HP Universal CMDB

Software Version: Content Pack 18.00 (CP18)

Release Notes for HP UCMDB/Universal Discovery Content Pack 18

Document Release Date: January 2016 (Second Edition)
Software Release Date: December 2015

Legal Notices

Warranty

Restricted Rights Legend

Copyright Notice

Trademark Notices

Documentation Updates

The title page of this document contains the following identifying information:

- Software Version number, which indicates the software version.
- Document Release Date, which changes each time the document is updated.
- Software Release Date, which indicates the release date of this version of the software.

To check for recent updates or to verify that you are using the most recent edition of a document, go to: https://softwaresupport.hp.com/.

This site requires that you register for an HP Passport and to sign in. To register for an HP Passport ID, click **Register** on the HP Support site or click **Create an Account** on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

Document Changes

Version	Changes
CP18 (2nd Edition, January 6, 2015)	- Corrected the directory in step 3 of the *Content Pack Installation* section - Added QCCR1H84361 and QCCR1H99855 to the *Enhancement Requests* section

Support

Visit the HP Software Support site at: https://softwaresupport.hp.com.

This website provides contact information and details about the products, services, and support that HP Software offers.

HP Software online support provides customer self-solve capabilities. It provides a fast and efficient way to access interactive technical support tools needed to manage your business. As a valued support customer, you can benefit by using the support website to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and to sign in. Many also require a support contract. To register for an HP Passport ID, click **Register** on the HP Support site or click **Create an Account** on the HP Passport login page.

To find more information about access levels, go to: https://softwaresupport.hp.com/web/softwaresupport/access-levels.

HP Software Solutions Now accesses the HPSW Solution and Integration Portal website. This site enables you to explore HP Product Solutions to meet your business needs, includes a full list of Integrations between HP Products, as well as a listing of ITIL Processes. The URL for this website is http://h20230.www2.hp.com/sc/solutions/index.jsp.

Contents

HP UCMDB Content Pack Release Notes

This document provides information about HP Universal CMDB (UCMDB) and Universal Discovery (UD) Content Pack 18.

> **Important Notes - CMS Content Pack Release Strategy Change**
>
> Dear Valued CMS Customer,
>
> Starting with the release of UCMDB/UD Content Pack 17, we are making changes to our CMS content pack release strategy:
>
> - CMS Content Packs will be moving to quarterly release schedule going forward to allow a more agile delivery mechanism for addressing customer needs and adding new functionality.
>
> - Content Packs will be Backward Compatible with the latest minor-minor releases of the immediately preceding last three major/minor releases after UCMDB version 10.11. For example, Content Pack 17 is compatible with UCMDB versions 10.21 and 10.11.
>
> - Content Packs will be Forward Compatible with the next minor-minor or minor/major release. For example, CP 17 will be compatible with the next available minor-minor release of UCMDB.
>
> - Content Packs Updates will be issued only for critical issues.
>
> - Discovery Knowledge Packs containing the Normalization Rules and Software Application Index (SAI) SAI Libraries will continue with the existing monthly release schedule.
>
> On behalf of HP CMS Product Management, R&D, and Support, we sincerely appreciate you as a CMS customer and value your feedback. We're excited to implement this new format aimed at helping our customers to stay current with the latest content more easily.
>
> Thank you very much,
>
> The HP Configuration Management System (CMS) Team

What's New in Content Pack 18

This section provides information about new features and enhancements to Content Pack 18.

Automated Service Modeling

- The Automated Service Modeling (ASM) feature has the following improvements:

  - **Stronger ASM solution.** Two approaches (through monitoring the TCP communication and parsing configuration files) are available and are seamlessly integrated to discover the "next-hop".

  - **Faster top-down discovery.** With CP 18, service discovery is faster than the previous version of ASM.

  - **Easier discovery troubleshooting.** Clearer error messages provide more information to assist troubleshooting.

  - **Cleaner service map display.** The service map only displays Running Software, and no longer displays folded application resources.

- Now the parent of the ConsumerProvider relationship is Usage, instead of Dependency.

  > **Note:** You will see this change if you upgrade UCMDB to 10.22 (or later) first and deploy CP 18 after.
  >
  > If you deploy CP 18 first and upgrade UCMDB to version 10.22, the parent of the ConsumerProvider relationship is still Dependency. In this case, click here for the workaround.

Discovered Operating Systems

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

- Apple Mac OS X 10.11

- Red Hat Enterprise Linux (RHEL) 7.1

- Ubuntu Server/Desktop 15

Discovered Applications

Added support for discovering the following applications:

- IBM HMC 8

- Microsoft SQL Server 2012 SP2

- NetFlow v10 (IPFIX)

- Oracle 12c RAC

New Discoveries

Added support for the following discovery:

- OpenStack Discovery

  Added the **OpenStack by Web Services** job to discover projects, compute resources, networks, storage and other details on an OpenStack using the HTTP protocol.

- Docker Discovery

  Added the **Docker Discovery by Shell** job to discover the Docker topology by connecting to the Docker Host.

- A10 vThunder Load Balancer Discovery

  Added the **A10 vThunder by SNMP** job to discover A10 vThunder load balancers and all related CIs.

- Cisco ACE Load Balancer Discovery

  Added the **Cisco ACE by SNMP** job to discover Cisco ACE load balancers and all related CIs.

New Jobs

Added the following new jobs:

- **Manual UriEndpoint Discovery** job to discover UriEndpoint CIs with the data configured in **UriEndpointConfiguration.xml**. If the UriEndpoint CIs are for the OpenStack Discovery, you must configure **type** to **openstack** in **UriEndpointConfiguration.xml** as follows:

```
<uri-endpoint>
    <url>http://<IP or hostname>:5000/v2.0</url>
    <type>openstack</type>
</uri-endpoint>
```

- **Thin Clients MAC-based Detection** job to discover Wyse thin client devices.

  The nature of this job is to report a Node CI when you have a MAC address from switches or routers that belongs to the Client IP range and the MAC address contains the prefix **008064** (which means that is the Wyse thin client). This job is created to cover the gap between DDMI and Universal Discovery.

  This job runs on top of data present in the Data Flow Probe database. The precondition is that the input data are only IP addresses of the Client range type. The **IP MAC Harvesting by SNMP** job must run before the **Thin Clients MAC-based Detection** job in order to take effect.

- **Report Linux with Duplicated MAC Layer2** job for the Layer2 discovery, which is a post-processing job running on the top of results collected on the Data Flow Probe File System by the **Layer2 Topology VLAN-based by SNMP** job.

  This job triggers on Linux boxes that have interfaces with the same MAC and share the VLAN-enabled interface name notation, for example, **<iface name>.<vlan id>@<iface name>**.

  When this job is enabled, and then according to each Node's interface, the job will look for the saved Layer2-related data on the File System and report a Layer2 CI by setting all available reconciliation Interface CIT attributes, thus resolving the "Multiple Match" issue.

Integrations

- Added the multi-tenant support in the Asset Manager (AM) Generic Adapter.

- Added support for integrating the following applications:

  - HP Network Automation (NA) 10.11

  - HP NNMi 10.10

- Enhanced the *Troubleshooting* section of the *ServiceNow Integration* chapter in the *HP UCMDB Discovery and Integrations Content Guide - Third Party Integrations*.

- Added support for the Insert Multiple API function of ServiceNow, which can accelerate the push integration.

Others

- Enhanced the **Inventory Discovery by Manual Scanner Deployment** job to use Application Signature to report the running software.

  Added a parameter **discoverRunningSW** to the **Inventory Discovery by Manual Scanner Deployment** job, which is the same as that of the **Inventory Discovery by Scanner** job, to control which running software should be reported.

- Enhanced the SMI-S discovery by adding relationships among Logical Volume, Storage Pool, Fibre Channel, ISCSI Adapter, Physical Volume and so on for the HP 3PAR's TPD and EMC's namespaces.

- Enhanced the ICMP ping DLL performance for the **Range IPs by ICMP** job by improving the **bulkSize**, **retryDiscover**, and **timeoutDiscover** parameters. Now the ICMP ping DLL can asynchronously ping multiple IP addresses at one system call, which improves the ping efficiency, and the timeout is for all the IP addresses in one ping action instead of only for one IP address. For more details, see the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.

- The **Inventory Discovery by Scanner** job can discover Citrix XenApp native installed applications by Citrix Receiver Client now. The application's **OS Installed Application Package Type** is **Citrix XenApp**. However, currently the **Software Utilization** function of the job does not support Citrix XenApp native installed applications.

  Note:

  - You need to add your own Package Rules in the User SAI to recognize the Citrix XenApp package.

  - This feature works only with UCMDB 10.22 because the XML Enricher and the SAI Editor do not support the Citrix XenApp package type in older UCMDB versions.

- Created a new CI type (CIT) Oracle Data Guard and identification rule in the UCMDB class model. Now

the **Oracle Topology by SQL** job reports Oracle Data Guard as Oracle Data Guard CIT instead of Oracle RAC CIT.

- Added a new job parameter **configFiles** in the **Apache Tomcat by Shell** job, which can set the full path to Tomcat **server.xml**. The full path is separated by commas.

- Added a new job parameter **reportCPUs** in the **IBM Virtualization by Shell** job to provide a capability to manipulate the CPU reporting flow.

- Added a new job parameter **reportLayer2connection** in the **VMware ESX Topology by VIM** and **VMware vCenter Topology by VIM** jobs, which decides whether to report Layer2 Connection.

System Requirements

- CP 18 can be installed on:

  ○ UCMDB 10.11 CUP4 (or a later CUP)

  ○ UCMDB 10.22 (or with a CUP on top of 10.22)

- You must install UCMDB 10.11 CUP4 (or a later CUP), or 10.22 (or with a CUP on top of 10.22) before installing CP 18.

Important Note:

- Before you deploy CP 18.00 on top of version 10.22, you must install version 10.22 on the UCMDB, UD, and CM servers, and deploy version 10.22 Data Flow Probes. Do not deploy Content Pack 18.00 while you are still updating the Data Flow Probes.

- Before you deploy CP 18.00 on top of version 10.11, you must install 10.11 CUP4 (or a later CUP) on the UCMDB, UD, and CM servers, and deploy version 10.11 Data Flow Probes. Do not deploy Content Pack 18.00 while you are still updating the Data Flow Probes.

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

Content Pack Installation

The following procedure explains how to install Content Pack 18.00 for HP 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 18.00 ZIP file**

   The name of the installation file is **CP18_installation.zip**. This file is located on the HP Live Network Web site (https://hpln.hp.com/).

   The ZIP file contains the following resources:

   ○ Packages

   ○ Online help

   ○ The *HP Universal CMDB Discovery and Integration Content Guide* PDF files.

   ○ Permissions.pdf

3. **Extract packages from the Content Pack 18.00 ZIP file**

   Unpack the contents of the ZIP file to **C:\hp\UCMDB\UCMDBServer**.

4. **Back up existing packages**

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

      http://<FQDN or IP address>:8080/jmx-console

      where **<FQDN or IP address>** is the machine on which UCMDB is installed. Log in using the JMX console authentication credentials.

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

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

- 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, **C:\hp\UCMDB\UCMDBServer\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 **hp\UCMDB\UCMDBServer\runtime\log**.

5. Install Content Pack 18.00

You can install the Content Pack from the HP Universal CMDB user interface or using the JMX Console.

From HP Universal CMDB:

    a. Log in to the UCMDB.

    b. Access the **Package Manager (Administration > Package Manager).**

    c. On the toolbar, click the **Install Content Pack** button.

    d. In the Install Content Pack dialog box that opens, select the required version of the Content Pack and click **Install**.

Using the UCMDB JMX Console:

    a. Log in to the UCMDB JMX-Console (**<ucmdb-server>:8080/jmx-console**).

    b. Open **UCMDB > Content Pack Services.**

    c. Invoke **displayAvailableContentPackVersions** to see available versions of the Content Pack.

    d. Enter the required version in the version field, and invoke **installContentPack**.

6. **Verify installation**

Verify that there are no errors in the **mam.packaging.log** file, located in **hp\UCMDB\UCMDBServer\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: **C:\hp\UCMDB\UCMDBServer\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 *HP UCMDB Inventory Discovery Knowledge Pack Release Notes* available at https://hpln.hp.com/node/11274/contentfiles/?dir=24326.

Recently released content that is currently included in this version of Universal Discovery can be found on the Universal Discovery Community (https://hpln.hp.com//group/universal-discovery/) website on the HP Live Network.

Note: You need an HP Passport user name and password to log in to this site.

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 Integration 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) 18, 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 CP 18.

PROBLEM: If you deploy CP 18 on 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 CP 18 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 (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 installation folder>\content\lib** directory.

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

- DB2 Dependencies

- F5 BIGOIP 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 no longer useful for any task.

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

Universal Discovery - General

LIMITATION: CP 18 does not contain the latest MindTerm jar file (**mindterm-4.1.5.jar**), which is provided by UCMDB 10.20 and later versions.

Workaround: If you are using UCMDB 10.11 and want to upgrade your MindTerm from version 4.0beta6 to 4.1.5, go to the following location and download the hotfix: https://patch-hub.corp.hp.com/crypt-web/protected/viewContent.do?patchId=QCCR1H90627.

Universal Discovery - Content

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, HP 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.

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 **<probe_installation_folder>/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_installation_folder>\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 **<Probe_installation_folder>/jython/suds** folder is created, and two files (**<Probe_installation_folder>/jython/httplib.py** and **<Probe_installation_folder>/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.

Asset Manager Integration Known Issues and Limitations

Global ID	Description	Workaround
QCCR1H104998	Multi-Thread push jobs fail with the following error message: `"Invalid reference loop or timeout(stuck for 30 s)"`.	None for this release.

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 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.	Configure mapping for the fields directly in the XML 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
QCCR1H84361	This is a request to discover Cisco ACE load balancers.	Added the **Cisco ACE by SNMP** job to discover Cisco ACE load balancers and all related CIs.

Global ID	Problem	Solution
QCCR1H93638	The OpenStack cloud infrastructure is not discovered.	Created the **OpenStack by Web Services** job to collect the OpenStack information.
QCCR1H97381	A new date attribute **created_at** has been introduced to store the database creation date instead of the old one **createdate**. However, the discovery script **SqlServer.py** (the **getDatabases** function) is not modified accordingly.	The discovery script **SqlServer.py** (the **getDatabases** function) now populates the **created_at** attribute.
QCCR1H99855	This is a request to add support for installing and running the Universal Discovery Inventory Agent and Scanner on Ubuntu versions 13 and 14 operating systems.	Universal Discovery Agent and Scanner now support Ubuntu versions 13 and 14.
QCCR1H100992	This is a request for the **Host Applications by Shell** job to support the discovery of SAPEnqueueServer and SAPMessageserver CI attributes without using **sudo**.	Now the **Host Applications by Shell** job supports the discovery of SAPEnqueueServer and SAPMessageserver CI attributes without using **sudo**.
QCCR1H101069	UCMDB does not have the Oracle Data Guard CI type (CIT) in the class model and the Oracle Data Guard is discovered as Oracle RAC CIT by the **Oracle Topology by SQL** job.	Created a new CIT Oracle Data Guard and identification rule in the UCMDB class model. Now the **Oracle Topology by SQL** job reports Oracle Data Guard as Oracle Data Guard CIT instead of Oracle RAC CIT.
QCCR1H101844	The **MSSQL Topology by SQL** job requires access to each user database to create the SQL file. The SQL file should be created by gathering the details from **sys.master_files** instead of requesting access to each user database.	Now the **MSSQL Topology by SQL** job discovers the SQL file for the MSSQL user databases from **sys.master_files** instead of requesting access to each user database.
QCCR1H102144	This is a request to support the IBM HMC version 8.	Added support for the IBM HMC version 8.
QCCR1H102303	Non-default Application Names for PowerShell are not supported.	Enhanced the PowerShell protocol to support a bigger list of manipulable parameters including **Allow Redirection**, **Application Name**, and **Connection URI**. For details, see the *PowerShell Protocol* section of the *HP UCMDB Discovery and Integrations Content Guide - Supported Content*.

Global ID	Problem	Solution
QCCR1H102914	Thin client devices are not categorized correctly.	Added a new job **Thin Clients MAC-based Detection** to discover Wyse thin client devices.
QCCR1H103359	The **Host Connection by SNMP** job cannot discover all interfaces from the Cisco WAAS equipment because the MAC addresses are stored in a string format instead of in hexadecimal.	The **Host Connection by SNMP** job can now discover the interfaces properly.
QCCR1H103778	The **Install UD Agent** job cannot install the UD agent on Ubuntu 15.	Added support for Ubuntu 15 for the **Install UD Agent** job.
QCCR1H104333	This is a request to add support for Apple Mac OS X 10.11.	Added support for Apple Mac OS X 10.11.
Asset Manager (AM) Integration Enhancement Requests		
QCCR1E119952	This is a request to add the functionality for the AM Population Adapter to be able to pull data only from a specific AM tenant. Due to the current design of the AM Population Adapter that is built on top of the Generic Database Adapter framework, the AM Population Adapter cannot fetch data from AM from a specific AM tenant or for a specific AM user, which is a current limitation.	The AM Generic Adapter implemented the Multi-Tenants feature including population and push.
QCCR1E127926	This is a request to change the function names **isPVU** and **isDBNA**.	The functions are renamed to **isReadyForPVU** and **isReadyForBDNA**.
QCCR1H104868	In the AM Push Adapter, the version is set to 9.30, which makes no sense and is useless. When a customer receives a test package or hotfix, it is difficult to identify the version.	Added the Package ID information in the **Readme.txt** file of the AM Push Adapter and AM Generic Adapter as follows: **Version: <CP version>** **Package ID: <package ID>** For example, **Name: AMGenericAdapter.zip** **Version: 18** **Package ID: 0021**
QCCR1H104948	Some of attributes in Computer CI are valuable to be viewable in AM. Customers want them to be mapped in the out-of-the-box AM Push	Added the mapping for the following fields in the **amComputer** table to the AM Push

Global ID	Problem	Solution
	Adapter.	Adapter and AM Generic Adapter. • **BIOSSource** • **VideoCard** • **SoundCard** • **lHorizontalRes** • **lVerticalRes** • **lColorDepth** • **amPortfolio.dtInvent**

Fixed Defects

The following table lists the defects that were fixed in HP UCMDB Content Pack 18.

Global ID	Problem	Solution
QCCR1H94291	The Universal Discovery agent startup scripts miss some LSB header tags.	Added the LSB header tags in the Universal Discovery agent startup scripts.
QCCR1H95254	The **Host Connection by Shell** job runs the following commands against the Linux server but does not list them in the permission list: • **cat /etc/hosts** • **cat /etc/resolv.conf** • **cat /etc/nsswitch.conf**	Now these commands exist in the permission list.
QCCR1H100776	UCMDB cannot connect to a remote device using SNMPv3 with AES-256. For a device that supports SNMP with both AES-128 and AES-256, UCMDB connects with AES-128 but fails with AES-256.	UCMDB can now connect to a remote device using SNMPv3 with AES-256 and SHA.
QCCR1H100824	After running the **Uninstall UD Agent** job on Mac, installed files are not deleted.	After running the **Uninstall UD Agent** job on Mac, the installed files are now cleaned.
QCCR1H100876	The inventory discovery shows errors in the application list. Scanners report invalid application names.	Scanners will not report invalid application names.
QCCR1H101473	The **IBM LPAR and VIO Server Topology by Shell** job cannot discover CPUs correctly on the VIO server.	The **IBM LPAR and VIO Server Topology by Shell** job now discovers CPUs correctly on the VIO server.
QCCR1H101475	When doing the discovery of LPAR servers using the **IBM LPAR and VIO Server Topology by Shell** job, the result processing fails because of a missing relationship end.	Fixed the issue by altering the relationship aggregation reporting. Added an additional check for the validity of the related backup interface. In case the backup interface is invalid, relationships will not be reported and a corresponding warning message will be printed to the log.

Global ID	Problem	Solution
QCCR1H101551	When testing the **UDA Status Collector** job, a port number is hard-coded to an old port number 2738 that does not work because many users use the port 7738.	Now the Universal Discovery agent goes through all available ports that are configured in Universal Discovery protocol credentials. And at least, the agent will try the port 2738 and 7738.
QCCR1H101817	DB2 is not supported by the Generic Database Adapter, but the document says it is supported.	Removed DB2 from the document *HP UCMDB Discovery and Integrations Content Guide – Third Party Integrations*.
QCCR1H102224	Windows 2012 CPUs cannot be discovered properly by the **Inventory Discovery by Scanner** job.	Fixed the issue by always checking if CPUs have been divided into several groups.
QCCR1H102272	A ton of zero size files are generated under the home directory of the service IDs.	Fixed the issue by deleting the temporary file that is named as **<IP_ADDRESS>_####** and **aioptionrc_####** in all scenarios.
QCCR1H102353	The **pingHostName** option in the **globalsettings.xml** file is not documented.	Added the documentation about the **pingHostName** option in **globalSettings.xml**.
QCCR1H102626	The following error message is returned by the **Range IPs by ICMP** job: "UnicodeEncodeError: 'ascii' codec can't encode character u'\xdc' in position 12: ordinal not in range (128)". This is because the IP address in the response packet body is incorrect.	Fixed the issue by checking the IP address and replacing it with the source address if it is invalid.
QCCR1H102955	The **Inventory Discovery by Scanner** job fails with the following error message when parsing a scan file: "integer division or modulo by zero".	Fixed the issue by enhancing the logic of calculating CPU numbers.
QCCR1H103057	The **NetApp Filer by WebServices** job does not get NFS file systems after the job fails to get CIFS.	The **NetApp Filer by WebServices** job will try to discover NFS file systems after the job fails to get CIFS.
QCCR1H103081	After applying CP 16, the HP SIM 7.2 integration process stops working due to timeout and cannot get node names from DB messages.	Fixed the issue by upgrading **jtds-1.2.6.jar** to **jtds-1.2.6.1-jre8.jar**.
QCCR1H103097	The **Host Connection by Shell** job fails even	Fixed the issue by filtering the

Global ID	Problem	Solution
	when the communication log has no error messages. This is due to the invalid IP address (0.0.0.0).	invalid IP address (0.0.0.0) for the DHCP server discovery.
QCCR1H103100	The following error message is returned by the **Host Resources by Shell** job: "`Failed to discover cpus by ssh`".	The **Host Resources by Shell** job now correctly discovers LPAR CPUs.
QCCR1H103157	During the UCMDB - NNMi integration, a few IP addresses are missing. These IP addresses are not created in UCMDB but exist in NNMi.	Fixed the logic error so that IP addresses are not missing in the UCMDB - NNMi integration.
QCCR1H103159	The Cisco Nexus switch is created as a chassis instead of a switch.	Fixed the issue by modifying the normalization rule for Nexus 7100 devices to report the switch class type instead of chassis.
QCCR1H103286	The Apache Tomcat discovery does not work correctly if using non-standard directory structure in place. Therefore, the default discovery does not work because **server.xml** cannot be found.	Fixed the issue by adding a new job parameter **configFiles** in the **Apache Tomcat by Shell** job, which can set the full path to Tomcat **server.xml**. The full path is separated by commas.
QCCR1H103438	The switch is discovered as a chassis.	Fixed the issue by modifying the generic rule for Cisco devices to avoid reporting the incorrect class type.
QCCR1H103444	The **Oracle VM Server for SPARC Technology by Shell** job reports an incorrect amount of cores for the SPARC T5-8. It reports 8 CPUs with 20 cores each, which gives a total of 160 cores; however, according to Oracle's website, the maximum number of cores on the processor is 16 with a maximum of 128 cores on the box.	Fixed the issue by filtering out non-CPU cores.
QCCR1H103466	When running the **JEE Weblogic Connections by JMX** job against a WebLogic server that is listening to a different IP address (not in the probe range), nodes do not get properly merged because some bonding interfaces are not discovered.	Fixed the issue by adding a separated parser in the *nix environment to get all bonding interfaces.
QCCR1H103526	Some of Layer2 connections fail to be reconciled due to the Linux VLAN networking nature.	Fixed the issue by creating a new post-processing job **Report Linux with Duplicated MAC Layer2** for the Layer2 discovery.

Global ID	Problem	Solution
		This job triggers on Linux boxes that have interfaces with the same MAC and share the VLAN-enabled interface name notation, for example, **<iface name>.<vlan id>@<iface name>**. When this job is enabled, and then according to each Node's interface, the job will look for the saved Layer2-related data on the File System and report a Layer2 CI by setting all available reconciliation Interface CIT attributes, thus resolving the "Multiple Match" issue.
QCCR1H103609	AMPushAdapter uses the **ampushfunctions.getCPUMax** function to transfer the **fCPUMax** value from UCMDB to AM. But this function always returns null, because the values of the **lpar_mode** attribute of IBM LPAR Profile (in UCMDB) do not satisfy script constants: **capped**, **uncapped**, and so on. In UCMDB, **lpar_mode** equals only to **cap** or **uncap**.	Now the reporting of attribute values is aligned with the AM side expectations.
QCCR1H103652	There is a lack of documentation for **SNMP Discovery Options** in the Inventory Discovery activity.	Added the **SNMP Discovery Options** to the *HP UCMDB Discovery and Integrations Content Guide - Discovery Activities*.
QCCR1H103655	The **MSSQL Topology by SQL** job fails on some MSSQL Servers with a connection refused.	The instance name has to be used for a valid connection when running the **MSSQL Topology by SQL** job.
QCCR1H103712	**SNMP Discovery Options** cannot be disabled when using the scanner-based discovery in the management zone.	Fixed the issue by adding an option to disable the **SNMP Discovery Options** in the configuration UI for the scanner-based discovery in the management zone.
QCCR1H103716	The **VMware vCenter Topology by VIM** job fails with the None Type exception.	Fixed the issue by altering the **VMware vCenter Topology by VIM** job to properly check for empty results that are returned from the destination.
QCCR1H103717	The **VMware vCenter Topology by VIM** job fails with the reconciliation exception.	Fixed the issue by altering the **VMware vCenter Topology by VIM**

Global ID	Problem	Solution
		job to properly report the SCSI Adapter CIT.
QCCR1H103773	On many client machines (Windows and Solaris), the **Inventory Discovery by Scanner** job fails with the following error message returned "`Scanner can't be executed`".	Fixed the issue by conducting the MD5 checksum check while uploading or downloading files for Inventory Discovery. The solution relies on the pre-installed MD5 tools on the box.
QCCR1H103777	All inventory scanners have been unexpectedly upgraded to the UCMDB version 10.21. It seems that the settings are not considered at all. This issue previously happened during the DDMI to Universal Discovery migration.	Added the detailed explanation **Note** to the *How to Rename Scanner Executable Files* section of the *HP Universal CMDB Data Flow Management Guide*.
QCCR1H103792	Universal Discovery scanners do not collect all the files that are collected by DDMI scanners. This is because, for 64-bit scanners, they only scan the **c:\programe files** folder without scanning the **c:\program files (x86)** folder.	Universal Discovery scanners now collect all the files that are collected by DDMI scanners.
QCCR1H103840	The IBM Power CPU discovery does not work correctly. Virtual CPUs get attributes from real ones and the **is_virtual** attribute is not set.	The HMC Discovery now discovers only real CPUs for IBM Power. Virtual CPUs is now connected to LPARs (the **is_virtual** attribute is set to **true**).
QCCR1H103841	The IBM Power CPU discovery does not work correctly. The HMC discovery should discover only real CPUs for IBM Power. Virtual CPUs should be connected to LPARs, but there is a problem. Real CPUs that are created by the **Host Resources by Shell** and **Host Applications by Shell** jobs are already connected to LPARs.	Fixed the issue by adding a new job parameter **reportCPUs** in the **IBM Virtualization by Shell** job to provide a capability to manipulate the CPU reporting flow.
QCCR1H103842	The following IBM LPAR Profile attributes are empty and not populated by the **IBM Virtualization by Shell** job: • **shared_pool_id** • **active_cpu_in_pool** • **entitled_capacity**	The **IBM Virtualization by Shell** job now populates these IBM LPAR Profile attributes.

Global ID	Problem	Solution
	• **online_virtual_cpu** • **lpar_mode**	
QCCR1H103849	In the **Solaris Zones by TTY** job, the invalid **zoneadm** command output is still present. The reason is that on the system there are no zones defined and the output (with error code 0) finished with an extra colon.	Fixed the issue by adding code to handle this new format output.
QCCR1H103878	The HBA Fiber channels are not discovered correctly by the **Host Resources by Shell** and **Host Applications by Shell** jobs. Some HBA Fiber channels are discovered with the name like **/sys/class/fc_host/host$**. Also, these CIs with wrong names miss a lot of attributes. This is because the typical command name cannot be found.	Fixed the issue by supporting the command list in case the command name varies on different OSes.
QCCR1H103892	When using Windows 7 clients with the agent-based discovery, Data Flow Probe distributes a 32-bit scanner on those Windows 7 devices, regardless of that the OS is a 64-bit one.	Data Flow Probe now distributes 32-bit scanners for Windows x86 and distributes 64-bit scanners for Windows x64.
QCCR1H103924	Scanners retrieve zero CPU number on some Linux systems.	Now scanners retrieve proper CPU numbers on Linux systems.
QCCR1H103982	When discovering **installed_software** whose name contains Portuguese characters, the **Host Resources by Shell** and **Host Applications by Shell** jobs fail to handle Portuguese characters but the WMI discovery is successful.	The **Host Resources by Shell** and **Host Applications by Shell** jobs now report the Portuguese characters in the same way as the WMI discovery.
QCCR1H104041	There is a lack of support for libvirt version 1.0.5.9 in the documentation.	Added support for the libvirt version 1.0.5.9 in the *Xen and KVM Discovery* chapter of the *HP UCMDB Discovery and Integrations Content Guide - Discovery Modules*.
QCCR1H104069	The **TIBCO BusinessWorks by Shell** job returns the following error message: "TIBCO domain directory does not exist". This is because there are two **bw** in the installation path **/opt/bw/bw/tra/...** and this is not supported by the job.	Added support for the path that has two **bw**.
QCCR1H104075	The following error message occurs while	Added support for Mac OS 10.11

Global ID	Problem	Solution
	trying to install UD agent on Mac OS 10.11 with the **Install UD Agent** job: "OS Version is not supported".	into **AgentsSupportMatrix.xml**.
QCCR1H104166	The **Web Server by Shell** job fails to discover the Apache configuration file.	The **Web Server by Shell** job now works properly.
QCCR1H104271	The **VMware vCenter Topology by VIM** job fails with the following errors after upgrading to CP 17: • AttributeError: 'NoneType' object has no attribute 'canonicalName' • AttributeError: 'NoneType' object has no attribute 'strip • VMware VIM: Internal error. Details: Client received SOAP Fault from server: Unable to communicate with the remote host, since it is disconnected. Please see the server log to find more detail regarding exact cause of the failure. • ValueError: Receive IP Address that is invalid: 0.0.0.0 • SOAP disconnection	The **VMware vCenter Topology by VIM** job against the same targets now works successfully without such errors or skips them. Added a new job parameter **reportLayer2connection** in the **VMware ESX Topology by VIM** and **VMware vCenter Topology by VIM** jobs, which decides whether to report Layer2 Connection.
QCCR1H104332	The **Host Connection by SNMP** job using SNMPv3 cannot connect to NetApp Data ONTAP 8.2 due to issues with **get-bulk**.	Fixed the issue by adding a **get-next** support for SNMPv3.
Asset Manager (AM) Integration Fixed Defects		
QCCR1E124743	In UCMDB 10.20 CUP1 CP15.02.169, it is not possible to configure an integration point to Asset Manager 9.3. The **Test connection** button fails with the following error message: "Caused by: com.peregrine.ac.AmException: Error (12.006): Value 'xyz' is not a valid integer (32-bit)".	The AM Push Adapter can now connect to Asset Manager 9.3 correctly.
QCCR1E128424	The **Advanced Analytics** option is shown as **Model.Name ="Oracle DB Option:null**	Fixed the issue by adding the option **AA=Advanced Analytics** in the

Global ID	Problem	Solution
	(Running) in AM after data is pushed from UCMDB. This is because the **Advanced Analytics** option is not mapped in out-of-box scenarios of the AM push adapter.	**LMS_options.properties** file.
QCCR1E129595	When the **ProcessorPoolCode** field with the value of **none** comes from UCMDB, the push adapter accepts it as an actual pool identifier. This causes the miscalculation of SAM software counters.	The Push Adapter now sets the value of the **ProcessorPoolCode** field to empty when its value is **none** in UCMDB.
QCCR1H103018	When you run the Software push, the description of Software CIs is not pushed to the **Comment** field of the corresponding software installation record in AM.	Fixed the issue by removing the following mapping from all Installed Software and UserSoftwareUtilization push mapping files. ```<target_mapping name="Comment" datatype="STRING" value="Root ['description']"/>``` If you want to push the **Description** value, you can add a mapping to map it to a text field in AM.
QCCR1H103107	If a non-fatal error occurs while the push job is running, it will stop pushing the rest of the CIs. After correcting the error and restarting the push job, it repeatedly pushes CIs that have been successfully pushed to AM before the error occurs.	Fixed the issue by adding a new option `<adapter-setting name="am.ignore.error">false </adapter-setting>` to the **am_push_adapter.xml** file to control if push jobs stop or continue when an error occurs. When the value is set to **true**, push jobs ignore the error and continue to push the remaining CIs. When the value is set to **false**, push jobs stop when an unexpected error occurs. The default value of this option is **false**. **Note:**

Global ID	Problem	Solution
		When a push job runs into the following errors, it stops even if the option is set to **true**: • Job timeout errors. • Network errors. For instance, the network connection to the AM database is broken. • AM database errors. For instance, AM database is inaccessible.

Documentation Errata

The following items are listed incorrectly in the documentation.

The email address in the *Send Documentation Feedback* section is not updated

Error: The email address in the *Send Documentation Feedback* section is not updated.

Correction: To send documentation feedback, use cms-doc@hpe.com instead.

Send Documentation 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 Release Notes for HP UCMDB/Universal Discovery Content Pack 18 (Universal CMDB Content Pack 18.00 (CP18))

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 cms-doc@hpe.com.

We appreciate your feedback!