon Machine Image (AMI), and Amazon Simple Storage Service (S3).
  - Added the following new Discovered CITs to the **AWS by Web Services** job: Amazon EBS, Amazon Machine Image, and Amazon S3 Bucket.
  - Added a new attribute **Cloud Instance ID** to Node CIT. This attribute is the instance ID for active Amazon EC2 instances in the Amazon Web Services environment and is also used for reconciliation. This attribute value can be discovered by the **AWS by Web Services**, **Host Platform by Shell**, and **Host Connection by Shell** jobs.
- New capabilities of the existing SAP Solution Manager Discovery: Discover SAP Solution Manager version 7.2 or later.
- New capabilities of the existing SMI-S Discovery: Added support for Huawei OceanStorV3, Dorado V3, and OceanStor 9000 array families in the **root/huawei** namespace.

For more details, see the *HPE UCMDB Discovery and Integrations Content Guide - Discovery Modules*.

Integrations

- Added support for integrating the following application version to the existing integrations:
  - HPE Network Automation (NA) 10.30
- Enhanced UCMDB-ServiceNow integration using enhanced generic adapter as follows:

- Enabled the creation of multiple requests from UCMDB's side and the handling of the multiple asynchronous responses from ServiceNow's REST API. The same is valid for the population jobs.

  You can set the value of **max.thread.count** in the **adapter.properties** file to configure the number of threads to be used.

  Multi-threading support is added for global ID pushback and to fetch the **sys_id** from ServiceNow in Push jobs.
- You can enable Web Services Security (WS-Security, WSS) for the push integration.
- Improved the CI population performance.
- The following data types are supported by the UCMDB-ServiceNow integration adapter:
  - String
  - Boolean
  - Integer
  - Float (Double)
  - DateTime
- Added a property **connector.retry.statuses** in the **adapter.properties** file. This property lists HTTP status codes that act like the triggers for the retry mechanism to be started.

  Custom error codes can be added to the **adapter.properties** file if you want to do so.

For more details, see the *ServiceNow Integration Using Enhanced Generic Adapter* section in the *HPE UCMDB Discovery and Integrations Content Guide - Third Party Integrations*.

- Enhanced the UCMDB-NNMi integration as follows:
  - Added the **Interface NNM Internal Key** attribute on the Interface CI. This attribute is populated by the **Pull Topology from NNMi** job.

    This attribute indicates the Interface primary key in NNMi Database joining with NNMi server IP address. By default, this attribute is invisible.
  - Added the **ODB_ID** and **UCMDB_ID** custom attributes on the Interface CI in NNMi. These attributes contain the UCMDB ID of the corresponding interface in UCMDB.

Others

- Added a new job **Oracle Topology by SQL - Service Name** to connect Oracle using Oracle Service Name and discover Oracle topology by SQL.
- Added a new setting **Oracle Database Discovery Method** to the **Database Software Configuration Discovery Activity > Discovery Preferences** page **> Run Oracle Discovery** option. This setting has the following parameters:
  - **SID**. Connects to the Oracle Database with Oracle SID.
  - **Service Name**. Connects to the Oracle Database with Oracle Service Name.

  After connection, the Oracle topology is discovered using the Generic DB Protocol (SQL).
- Added a new option **Impersonate currently logged in user (Windows)** to the **Scanner Configuration Generator** wizard **> Scanner Options** page **> Miscellaneous** tab. This option defines whether to impersonate the currently logged in user. For details, see "Scanner Options Page" in the *HPE Universal CMDB Data Flow Management Guide*.
- Added a new job parameter **tryAllCredentials** to the **MSSQL Server Connection by SQL** job. This parameter specifies whether to try more credentials if one DB instance is connected successfully with one credential.
  - If **false**, the job will store the first connected credential and stop trying other credentials.
  - If **true**, the job will try all credentials and store the last connected one.
- Added the following new job parameters to the **Inventory Discovery by Scanner** job.
  - **discoverWPAR**. Specifies whether to report IBM Workload partitions (WPARs).

    > **Note:** If this parameter is enabled and WPARs are discovered, UD Full (UDF) license is required instead of UD Inventory (UDI).

  - **uploadScannerToAgentPath**. Specifies whether to upload scanner to the installation path of UD agent.

    > **Note:** This parameter is only for Windows and eligible when Universal Discovery Protocol is used.
- Added the JVM CIT to the following jobs:
  - **Apache Tomcat by Shell**
  - **JEE Glassfish by Shell**

  - **JEE JBoss Connections by JMX**
  - **JEE JBoss by JMX**
  - **JEE JBoss by Shell**
  - **JEE Weblogic by JMX**
  - **JEE Inactive WebSphere by Shell**
  - **JEE WebSphere Connections by JMX**
  - **JEE WebSphere by Shell or JMX**
  - **JEE WebSphere by Shell**
- Enhanced the following discoveries by adding a new attribute **Platform Vendor** to the Node CI type. This attribute indicates the host platform information.
  - Amazon Web Services Discovery
  - Azure Discovery
  - Citrix Xen Discovery
  - Host Platform by Shell Discovery
  - HP Partitioning Solution Discovery
  - Hyper-V Discovery
  - IBM LPAR and VIO Server Topology by Shell Discovery
  - LPAR Resources by EView Discovery
  - OpenStack Discovery
  - Solaris Zones Discovery
  - VMware Discovery
- The **Migrate DDMI Agent** job is no longer supported starting with CP23. If you need DDMI migration, use UCMDB 10.31 and CP22 instead.
- Scanner version: 10.33.000.252
- Universal Discovery Agent version: 10.33.000.252
- Inventory Discovery Knowledge version: 2017.07

System Requirements

- CP24 can be installed on:
  - UCMDB 10.22 CUP6 (or a later CUP)
  - UCMDB 10.31
  - UCMDB 10.32
  - UCMDB 10.33
- You must install UCMDB 10.22 CUP6 (or a later CUP), 10.31, 10.32, or 10.33 before installing CP24.

Important Note:

- Starting with CP23, Content Pack is no longer compatible with UCMDB 10.11 (with or without a CUP on top of it).
- Before you deploy CP24 on top of version 10.3x, you must install version 10.3x of UCMDB and UD, and then deploy version 10.3x Data Flow Probes. Do not deploy CP24 while you are still updating the Data Flow Probes.
- Before you deploy CP24 on top of version 10.22, you must install version 10.22 on the UCMDB, UD, and (optionally) CM servers, and deploy version 10.22 Data Flow Probes. Do not deploy CP24 while you are still updating the Data Flow Probes.

For a complete list of system requirements, see the *Universal CMDB Support Matrix* document available from the UCMDB Online Help home page.

For more details, see the *Discovery and Integrations Content Guide - Support Matrix*.

Content Pack Installation

The following procedure explains how to install Content Pack 24.00 for Universal CMDB.

> **Note:** Rolling back the installation is not supported as it can lead to system inconsistencies. If you are upgrading from earlier versions of the content pack, it is strongly recommended to ensure that you have backed up your database.

1. **Prerequisites**
   - The UCMDB Server must be running when you install the Content Pack.
   - During installation, Setup may restart the Probe to load the new content jar file.
   - Back up your database.

   > **Note:** If you have deployed the **ASM_Enhanced.zip** package, delete all Service Connection Point CIs and undeploy the package before you proceed with the installation.

2. **Retrieve the Content Pack 24.00 ZIP file**

   The name of the installation file is **CP24_installation.zip**. This file is located on the HPE ITOM Marketplace.

   The ZIP file contains the following resources:
   - Packages (**CP24.zip**)
   - Online help
   - The *HPE UCMDB Discovery and Integrations Content Guide* PDF files.
   - Permissions.pdf

3. **Extract packages from the Content Pack 24.00 ZIP file**

   Unpack the contents of the **CP24_installation.zip** file to ***<UCMDB_Server_Home>***.

4. **Back up existing packages**

   a. Launch a Web browser and enter the following address:

   https://localhost:8443/jmx-console

   Log in using the JMX console authentication credentials.

   > **Note:** Starting with UCMDB version 10.30, by default the HTTPS protocol is enabled for UCMDB server, with the HTTP protocol being disabled.
   >
   > If necessary, you can enable HTTP communication for UCMDB Server. For instructions, see "How to Enable HTTP Communication for UCMDB Server" in the *HPE Universal CMDB Administration Guide*.

   b. Click the **UCMDB:service=Packaging Services** link.

   c. On the JMX MBEAN View page, locate the following JMX function: **exportPackages ()**.

   > **Note:** The JMX function **exportPackages ()** exports packages that contain OOTB

> Jython scripts customized by the UCMDB administrator. The customizations will be lost after the CP24 deployment.

- In the **customerID** field, enter **1**.
- In the **packagesNames** field, leave this field empty to export all packages.
- In the **outputDir** field, enter the full path to a directory where UCMDB should place the backed-up packages, for example, **<*UCMDB_Server_Home*>\content\my_packages_backup**. The directory is created automatically.
- In the **userOnly** field, select **False** to export all packages (and not only the user-created packages).

d. Click **Invoke**.

e. Verify that all relevant packages have been backed up to the folder mentioned in the previous step, and that there are no errors in the **mam.packaging.log** file, located in **<*UCMDB_Server_Home*>\runtime\log**.

5. Install Content Pack 24.00

You can install the Content Pack from the Universal CMDB user interface, using UCMDB JMX Console, or using UCMDB Browser standalone 4.12 or later.

> **Note:** When you install a Content Pack, you may want to retain your customized resources separate from the installed Content Pack. Therefore, starting from UCMDB 10.31, the functionalities of comparing and merging packages or Content Packs are introduced. For more details, see the "Compare and Merge Packages or Content Packs" section in the *HPE Universal CMDB Administration Guide*.

- **From Universal CMDB:**
  i. Stop UCMDB.
  ii. Make sure that **CP24.zip** is in the following directory:

  <*UCMDB_Server_Home*>\content\content_packs

  iii. Start UCMDB server.
  iv. Log in to the UCMDB.
  v. Access the **Package Manager (Administration > Package Manager).**
  vi. On the toolbar, click the **Install Content Pack** button.
  vii. In the Install Content Pack dialog box that opens, select the CP24 version of the Content Pack and click **Install**.

- **Using UCMDB JMX Console:**
  i. Log in to the UCMDB JMX-Console (**https://localhost:8443/jmx-console**).
  ii. Open **UCMDB > Content Pack Services.**
  iii. Invoke **displayAvailableContentPackVersions** to see available versions of the Content Pack.
  iv. Enter the CP24 version in the version field, and invoke **installContentPack**.
- **Using UCMDB Browser standalone 4.12 or later**
  i. Use the following URL:

  <*protocol*>://<*server_name*>:<*port_number*>/ucmdb-browser/admin#panel=packagemanager

  > **Note:**
  > - You can also access the Package Manager from **UCMDB Browser > Administration Console > Package Manager** module. For details, see the "Logging In" section in the *HPE Universal CMDB Browser Installation and Configuration Guide*.
  > - The Package Manager requires UCMDB Browser standalone 4.12 or later, and UCMDB server 10.31 or later.

  ii. Click **Install Package**.
  iii. Click the **Content Pack** tab.
  iv. Click **Explore Content Pack**, select **CP24.zip**, and then click **Install Selected**.

  > **Note:** Make sure that **CP24.zip** is in the following directory:
  >
  > **<*UCMDB_Server_Home*>\content\content_packs**

  For more details on using UCMDB Browser standalone 4.12 or later, see the "How to Install/Deploy a Discovery and Integration Content Pack" section of the *HPE Universal CMDB Package Manager Guide*.

6. **Verify installation**

   Verify that there are no errors in the **mam.packaging.log** file, located in **<*UCMDB_Server_Home*>\runtime\log**.

7. If you are installing the Content Pack on a High Availability system, copy all files from the following folder on the active UCMDB server to the same folder on the passive UCMDB server: **<*UCMDB_Server_Home*>\runtime\fcmdb\CodeBase**.

Discovery Knowledge Content

Starting from April 2015 to ensure more regular updates to the Normalization Rules and Software Application Index (SAI), the new Inventory Discovery Knowledge Packs are introduced on a monthly schedule.

Normalization Rules contain information to identify hardware devices in your environment. Normalization Rules determine the device's operating system, application, device family, and model. Then, the Normalization Rules Engine assigns a device type to your device model.

SAI files contain information to identify applications on a discovered node. Universal Discovery employs a number of installed software application recognition techniques, including file-based recognition, version data, and installed package rule-based recognition. The data that is required for this recognition to work is stored in the application library files (SAI).

For details about Normalization Rules and SAI Updates, see *HPE UCMDB Inventory Discovery Knowledge Pack Release Notes* available on the HPE ITOM Marketplace.

Accessing Content Pack Documentation

To read the latest versions of the relevant documents, access the following URLs:

- **<http://SERVER_NAME:PORT/ucmdb-ui>/docs/DDMContent.jsp** – Discovery and Integrations Content Guide
- **<http://SERVER_NAME:PORT/ucmdb-ui>/docs/permissions.jsp** – the Permissions document

Known Issues, Limitations, and Workarounds

Content Pack Installation

PROBLEM: If you have deployed the **ASM_Enhanced.zip** package before installing Content Pack (CP) 24, you may see the following error message in the Status Report: "`ASM_Enhanced.zip: Package operation has failed`".

Workaround: To avoid this error message, do the following:

1. Delete all CIs of the Service Connection Point CI type.
2. Undeploy the **ASM_Enhanced.zip** package.
3. Install CP24.

PROBLEM: If you deploy CP24 in UCMDB before you upgrade UCMDB to 10.22 (or later), the parent of the ConsumerProvider relationship does not change to Usage but remains as Dependency.

Workaround: To resolve this issue, follow these steps:

1. Extract the **ASM_Enhanced.zip** package from the CP24 package.
2. Log in to UCMDB, and then go to **Administration > Package Manager**.
3. Deploy the **ASM_Enhanced.zip** package that you just extracted.

Content Pack Upgrade

PROBLEM:

- When upgrading the Content Pack to CP24 in UCMDB 10.22 or earlier, you may see the following error messages: "`CM1030PolicyAdapter.zip: Unsupported CMDB version`" and "`CM1030KpiAdapter.zip: Unsupported CMDB version`".
- When upgrading the Content Pack to CP24 in UCMDB version 10.30 or 10.31, you may see the following error messages: "`CMPolicyAdapter.zip: Unsupported CMDB version`" and "`CMKpiAdapter.zip: Unsupported CMDB version`".

Cause: Starting with CP23, two new CM adapters **CM1030KpiAdapter** and **CM1030PolicyAdapter** are added to CP. These two new adapters can be deployed with CP only from UCMDB 10.30 or later. The old adapters **CMKpiAdapter** and **CMPolicyAdapter** can be deployed with CP only from UCMDB 10.22 or earlier.

Workaround: You can just ignore the error messages.

PROBLEM: When upgrading the Content Pack (CP), if the old CIM driver is not removed, the new CIM driver that is introduced in the new CP will not take effect, causing the Storage Management Initiative Specification (SMI-S) discovery jobs that need the new driver to fail.

Workaround: Manually remove the **sblim-cim-client.jar** file from the ***<DataFlowProbe_Home>*\content\lib** directory.

PROBLEM: After you upgrade from UCMDB 10.20 to 10.21, 10.22, 10.30, 10.31, or 10.32, the following jobs are moved to the **<<No module>>** group in the **Discovery Modules** tree.

- DB2 Dependencies
- F5 BIG0IP LTM Tunnel Job
- IIS Application dependencies via URL
- IIS Application dependencies via WebService
- J2EE Application Dependencies via Context Root
- J2EE Application Dependencies via JNDI
- J2EE Application Dependencies via WebService
- JEE WebSphere Connections by JMX for Top-down
- JMS Destination Dependencies via JNDI
- MessageQueue Dependencies via JNDI
- Next-Hop Provider for Running Software
- Next-Hop Provider
- Oracle Access Management Dependencies
- Oracle Dependencies
- Oracle Schema Dependencies
- Running Software Dependencies via TCP Connection
- Running Software Dependencies via URL
- SQL Server Dependencies
- Tomcat Application dependencies via URL
- URL Resolver
- Web Server Dependencies via URL

These jobs are not used any longer.

Workaround: You can either delete them manually or leave them in the **Discovery Modules** tree.

Universal Discovery - General

PROBLEM: The **LPAR Resources by EView** job may fail with errors.

Workaround: In the **eview_resources.py** file, change Line 1178 from

```
lparOsh.setStringAttribute('platform_vendor', PlatformVendors.LPAR)
```

to

```
lparOsh.setStringAttribute('platform_vendor', PlatformVendors.IBM)
```

PROBLEM: If deploying the Universal Discovery agents from CP24 with a third-party tool, the UD agents may fail to communicate with Data Flow Probe if UCMDB is deployed with CP22 or an earlier Content Pack.

Workaround: None.

PROBLEM: When running the **JEE Weblogic by JMX** job, all the CIs are reported normally; however, in the end an error message occurs to the job: "`Failed to connect to remote process`".

Workaround: To resolve the issue,

1. On the Data Flow Probe machine, open the **java.policy** file (in the ***<DataFlowProbe>*\bin\jre\lib\security** directory) using a text editor.
2. Add the following permission:

   ```
   javax.management.MBeanTrustPermission "register"
   ```

3. Save the file.
4. Restart the Data Flow Probe.

Universal Discovery - Content

LIMITATION: In UCMDB 10.30 and earlier versions, using multiple threads in the event-based discovery may cause the missing of events.

Workaround: It is recommended to upgrade UCMDB to 10.31 or a later version. For UCMDB 10.30 and earlier versions, setting **useMultiThreadForEventHub** to **false** in **globalsetting.xml**; however, this operation may affect the performance of event-base discovery jobs. For details about this setting, see the "globalSettings.xml File" section in the *HPE UCMDB Discovery and Integrations Content Guide - General Reference*.

LIMITATION: The NTCMD protocol password cannot contain the following special characters: **^&**

Workaround: Do not use the following special characters in the NTCMD protocol password: **^&**

LIMITATION: When running the Microsoft SQL Server Always On Failover Cluster Instances discovery on both real IP addresses and Cluster IP addresses, duplicate Microsoft SQL instances are reported.

Workaround: Exclude the cluster IP addresses of Microsoft SQL AlwaysOn Cluster from the discovery range.

LIMITATION: ASM does not support multiple domains in UCMDB 10.31.

Workaround: None.

LIMITATION: ASM does not support discovering the running software and its related ConsumerProvider relationships on a Solaris Local zone.

Workaround: None.

PROBLEM: (**db2_ipse_only** trigger query only) The **DB2 Universal Database Connection by SQL** job returns "`No credentials defined for the triggered IP`" error. The triggered CIs that are triggered by the **db2_ipse_only** trigger query have no associated database instance, which is required to establish a connection. Then the job will get a database name from the DB2 credential. When no database name is defined in the DB2 credential, the job returns the error. (QCCR1H99802)

Workaround: When using the **db2_ipse_only** trigger query, it requires a database name in the DB2 credential. Make sure you define a database name in the DB2 credential.

PROBLEM: When running the **Mainframe topology by SNMP** job and the Mainframe by EView discovery jobs, the zOS and Mainframe Logical Partition CI types that are discovered get merged. (QCCR1H97603)

Workaround: Do not use the **Mainframe topology by SNMP** job when you run the Mainframe by EView discovery jobs. If you have run the Mainframe topology by SNMP discovery before installing the EView mainframe agent, HPE recommends you to deactivate this discovery and delete any CIs that are created by this discovery.

LIMITATION: Child CIs are no longer included in reconciliation rules when considering identification for Business Applications. An optional identifier based on the ID (App_ID) can be used to uniquely identify each Business Application CI. Business Applications that are synced from external sources must have a unique name or ID in order to be included during data synchronization. Note that multiple Business Applications with the same name and no ID will not be synchronized.

Additional CI types for which child CIs are no longer included in reconciliation rules are Business Process, Business Service, CI Collection, Business Transaction Flow, and Dynamic Node Group. No optional identifier can be specified for these CI types.

Workaround: None.

LIMITATION: The **vCloud Director by vCloud API** and **vCloud Director URL by vCloud API** jobs do not automatically discover VMware vCloud, because the **httpcore.jar** and **httpclient.jar** files no longer exist in the **<Probe>/content/lib** folder.

Workaround: To fix this issue, copy the **httpcore.jar** and **httpclient.jar** files from the **<Probe>/discoveryResources/http** folder to the **<Probe>/content/lib** folder.

HPE Integrations

PROBLEM: On the first synchronization from Service Anywhere to UCMDB, you may see an error message displayed similar to the following:

```
Integration Point doesn't exist. No adapter for given target.
```

Workaround: To remedy this, do the following:

1. Log in to the UCMDB instance.
2. Go to **Data Flow Management > Integration Studio**.
3. Right-click the integration point: **<endpoint name>_<tenant id>**, and click **Edit**. The Edit Integration Point dialog box is displayed.
4. Deselect **Is Integration Activated**.
5. Click **OK**.
6. Reselect **Is Integration Activated**.
7. Click **OK**.
8. Go to the job in UCMDB and run a full synchronization.

Third Party Integrations

PROBLEM: In UCMDB 10.22 (or later), after deploying the **ServiceNow_pull_integration_patch.zip** patch, the ServiceNow integration does not work anymore.

Workaround: When deploying the **ServiceNow_pull_integration_patch.zip** patch on UCMDB 10.22 (or later), do not overwrite the existing files **httplib.py** and **urllib2.py** in the ***<DataFlowProbe_Home>*/jython/lib** directory. This is because Jython is upgraded to version 2.7 in UCMDB version 10.22.

LIMITATION: Data population into UCMDB using ServiceNow integration jobs fail because a package called "suds" is missing.

Workaround: To fix this issue, download and install a patch on the Data Flow Probe to supply the missing package as follows:

1. Download the **ServiceNow_pull_integration_patch.zip** file from the ***<UCMDB_Server_Home>*\DataFlowProbe\runtime\probeManager\discoveryResources\Service-Now-Pull** folder.
2. Extract the patch archive into the Data Flow Probe's installation folder. As a result, the ***<DataFlowProbe_Home>*/jython/suds** folder is created, and two files (***<DataFlowProbe_Home>*/jython/httplib.py** and ***<DataFlowProbe_Home>*/jython/urllib2.py**) are updated. You do not need to restart the Data Flow Probe.

FIPS Mode

LIMITATION: When the FIPS mode is on, the Universal Discovery Agent cannot start on the non-FIPS compliant HP-UX HPPA platform. Therefore, the FIPS mode for the Universal Discovery Agent is turned off in order to run the Universal Discovery Agent on the HP-UX HPPA platform. (QCCR1H100684)

Workaround: None.

Inventory Discovery

PROBLEM: When setting the **enableSSHSharedHomeDir** parameter to **true**, running the agentless **Inventory Discovery by Scanner** job fails on Linux platforms. (QCCR1H100769)

Workaround: To run the agentless **Inventory Discovery by Scanner** job successfully on Linux platforms,

1. On your Linux instance, locate and open the **/etc/exports** file.
2. Add the **no_root_squash** parameter to the shared directory information.

   For example, if you have the following line in the file:

   ```
   /home *(rw)
   ```

   where `/home` is shared directory, `*` means that everyone has access to it.

   Then, add **no_root_squash** into the line as follows:

   ```
   /home *(rw,no_root_squash)
   ```

3. Save the change.

Service Manager Integration Known Issues and Limitations

Global ID	Description	Workaround
QCCR1E118141	Cannot disable a field that does not have a mapping entry configured in the federation configuration file (smFedConf.xml).	None
QCCR1E119726	Structure fields are not supported for pushing CIs from UCMDB to Service Manager.	None
QCCR1E119141	The 'Ignore on null' option is not supported for data push from UCMDB to Service Manager.	None
QCCR1E117760	The Visual Mapping tool is not disabled for some out-of-the-box XML mapping scripts in which the external class cannot be displayed in the External Class Model pane. Such out-of-the-box mapping scripts include: • CLIP Downtime Population mapping script • Relationship push and population mapping scripts • Federation mapping scripts	None
QCCR1E118871	If a TQL query has different exposed fields for the child CI types of the root, the Visual Mapping tool	Configure mapping for the fields directly in the XML

Global ID	Description	Workaround
	cannot display all of the exposed fields. As a result, you cannot configure mapping for fields that are not displayed by using a drag and drop in the Visual Mapping interface.	editor. Alternatively, split the query into multiple ones and then use the Visual Mapping tool.
QCCR1E119548	CI relationship deletions cannot be synchronized to UCMDB through population.	

Enhancement Requests

This release includes the following enhancement type fixes.

Global ID	Problem	Solution
QCCR1H81559	Need an attribute to indicate the URL of Load Balancer.	Reported the DNS name of Load Balancer on the **Primary DNS Name** attribute.
QCCR1H81560	The UCMDB-ServiceNow integration should support decimal data types, for example, CPU OS Version, CPU Speed (MHz) data .	The following data types are supported by the UCMDB-ServiceNow integration adapter: • String • Boolean • Integer • Float (Double) • DateTime
QCCR1H90165	Request to support IBM Workload Partition (WPAR) discovery.	Added support for IBM WPAR discovery.
QCCR1H91289	SAP Solution Manager discovery should deal with LMDB tables rather than SMSY tables.	Added two new jobs **SAP Solution Manager Connection by CIM** and **SAP Solution Manager Topology by CIM** to discover SAP Solution Manager version 7.2 or later.
QCCR1H100006	Some Node attributes, such as **discovered_contact** and **discovered_location**, are not reported by the **Host Connection by SNMP** job.	The attributes **discovered_contact** and **discovered_location** can be reported by the **Host Connection by SNMP** job.
QCCR1H102147	Request to support Python request module inside Universal Discovery.	Added the Python request library in Universal Discovery.

Global ID	Problem	Solution
QCCR1H104987	Request to integrate UCMDB with Cisco Prime Infrastructure 3.0.	Added Cisco Prime Infrastructure Discovery to discover Cisco Prime Infrastructure by Web Services.
QCCR1H105676	Often the UCMDB-ServiceNow integration can take a long time due to the size of the data being integrated. It is the routine action for customers to start an integration job and check the result on the following day. A retry mechanism is needed to attempt to populate the data in case of a set of errors.	Added a property **connector.retry.statuses** in the **adapter.properties** file. This property lists HTTP status codes that act like the triggers for the retry mechanism to be started. For details about this property, see the *Configuration* section of the *ServiceNow Integration Using Enhanced Generic Adapter* chapter in the *HPE UCMDB Discovery and Integrations Content Guide - Third Party Integrations*.
QCCR1H105882	The **MSSQL Server Connection by SQL** job retries all of the provided credentials even if it has connected successfully with any of them.	Added a new job parameter **tryAllCredentials** to the **MSSQL Server Connection by SQL** job. This parameter specifies whether to try more credentials if one DB instance is connected successfully with one credential. • If **false**, the job will store the first connected credential and stop trying other credentials. • If **true**, the job will try all credentials and store the last connected one.
QCCR1H106143	The **MSSQL Server Connection by SQL** job cannot discover some machines when the **Force Encryption** option is activated.	Enabled the SSL request for DB connections in global settings to support **Force Encryption**.
QCCR1H107211	Request to support using Service Name of Oracle 12c in the **Oracle Topology by SQL** job.	Added a new job **Oracle Topology by SQL - Service Name** to connect Oracle using Oracle Service Name and discover Oracle topology by SQL.
QCCR1H108822	Performance should be improved for the UCMDB-ServiceNow integration.	Improved the performance for the UCMDB-ServiceNow integration.

Global ID	Problem	Solution
QCCR1H108840	Request for the **MQ by EView** job to add the attributes **Product Name**, **Vendor**, and **Product Version**.	Added the attributes **Product Name**, **Vendor**, and **Product Version** for the **MQ by EView** job.
QCCR1H109677	Amazon Web Services (AWS) Discovery should be able to collect and model tags for various entities.	AWS Discovery can now discover AWS tags on EC2 instances and Load Balancers.
QCCR1H112390	Request to allow ServiceNow push integration to include related CIs.	The **ServiceNowGenericAdapter** now supports it.
QCCR1H113127	When discovering Cisco UCS devices, UCS version 3.x should be recognized.	Cisco UCS discovery jobs can recognize UCS version 3.x.
QCCR1H113310	Universal Discovery does not check if the file exists when executing a command via sudo.	Universal Discovery checks if the file exists when executing a command via sudo.
QCCR1H113883	The **Host Connection by SNMP** job does not discover the serial number from the private MIB of Polycom devices.	Added a new normalization rule for **serial_number_oid .1.3.6.1.4.1.13885.101.1.1.5.0** to discover the serial number of Polycom devices.
QCCR1H113896	If Linux runs on IBM Power7, the output of the `cpuinfo` command is in a different format from the expected one.	Parsing Linux VM CPU on IBM Power7 is changed to support the new output.
QCCR1H114003	Request to support OpenStack discovery via OpenStack API version 3. Currently only version 2 is supported.	Added support for OpenStack API version 3. Used RESTful API instead of Java SDK for OpenStack discovery.

Global ID	Problem	Solution
QCCR1H114481	Interfaces in NNMi are not updated by UCMDB ID.	Enhanced the UCMDB-NNMi integration as follows: • Added the **Interface NNM Internal Key** attribute on the Interface CI. This attribute is populated by the **Pull Topology from NNMi** job. This attribute indicates the Interface primary key in NNMi Database joining with NNMi server IP address. By default, this attribute is invisible. • Added the **ODB_ID** and **UCMDB_ID** custom attributes on the Interface CI in NNMi. These attributes contain the UCMDB ID of the corresponding interface in UCMDB. Now the Interface CI with UCMDB ID in NNMi is updated by the **NNMI Update IDs** job correctly.
QCCR1H114500	The scanner scheduler installation fails with errors on Apple OSX.	Added support for scanner scheduler for the following operating systems: Apple OS X 10.9, 10.10, 10.11, 10.12 (macOS Sierra)
QCCR1H115385	The **Host Connection by SNMP** job does not discover the **Serial Number** attribute of discovered CIs for WAN Accelerator.	Added a new normalization rule to discover the serial number of WAN Accelerator from OID **.1.3.6.1.4.1.17163.1.1.1.2.0**.
QCCR1H115401	Request for supportability of HPE NonStop OS versions J06.x and L06.x.	Added support for HPE NonStop OS versions J06.x, K06.x, and L06.x.
QCCR1H115417	The **Apache Tomcat by Shell** job does not discover JVM CIs.	Added commands in the **Apache Tomcat by Shell** job to discover JVM and report it as other JEE jobs do.
QCCR1H115450	If VMware Datacenter CIs have the same name, they will be merged even if they are in different VMware Virtual Centers.	Changed reconciliation rules so that VMware Datacenter CIs will not be merged if they are in different VMware Virtual Centers.

Global ID	Problem	Solution
QCCR1H115485	Request to extend Amazon Web Services (AWS) discovery to collect Amazon Simple Storage Service (Amazon S3) and Amazon Elastic Block Store (EBS) Storage data.	Extended AWS discovery to collect Amazon S3 and EBS Storage data.
QCCR1H115673	The display name of the attribute **Security Allow Froget Transmits** in the VMware Networking Policy CI type appears to be wrong.	Corrected the display name of the attribute to **Security Allow Forget Transmits**.
QCCR1H116016	There is no normalization rule for Cisco Nexus 5648Q, which causes that the CI type is not discovered properly.	Added a new normalization rule for Cisco Nexus 5648Q. Besides, also added normalization rules for other Nexus switches as followings: • Cisco Nexus 9264PQ • Cisco Nexus 9272 • Cisco Nexus 93120TX • Cisco Nexus 9318TC • Cisco Nexus 9318YC • Cisco Nexus 9372PX-E • Cisco Nexus 9372TX-E
QCCR1H116204	The **Host Connection by SNMP** job does not discover the **Serial Number** attribute of discovered Load Balancer (A10 Networking).	Added a new normalization rule to discover the serial number of A10 Networking from OID **.1.3.6.1.4.1.22610.2.4.1.6.2.0**.
QCCR1H116217	Request to discover multiple serial numbers for stackable switches (Cisco WsC3750x24).	Modified **SNMP_Networking_Utils.py** to add **1.3.6.1.4.1.9.12.3.1.3.945** into the **phys_sw_oids** list for the **Host Networking by SNMP** job.
QCCR1H116240	UCMDB now uses **com.hp.ucmdb.discovery.library.clients.http.Client** that is a wrapper for the default Apache HTTP client. This client supports only **GET** and **POST** methods. In some cases, customers require to send the **PUT** request to a web server.	Added the popular Requests library (http://docs.python-requests.org/), so it can now be used in the content scripts to support HTTP **PUT** requests.

Global ID	Problem	Solution
QCCR1H116284	The **Host Connection by SNMP** job does not discover the **Serial Number** attribute of discovered Riverbed Cascade devices.	Added a new normalization rule to discover the serial number of Riverbed Cascade devices from OID **.1.3.6.1.4.1.7054.2.2.0**.

Fixed Defects

The following table lists the defects that were fixed in HPE UCMDB Content Pack 24.

Global ID	Problem	Solution
QCCR1H92658	When the first scan is requested, the **scan.exe** file is downloaded and placed in the **C:\Windows** folder prior to execution. It is expected to be installed in the default location folder rather than in **C:\Windows**.	Fixed the issue by adding a new parameter **uploadScannerToAgentPath**. This parameter specifies whether to upload scanner to the installation path of UD agent. **Note:** This parameter is only for Windows and eligible when Universal Discovery Protocol is used. In Windows, the scanner would be uploaded to BASEDIR of the agent, for example, **C:\Program Files (x86)\Hewlett-Packard\Discovery Agent**, and the agent executable would be in **C:\Program Files (x86)\Hewlett-Packard\Discovery Agent\bin32**.
QCCR1H102836	The **Host Applications by Shell** job discovers the wrong number of CPUs for AIX LPAR systems.	The **Host Applications by Shell** job can now discover the correct number of CPUs for AIX LPAR systems.
QCCR1H107208	When connecting to various SAP systems using SAP Protocol, the **SAP ABAP Connection by SAP JCO** and **SAP ABAP Topology by SAP JCO** jobs perform duplicate log-ins on target SAP systems.	The **SAP ABAP Connection by SAP JCO** and **SAP ABAP Topology by SAP JCO** jobs will not try every credential and instance number twice so that these jobs perform only one log-in on target SAP systems.

Global ID	Problem	Solution
QCCR1H108742	Two different Load Balancing Clusters with the same name that are discovered by the F5 BIG-IP discovery are merged to one, which is incorrect.	Fixed the issue by changing the reconciliation rule to check related IP Service Endpoints in addition to the name.
QCCR1H111870	The URL in "Mapping Files for Population Flow" of the ServiceNow Integration document should be the right one.	Fixed the issue by correcting the URL in "Mapping Files for Population Flow" in the *HPE UCMDB Discovery and Integrations Content Guide - Third Party Integrations* and the online help.
QCCR1H113477	The **NetApp Filer by WebServices** job fails to discover NetApp clusters with errors because the job misses some attributes for LogicalVolume.	Fixed the issue by adding the **state** and **path** for LogicalVolume.
QCCR1H113495	The **DomainName** attribute is populated by various discovery jobs incorrectly.	Now the **DomainName** attribute is populated by various discovery jobs correctly.
QCCR1H114183	When customer pushes IPMP Group CIs without the container relationship on TQL, it fails on the target UCMDB.	Now IPMP Group CI will bring its required container when it is pushed even if the TQL only has IPMP Group.
QCCR1H114306	The **Apache Tomcat by Shell** job creates wrong Oracle CIs. Database discovery should be optional and be disabled by default for Apache by Shell discovery.	Fixed the issue by adding a new parameter **discoverOracle** to the **Apache Tomcat by Shell** job. This parameter specifies whether to discover Oracle CIs. The default value is **true**.
QCCR1H114501	The **VLAN ports by SNMP** job is needed for Layer2 Discovery (switch to server), so this job should not be listed in **Deprecated Jobs**.	Fixed the issue by moving the **VLAN ports by SNMP** job from **Deprecated Jobs** to **Layer2**.
QCCR1H114580	The **useIntermediateFileForWmic** in **globalSettings.xml** does not work for Universal Discovery Protocol.	The **useIntermediateFileForWmic** in **globalSettings.xml** now works for Universal Discovery Protocol.
QCCR1H114623	The **Host Connection by Shell** job fails to execute the command `lanscan`.	HP-UX now works properly with the command `lanscan`.

Global ID	Problem	Solution
QCCR1H114691	The **SAP ABAP Connection by SAP JCO** job retries multiple times for connection using all the possible credentials, which leads to lock on the target passwords.	Once the **SAP ABAP Connection by SAP JCO** job successfully connects to SAP System using an instance number, this job will not try to connect to this server again.
QCCR1H114692	The **MSSQL Topology by SQL** job does not map SQL Files to the correct FileSystem.	SQL Files will relate to FileSystem when FileSystem is a mounted folder name (**E:\SQLDATA**) instead of a drive letter (**E**).
QCCR1H114704	The **Host Connection by SNMP** job does not always handle IPv6 addresses.	Fixed the issue by altering IPv6 parsing to match all the outputs so that the **Host Connection by SNMP** job can now handle IPv6 addresses.
QCCR1H114774	Linux server is classified as ESX Server by the **Host Connection by Shell**.	Now Linux server is discovered as Unix instead of ESXi.
QCCR1H114809	The **NNMI Update IDs** job only updates the **ucmdb_id** field (NNMi custom attribute). It should also update the **odb_id** field because NNM event that is forwarded to OMi uses the **odb_id** field to find the related CI.	The **NNMI Update IDs** job will update both **ucmdb_id** and **odb_id** fields.
QCCR1H114843	The number of CPU of AIX operating system can be correctly discovered by the **Inventory Discovery by Scanner** job, but the attribute **Logical CPU Count** value is wrong.	Fixed the issue by choosing the value from **Online Virtual CPUs** as **Logical CPU Count**, making the core number the same as logical CPU count. and abandoning physical CPU number for AIX platform.
QCCR1H115017	Inventory Discovery omits part of the information during the discovery process. Logical volumes are captured with their mounting points but those points are not reported. That may cause issues because different storage can expose the same volume with the same name mounted on the same machine.	Fixed the issue by not removing the storage name and just reporting the whole device name.
QCCR1H115022	The **HP IVM by Shell** and **HP nPars and vPars by Shell** jobs fail when customer runs a command with sudo even the command is added to the sudo list.	Now you can run sudo commands successfully.

Global ID	Problem	Solution
QCCR1H115072	The **Host Connection by Shell** job does not discover Linux Interface Speed.	The **Host Connection by Shell** job can now discover Linux Interface Speed.
QCCR1H115230	The **SAP ABAP Topology by SAP JCO** job should take the credential from SAP system in case it is updated by other jobs.	The **SAP ABAP Topology by SAP JCO** job now takes the stored credential from SAP system as the priority.
QCCR1H115234	Some Solaris machines discovered by the **Inventory Discovery by Scanner** job have wrong logical CPU counts. The configuration method used for reporting by Inventory Discovery in UCMDB needs modifying. That method cannot take into account any hot plugging of CPUs.	Now Solaris machines are reported with correct logical CPU counts.
QCCR1H115324	The **DB2 Topology by SQL** job fails with the following error message: `"AttributeError: DatabaseAsRunningSoftwareReporter instance has no attribute 'reportDb2IpServiceEndpoint'"`.	Now the **DB2 Topology by SQL** job works properly.
QCCR1H115326	The discovery of AIX using the **Host Resources by Shell** job does not retrieve the memory size details.	Fixed the issue by updating the command in **langHost_Resources_By_TTY.properties** for AIX memory discovery.
QCCR1H115418	The command of the **Host Connection by Shell** discovery script is incorrectly parsed. This causes failures in the integration from UCMDB to AM.	Fixed the issue by correcting the parsing of command.
QCCR1H115528	The UCMDB-OneView integration does not return all data.	Fixed the issue by supporting paging so that the UCMDB-OneView integration can now return all data.
QCCR1H115529	When AWS ages out and purges a snapshot, the discovery of related instance fails.	The **AWS by Web Services** job reports instances even they do not have related AMI or Snapshot.
QCCR1H115580	The **Host Connection by Shell** job fails to identify F5 LTMs.	The **Host Connection by Shell** job can now identify F5 LTMs.

Global ID	Problem	Solution
QCCR1H115587	The **SAP Solution Manager Topology by SAP JCO** job incorrectly discovers SAP DB2 databases as instances.	The **SAP Solution Manager Topology by SAP JCO** job now correctly discovers SAP DB2 databases.
QCCR1H115624	When customer runs the **Inventory Discovery by Scanner** job on some CentOS 7.x machines, the scanner retrieves unreliable information. The following raw value is stored in **/etc/redhat-release**: **CentOS Linux release 7.2.1511 (Core)**, but what is returned in the scan file is only **release**.	Scanner now retrieves the correct version information on CentOS 7.x machines.
QCCR1H115641	The **VMware vCenter Topology by VIM** job fails with the following error message: "`UnicodeEncodeError: 'ascii' codec can't encode character u'\xe9'`".	Fixed the UnicodeEncodeError so that the **VMware vCenter Topology by VIM** job works properly.
QCCR1H115705	The **Service Guard Cluster Topology by TTY** job cannot discover the Service Guard versions.	The **Service Guard Cluster Topology by TTY** job can now discover the Service Guard versions.
QCCR1H115786	The **Network Connectivity Data Analyzer** job causes the Data Flow Probe to run out of memory.	Fixed the out-of-memory issue by optimizing the code.
QCCR1H115787	The **JEE WebSphere Connection by JMX** job fails with the following error message: "`There is no at least one server with resolved IP address`".	Fixed the issue by changing the source of the IP address to be fetched from a proper location.
QCCR1H115812	A Linux server (calsxh207) runs multiple MySQL instances on a single host, which is configured to run on different ports and installation path. However, the **MySQL by Shell** job does not discover their **my.cnf** path correctly.	Fixed the regular expression issue to discover the **my.cnf** correctly.
QCCR1H115840	Important TCP connections are missed because netstat reports them as **tcp6** instead of **tcp**.	Fixed the issue by changing the regular expression to parse TCP6 IP addresses.
QCCR1H115907	Need to enhance the script **TTY_ Connection_Utils.py** to avoid the following scenario: sometimes user paths are not set up and the command `dmidecode` fails.	Fixed the issue by adding the paths in the script **TTY_Connection_ Utils.py**.

Global ID	Problem	Solution
QCCR1H115916	ASM discovers database as Oracle when it is MS-SQL.	ASM now discovers database properly.
QCCR1H115925	The link-local IP address is selected as a Primary IP address on the Node CIT.	Fixed the issue by excluding the link-local IP address while adding Primary IP address.
QCCR1H115928	Scanner on Linux servers cannot get the exact physical memory.	Scanner on Linux servers can now get the exact physical memory.
QCCR1H116014	The **JEE Weblogic by Shell** job fails to discover WebLogic instances with the following error message: "`Failed to find config.xml. Seems not a 9.x version`". However, the file is available on the server.	The **JEE Weblogic by Shell** job now works properly.
QCCR1H116065	The **Apache Tomcat by Shell** job fails to read XML files.	Fixed the issue by supporting UD agent for Tomcat discovery on Unix.
QCCR1H116093	The **Inventory Discovery by Scanner** job keeps changing **primaryDnsName**, which causes duplicate CIs.	Fixed the issue by sorting the DNS names so that **primaryDnsName** will not be changed when the names are same but have different sequences.
QCCR1H116121	When running the **Oracle Topology by SQL** job, some Oracle Data Guard CIs are ignored, because they are related to RAC CIs instead of Oracle CIs.	Fixed the issue by extending reconciliation rules.
QCCR1H116233	The **NetApp Filer by WebServices** job fails with the following error message: "`appilog.common.system.exceptions.AppilogDataException: Wrong link end definition: NULL or empty`". This is because a specific CI returns a null value.	The null values will not appear.
QCCR1H116286	WebSphere Discovery merges several J2EE Clusters into only one cluster instead of separate ones. The reason is that the corresponding reconciliation rule is inherited from the parent and should be set based on key forcibly.	Fixed the issue by forcibly setting based on key for those CITs.
QCCR1H116440	Credential errors occur when checking VMware VIM Protocol.	No credential errors will occur when checking VMware VIM Protocol.

Global ID	Problem	Solution
QCCR1H116476	Enhanced Generic Adapter for ServiceNow integration fails with the following error message: "`org.json.JSONException: JSONArray [1173] is not a JSONObject`".	Fixed the issue by supporting the JSON array type.
QCCR1H116478	The **JEE Weblogic by Shell** job ends each time with the following error message: "`'NoneType' object has no attribute 'getPort'`".	The **JEE Weblogic by Shell** job now works properly.
QCCR1H116864	In ASM, only 1433 is reported as the default port of Microsoft SQL Server. However, Microsoft SQL client uses 1434 as its default port.	Besides 1433, 1434 is also reported as the default port of Microsoft SQL Server.

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