

HPE Universal CMDB

Software Version: 10.22 Cumulative Update Package 2 (CUP2)

Release Notes

Document Release Date: March 2017 (Third Edition)
Software Release Date: June 2016

Hewlett Packard Enterprise

Legal Notices

Warranty

The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notice

© 2002 - 2017 Hewlett Packard Enterprise Development LP

Trademark Notices

Adobe™ is a trademark of Adobe Systems Incorporated.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

Documentation Updates

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

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

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

Document Changes

Version	Changes
10.22 CUP2 (3rd Edition, March 2017)	Added a note to the fix for QCCR1H105103 to state that the fix requires redeploying the adapter package.

Support

Visit the HPE Software Support site at: https://softwaresupport.hpe.com/.

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

HPE 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 HPE 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 HPE Passport user and to sign in. Many also require a support contract. To register for an HPE Passport ID, click **Register** on the HPE Support site or click **Create an Account** on the HPE Passport login page.

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

HPSW Integrations Catalog accesses the new HPSW Integrations and Solutions Catalog website. This site enables you to explore HPE Product Solutions to meet your business needs, includes a full list of Integrations between HPE Products, as well as a listing of ITIL Processes. The URL for this website is https://softwaresupport.hpe.com/km/KM01702731.

Contents

HPE Universal CMDB & Configuration Manager Release Notes 4
What's New in UCMDB 10.22 CUP2 4
Installation Notes 4
Universal CMDB and Configuration Manager 10.22 CUP2 Files/Components 4
System Requirements 5
Install 10.22 CUP2 on the Universal CMDB and Configuration Manager Servers 5
Universal CMDB 10.22 CUP2 Manual Data Flow Probe Installation 7
Uninstall Universal CMDB and CM 10.22 CUP2 8
Notes 9
Known Problems, Limitations, and Workarounds 11
Enhancements Requests 17
Enhancements Requests in 10.22 CUP2 17
Enhancements Requests in 10.22 CUP1 18
Fixed Defects 20
Fixed Defects for UCMDB 10.22 CUP2 20
Fixed Defects for UCMDB 10.22 CUP1 27
Documentation Errata 32
Appendixes 33
How to Set UCMDB Server Time, Change Time Zone Setting, or Correct System-induced Clock Drift 33
How to Increase the Number of Threads for Data Push Jobs 34
How to Enable CI Type Tenant Owner Verification during the Matching Phase of Identification 35
Tenant Owner Related Known Issues, Problems, and Workaround 38
How to Calculate Hash Code for JARs with Annotation 39
How to Increase the Java Heap Memory Used by the UCMDB UI Java Applet 41
Editing the JSP File 41
Editing the Control Panel Java Settings 42
Send documentation feedback 44

HPE Universal CMDB & Configuration Manager Release Notes

Keep your system up to date with the most recent cumulative update package (CUP) for UCMDB 10.22. This package contains all of the UCMDB 10.22 hotfixes that have been released since the initial release of UCMDB 10.22.

What's New in UCMDB 10.22 CUP2

UCMDB 10.22 CUP2 contains the following new features and changes:

- **Added possibility for increasing the number of threads for push jobs**

  The new setting **com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory** added to the **Settings_STATE_CUSTOMER_SETTING** type offers the possibility for you to increase the number of threads for push jobs from the OOTB value 3 to any desired value. For detailed instructions, see "How to Increase the Number of Threads for Data Push Jobs".

- Enhanced the dbtool to provide an option for resetting writer server time

  For detailed instructions, see "How to Set UCMDB Server Time, Change Time Zone Setting, or Correct System-induced Clock Drift" on page 33.

Installation Notes

Universal CMDB and Configuration Manager 10.22 CUP2 Files/Components

HPE UCMDB 10.22 CUP2 is packaged in one .zip file.

The **UCMDB_00181.zip** (for Windows) includes the following files/components:

- **HPUCMDB_Server_Patch_10.22.327.exe**. The installation of the version 10.22 CUP2 UCMDB Server and Data Flow Probe for Windows.

- **HPCM_Patch_10.22.65.exe**. The installation of version 10.22 CUP2 UCMDB Configuration Manager for Windows.
- **Read_Me_10.22_CUP.txt**

The **UCMDB_00182.zip** (for Linux) includes the following files/components:

- **HPUCMDB_Server_Patch_10.22.327.bin**. The installation of the version 10.22 CUP2 UCMDB Server and Data Flow Probe for the Linux platform.
- **HPCM_Patch_10.22.65.bin.** The installation of version 10.22 CUP2 UCMDB Configuration Manager for the Linux platform.
- **Read_Me_10.22_CUP.txt**

System Requirements

For a list of system requirements, see the **UCMDB Support Matrix** PDF file. Check the most previous Release Notes for any additions or changes to the matrix.

> **Note:** If you are using an Oracle version that is prior to 10.2.0.5, you must apply the Oracle patch that fixes Oracle defect # 5866410. For details, go to the Oracle website and find the information regarding this defect number.

Install 10.22 CUP2 on the Universal CMDB and Configuration Manager Servers

CUP Installation for both Universal CMDB and Configuration Manager is performed through an automated procedure using the installation wizard.

You can still install the Data Flow Probes separately by upgrading the Data Flow Probes using the UCMDB user interface. For details, see "Installation Notes" on the previous page.

> **Note:**
>
> - UCMDB 10.22 CUP2 can be installed only on top of an Universal CMDB version 10.22.
> - UCMDB CM 10.22 CUP2 can be installed only on top of UCMDB CM 10.22.

- The UCMDB CUP version and the CM CUP version must be the same.

Pre-requisites - UCMDB Server and Data Flow Probes

1. Extract **UCMDB_00181.zip** (for Windows) or **UCMDB_00182.zip** (for Linux) to a temporary directory.
2. Stop the Universal CMDB 10.22 server and the Universal CMDB Integration Service (if running) before starting the 10.22 CUP2 installation.

   Note: If you have a High Availability configuration, the CUP must be installed on all the servers in the cluster, and prior to installation, you must stop all the servers in the cluster.
3. If you have received private patches for the Data Flow Probe, you must delete them before performing the upgrade. These steps for deleting a private patch must be followed whether you are upgrading the probes during the installation wizard, or if you upgrading the probes using the UCMDB user interface after installation is complete.
   a. Stop the Data Flow Probe.
   b. Delete all private patches that were installed on the system prior to this CUP by deleting the following directory:

      \hp\UCMDB\DataFlowProbe\classes directory

   c. Start up the version 10.22 Data Flow Probe.

CUP Installation

You must first install the UCMDB CUP, start up the server, and then perform the Configuration Manager (CM) CUP installation.

1. For UCMDB: Double-click the file **HPUCMDB_Server_Patch_10.22.327.exe** (for Windows) or **sh HPUCMDB_Server_Patch_10.22.327.bin** (for Linux) to open the Universal CMDB Server CUP Installation Wizard.

   For Configuration Manager: Double click the file **HPCM_Patch_10.22.65.exe** (for Windows) or **sh HPCM_Patch_10.22.65.bin** (for Linux) to open the Universal CMDB Configuration Manager CUP Installation Wizard.
2. While running the wizard:

- In the Choose Install Folder screen, select the installation directory in which UCMDB/CM is already installed.
- For UCMDB, in the Install Data Flow Probe CUP screen, select the following option:
  - **Automatically update Data Flow Probe with the new CUP version** to automatically update during this installation all the Data Flow Probes reporting to this UCMDB.
  - **Update the Data Flow Probe manually** to update the Data Flow Probes reporting to this UCMDB using the UCMDB user interface after completing the installation of this CUP on the UCMDB server. For details, see "Installation Notes" on page 4.
  - In the Required Actions screen, follow the instruction to ensure that the server is down.

3. Once the installation wizard for UCMDB is completed, start up the version 10.22 server per the instructions in the Deployment Guide for version 10.22. Go back to step 1 to install the CM CUP.

   Once the CM CUP installation is completed, start up Configuration Manager version 10.22 per the instructions in the Deployment Guide for version 10.22.

4. (CyberArk integration only) Check if new hash value is the same as the one you configured in the CyberArk server. If different, re-generate the hash value using the following command:

   ```
   java -Xms500m -Xmx1200m -jar JavaAIMGetAppInfo.jar GetHash
   /AppExecutablesPattern="C:\hp\UCMDB\DataFlowProbe\lib"
   /OnlyExecutablesWithAIMAnnotation=yes /LogFileDirectory="c:\temp"
   ```

   And then fill the newly generated hash value into the CyberArk server.

> **Caution:** Apart from the OOTB files, DO NOT ADD any additional resources into the ***<UCMDB_Server_Home>*\deploy** directory. Because UCMDB will try to deploy every file from this location, which may cause the **ucmdb-browser.war** file not deployed completely, and as a result the UCMDB Browser will fail to start.

Universal CMDB 10.22 CUP2 Manual Data Flow Probe Installation

Linux: Always required.

Windows: Applicable only when **Update the Data Flow Probes manually** is selected in the CUP installation wizard.

To install the Data Flow Probe CUP upgrade using the UCMDB user interface, follow these steps.

> **Note:** All Data Flow Probes that are associated with the UCMDB are upgraded.

1. If you have received private patches for the Data Flow Probe, perform the steps in the section "Pre-requisites - UCMDB Server and Data Flow Probes" on page 6.
2. In UCMDB, go to **Data Flow Management > Data Flow Probe Setup**, and click **Deploy Probe Upgrade**.
3. In the Deploy Probe Upgrade dialog box, navigate to the **<SERVER_HOME>\content\probe_patch\probe-patch-10.22.CUP2-windows/linux.zip** and click **OK**.
4. **Linux only:**
   a. Stop the Data Flow Probe.
   b. Extract the upgrade package by running the following file:

      /opt/hp/UCMDB/DataFlowProbe/tools/upgrade/extractUpgradePackage.sh

   c. Restart the Data Flow Probe.
5. (CyberArk integration only) Check if the new hash value is the same as the one you configured in the CyberArk server. If different, re-generate the hash value using the following command:

```
java -Xms500m -Xmx1200m -jar JavaAIMGetAppInfo.jar GetHash
/AppExecutablesPattern="C:\hp\UCMDB\DataFlowProbe\lib"
/OnlyExecutablesWithAIMAnnotation=yes /LogFileDirectory="c:\temp"
```

   And then fill the newly generated hash value in the CyberArk server.

Uninstall Universal CMDB and CM 10.22 CUP2

When performing the uninstall procedure, this procedure must be performed for both the UCMDB Server and the Data Flow probes, as well as Configuration Manager.

1. Stop the Universal CMDB and Configuration Manager servers, and all running Data Flow Probes before uninstalling the version CUP.
2. For UCMDB:
   - Windows: Go to **<CMDB installation folder>\UninstallerCup** and double-click **Uninstall HP Universal CMDB Server**. After the CUP is successfully uninstalled, go to **<CMDB installation folder>\runtime** and delete the **jsp** and **jetty-cache** folders.

- Linux: Go to **<CMDB installation folder>/UninstallerCup** and run **Uninstall HP Universal CMDB Server**. After the CUP is successfully uninstalled, go to **<CMDB installation folder>/runtime** and delete the **jsp** and **jetty-cache** folders.

3. For Configuration Manager:
   - Windows: Go to **Start** menu **> Programs > HP Universal CMDB Configuration Manager 10.22** and double click **Uninstall HP Universal CMDB Configuration Manager 10.22 CUP2.**
   - Linux: Go to **<CM installation folder>/_sp_installation/** and run **HPCM_10.22_CUP2-Uninstall**.
4. Uninstall all existing Probes as follows:
   a. **Start > All Programs > HP UCMDB > Uninstall Data Flow Probe**.
   b. Start the server.
   c. Undeploy the **probeUpdate** package.
5. Reinstall the Probes with the same configuration, that is, use the same Probe IDs, domain names, and server names as for the previous Probe installations. Remember that the Probe ID is case sensitive.

> **Note:** After performing an upgrade and installing the new Data Flow Probe, all the Discovery jobs that were active before the upgrade are automatically run.

Notes

- When upgrading the Data Flow Probe:
  - In a multi-customer environment, if the Data Flow Probe is not automatically upgraded to the latest CUP version, use the manual upgrade procedure to upgrade the Probe manually. For details on the manual upgrade procedure, see "How to Deploy a Data Flow Probe CUP Manually" in the *HPE Universal CMDB Data Flow Management Guide*.
  - The automatic upgrade is not available for Data Flow Probes running on Linux. Use the manual upgrade procedure to upgrade the Probe manually.
  - The Data Flow Probe upgrade is only available for upgrades for minor-minor releases or upgrades between CUP releases. When performing an upgrade to a major or minor release, you must reinstall the Probe.

- If you encounter an error when installing the CUP under Linux on the **/tmp** directory because the **/tmp** directory is configured not to run executables, set the IATEMPDIR environment variable to a location with sufficient permissions and disk space. The IATEMPDIR variable is recognized by InstallAnywhere.

Known Problems, Limitations, and Workarounds

The following problems and limitations are known to exist in CMS 10.22 CUP1 (or later software, as indicated). The problems are categorized by the affected product area. If a problem has an assigned internal tracking number, that tracking number is provided (in parentheses) at the end of the problem descriptions.

Configuration Manager

PROBLEM: If Configuration Manager was running in FIPS mode before the installation of UCMDB 10.21 CUP1 (or a later software), the LW-SSO FIPS configuration is lost after installing the CUP.

Workaround: To revert to a working configuration, edit the **servers\server-0\webapps\cnc\WEB-INF\classes\cnclwssofmconf.xml** file relative to your CM installation folder and update the `crypto` tag with the following:

```
<crypto cryptoSource="jce"
cipherType="symmetricBlockCipher"
engineName="AES"
paddingModeName="CBC"
keySize="256"
pbeDigestAlgorithm="SHA1"
encodingMode="Base64Url"
jceProviderName="JsafeJCE"
jcePbeAlgorithmName="AES"
jcePbeMacAlgorithmName="AES"
macType="hmac"
macAlgorithmName="SHA1"
directKeyEncoded="true"
directKeyEncoding="Base64Url"
algorithmPaddingName="PKCS5Padding"
pbeCount="20"
macKeySize="256"
macPbeCount="20"
initString="12gHERamY1mD8LfeBp6FxwE8FU6BlabS"></crypto>
```

FIPS Deployment

PROBLEM: After adding a new probe to the UCMDB server that was already switched to the FIPS

mode, the automatic FIPS switch process for the new probe might fail. This is because once the newly installed probe is started, it downloads all the resources from the UCMDB server, and when the probe gets the probe upgrade package, it would schedule a restart, which blocks the automatic FIPS Switch process. (QCCR1H106144)
Workaround: Once you find that the automatic FIPS Swtich process for a new probe failed,

1. Copy the jar files of JCE Unlimited Strength Jurisdiction Policy Files 8 into the **%\DataFlowProbe_HOME%\bin\jre\lib\security** directory on the Data Flow Probe machine.

   For more information about how to obtain the files, refer to the *HPE Universal CMDB FIPS Deployment Guide*.

2. Add the following line into the **DataFlowProbe.properties** file on the Data Flow Probe machine, and then save the file.

   ```
   probe.fips.status=1
   ```

3. Restart the Data Flow Probe.

> **Note:** If the Data Flow Probe is in separate mode, you need to perform the above steps for both the Probe Manager and Probe Gateway.

Universal CMDB - General

PROBLEM: There is a wrapper license key support issue for certain time zones, causing UCMDB Probe service unable to start. (QCCR1H105575)

Workaround: If you encounter such an issue, contact HPE Software Support to obtain new wrapper license keys, and then manually deploy the provided License keys on probe.

PROBLEM: Displaying a specific view may crash the UCMDB server. This is because too many nodes were returned by the view that caused many more number of meta links generation and crashed the system with OutOfMemory error. (QCCR1H106088)

Workaround: In addition to the fix provided in UCMDB 10.22 CUP1, for views with huge number of nodes and relations, you may also increase the memory of the UCMDB server and the applet. For detailed instructions, see "How to Increase the Java Heap Memory Used by the UCMDB UI Java Applet" on page 41.

PROBLEM: Cannot deploy Probe Update on UCMDB 10.21 CUP1 Server, and then cannot close the Deploy Probe Update pop-up window when clicking **Close** or **Cancel**. (QCCR1H103164)

Workaround: To resolve the UI performance issue, increase Java memory. For detailed instructions, see "How to Increase the Java Heap Memory Used by the UCMDB UI Java Applet" on page 41.

PROBLEM: Version 10.10 probes appear to corrupt the PostgreSQL database under normal discovery loads. The root cause is that when Anti-Virus is scanning the PostgreSQL data folder, it could corrupt the PostgreSQL tables. (QCCR1H105605)

Workaround: To resolve the issue, perform the following:

- Always make sure that the PostgreSQL data directory is added into the anti-virus software exclusion list. The exclusion of data files will not introduce any potential security risk. By default, the PostgreSQL data directory is **C:\hp\UCMDB\DataFlowProbe\Postgresql\Data**.
- If you need to run weekly-based scan, monitor the **probeerror.log** file, and if a database error shows up (for example, a database error related to the Discovery_result table), do the following:

  a. Clean the probe log folder.

  b. Run **Clear Probe Results Cache** from **UCMDB UI > Data Flow Management > Universal Discovery > Discovery Modules/Jobs** to clean the problematic table.

  This should resolve the issue.

LIMITATION: The UCMDB Push Engine does not support the following TQL queries:

- TQL queries containing SubGraphs
- TQL queries containing Full Path Compound links

Workaround: None.

LIMITATION: The **Schedule Report** window and the **Job List** window may show different time for a scheduled report when the local machine is in a different time zone than the UCMDB server.

Workaround: None.

LIMITATION: Currently it is not possible to create two **Pattern Based Models** with the same name and different tenants in a multi-tenant UCMDB environment with the tenant aware setup. This is because the enrichments and the queries created behind the **Pattern Based Models** must have a unique name. (QCCR1H103293)

Workaround: You may use a unique naming convention, with unique prefixes for pattern names for each tenant.

When relating to pattern based models, this workaround also applies to other resources, such as queries and views.

PROBLEM: When you downgrade UCMDB 10.22 with a CUP (CUP1 or CUP2) to 10.22 by running the **<*UCMDB_Install_Dir*>/UninstallerCup/Uninstall HP Universal CMDB Server.sh** file, multiple "Unable to remove file" error messages appear during the uninstallation. However, these errors do not affect the functionality of the UCMDB server.

Workaround: None.

Universal CMDB - Topology

PROBLEM: The View result in **Browse Views** is not consistent with the result in the **Modeling Studio**, when creating a New Pattern View with the attribute condition **NOT Node Is Virtual Equal "True"**. (QCCR1H100696)

Workaround: To avoid this issue, create a New Pattern View and define the following attribute conditions in the **Query Node Properties** window: **Node Is Virtual Equal "False"** AND **Node Is Virtual Is null**.

Integrations

PROBLEM: (NNMi integration using Integration Service only) After creating an NNMi integration point with **IntegrationService** selected for the **Data Flow Probe** property in the Create Integration Point dialog box, running the scheduled NNMi integration job may fail with a remote connection error.

Workaround: If you want to use the Integration Service to run a remote process, do the following:

1. Add the following jars to the **basic_discovery_minimal_classpath** setting in the **<UCMDB_Server_Home>\integrations\conf\DataFlowProbe.properties** file manually:

   ```
   ../lib/cryptojce.jar;../lib/cryptojcommon.jar;../lib/jcmFIPS.jar;
   ```

2. Append the missing jar file to the value for the **remoteJVMClasspath** property in the Edit Integration Point dialog box.

a. In UCMDB UI, go to **Data Flow Management > Integration Studio**.

b. Locate the NNMi integration point of your interest and click **Edit Integration Point** .

c. In the Adapter Properties section of the Edit Integration Point dialog box, append the following to the value for the **remoteJVMClasspath** property:

   For SQL Server database: **;../lib/mcsqlserver.jar**

   For Oracle database: **;../lib/mcoracle.jar**

d. Click **OK**.

e. Deactivate the integration point.

f. Activate the integration point again.

g. Run the NNMi integration job.

Problem: The Integration Service cannot start due to a failure to connect to the database after you change the master key on the UCMDB server. (QCCR1H102098)

Workaround: None.

LIMITATION: SiteMinder with AJP does not work any more starting from UCMDB 10.21, because Jetty does not support it. That is why after upgrading to UCMDB version 10.21, the UCMDB integration with SiteMinder with IIS as front-end will fail. (QCCR1H105819)

Workaround: None.

PROBLEM: After upgrading UCMDB to the latest CUP, an integration job using a Database connection may fail due to performance issues. (QCCR1H98428)

Workaround: To resolve this issue, close the communication logs for the integration job.

Universal Discovery

PROBLEM: (CyberArk integration only) If you have already configured the hash value in the CyberArk Server as the authentication method, you might encounter the following errors when you install a different version data flow probe or upgrade the data flow probe to a different version.

- Can not get the credential when running the discovery job
- Checking credential failed

And in the **probe-error.log**, you should find an error message similar to the following:

```
... Failed quering password from CyberArk Vault. ... Failed to verify
application authentication data: Hash "XXX" is unauthorized ...
```

Workaround: To resolve the issue, re-generate the hash value using the following command:

```
java -Xms500m -Xmx1200m -jar JavaAIMGetAppInfo.jar GetHash
/AppExecutablesPattern="C:\hp\UCMDB\DataFlowProbe\lib"
/OnlyExecutablesWithAIMAnnotation=yes /LogFileDirectory="c:\temp"
```

Then check if the new hash value is the same as the one you configured in the CyberArk server. If different, fill in the newly generated hash value in the CyberArk server.

PROBLEM: (PostgreSQL only) Some SQL statements are observed running more than 30 minutes, which causes Probe database to crash. The root cause is that the default value of the **statement_ timeout** setting in the **postgresql.conf** file is **0**. (QCCR1H101769)

Workaround: To workaround the issue, locate and open the **hp\UCMDB\DataFlowProbe\pgsql\data\postgresql.conf** file in a text editor, and then modify the default value of the **statement_timeout** setting from **0** to **3600000**.

Enhancements Requests

Enhancements Requests in 10.22 CUP2

The following table lists the enhancement requests that were implemented in the UCMDB 10.22 CUP2 release.

Global ID	Problem	Solution
QCCR1H102223	(Cmdb9x adapter only) This is a request to improve the logic for the "Empty modification data has been supplied" error scenario, where references CIs where counted as updates, and to provide a more descriptive error message.	Implemented the enhancement by implementing a code change to add similar approach like that in the ucmdb10x adapter. Now only the proper CIs for updates are counted.
QCCR1H105614	Release Control integration impact analysis calls took too long, because select statements that have condition like CMDB_ID IN (....) were not using indexes. Full table scan was run even if CMDB_ID is indexed. This is a request to improve the Release Control integration impact analysis calls performance.	Implemented the enhancement on Oracle DB dialect by adding appropriate elements to the select statements and forcing index usage.
QCCR1H106790	The push engine is limited to 3 pushes to be scheduled automatically by UCMDB.	Added a new JMX setting (**com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory**) for increasing the thread count for data push jobs. For details, see "How to Increase the Number of Threads for Data Push Jobs" on page 34.
QCCR1H107411	VMware VirtualCenter Topology by VIM jobs fails with reconciliation error: [SQLServer]Violation of PRIMARY KEY constraint 'PK_MERGED_CIS'. Cannot insert duplicate key in object 'dbo.MERGED_CIS'...	Enhanced the mechanism which ensures that the CIs from table MERGED_CIS are consistent.

Global ID	Problem	Solution
QCCR1H107837	This is a request for adding hardware detection in Supportability.	Implemented the enhancement by adding hardware detection in the core **Basic** supportability handler. Every time the basic supportability handler is run, an **Environment.properties** file is created in the Supportability zip file, recording all the hardware information about the target physical or virtual machine.
QCCR1H108127	This is a request for encoding licenses for ASM pack, ASM pack of 10, and ASM pack of 25 as valid in UCMDB.	Implemented the enhancement by replacing the old PD file with a new PD file, which will be used to encode the licenses for the ASM pack, ASM pack of 10, and ASM pack of 25 as valid in UCMDB.
QCCR1H99062	Currently it seems like the OS Architecture field is only discovered for Linux hosts. It is not discovered for SunOS. This is a request to discover it for SunOS hosts as well.	Implemented the enhancement by adding ability to discover OS Architecture for SunOS, AIX, MacOS, and HP-UX.

Enhancements Requests in 10.22 CUP1

The following table lists the enhancement requests that were implemented in the UCMDB 10.22 CUP1 release.

Global ID	Problem	Solution
QCCR1H105579	The Windows scanner was enhanced to discover Windows device driver data, so the XML Enricher should also be enhanced to be support it.	Implemented the enhancement by adding support for the Windows device driver data to the XML Enricher.
QCCR1H105221	This is a request to provide support for the application signature to include SHA1 hash checking on the CyberArk calling class.	Implemented the enhancement by adding annotation into classes for the CyberArk password vault to provide support for the application signature using annotation in CyberArk integration class. For more details, see "How to Calculate Hash Code for JARs with Annotation".

Global ID	Problem	Solution
QCCR1H104253	When the integration with Service Manager invokes the general Web service of UCMDB in SM to get the actual state of UCMDB CIs, and the response content only has the enum key, it needs an enhancement on the UCMDB web part to return enum values as well for the field.	Implemented the enhancement by adding a new method **getCIsByIdWithEnumValues** which returns the value of an enum property.
QCCR1H97075 QCCR1H104928	When there are many enrichments based on a query that has a Changed or Unchanged During 24 hours condition on some CI Types, each time the query gets calculated, because the starting point is a link and the number of links is huge, the calculation time is high due to a fuse. The fuse is broken when the starting point is being determined but the TQL query is calculated eventually with another starting point. Therefore, the following error is found in the **error.log**: "Query result exceeded size limit".	Implemented the enhancement by defining link classes for which a count (SQL in DB) should be performed before the iteration to check if fuse exception needs to be thrown, thus reducing the calculation time. To enable this feature, invoke the **setInternalSetting** JMX method to set the **dal.link.condition.citypes.to.count.for.max.result** setting to the desired value with the name of the links for which to verify the count (comma separated values). For example, if the link name is **membership**, invoke **setInternalSetting** with name = "dal.link.condition.citypes.to.count.for.max.result" and value = "membership".

Fixed Defects

Fixed Defects for UCMDB 10.22 CUP2

The following table lists the defects that were fixed in the UCMDB 10.22 CUP2 release.

Global ID	Problem	Solution
QCCR1H90996	Errors found in the error log of the reader, including errors related to parsing management zone XMLs and some other stuff, which were caused by the invalid XML character "&" in the description.	Fixed the issue by implementing a code change to escape invalid chars in XML, including **&'<>"**.
QCCR1H93805	Users logging in without any assigned permissions see blank screen instead of an error indicating no modules can be displayed due to a lack of permissions.	Fixed the issue by implementing a code change. User without UI access permission are not allowed to login and see blank page. Also added a warning message if the user has no access to any UI module. This is present as a general action for each role.
QCCR1H96379	The AWS by Web Services job does not work due to an access credentials issue. The AWS API used by the job includes joda-time-2.2.jar, however the probe lib folder (**C:\hp\UCMDB\DataFlowProbe\lib**) contains an old version of **joda-time.jar**.	Fixed the issue by replacing the old joda-time.jar file with a v2.2 **joda-time.jar** file on the probe side.
QCCR1H100637	A non Server Administrator user is not able to create and edit packages, otherwise a null pointer exception is thrown.	Fixed the issue by implementing a code change to avoid the null pointer exception.
QCCR1H101895	After upgrading UCMDB to 10.20, an error is received regarding to one of the existing database integrations: `Failed adding/updating DataStore to server ['QueryName':-:'PatternId']`	Fixed the issue by implementing a code change to use more complex syntax for the plus (+) symbol, so that it will have no impact on other strings that contains a plus symbol.
QCCR1H103058	The View Scan Debug Log button does not work in HTTPS UCMDB environment. The Probe is set to HTTPS, but the Probe still	Fixed the issue by implementing a code change so that when the probe sends the uploadScanFile request,

Global ID	Problem	Solution
	sends uploadScanFile request using HTTP.	it chooses HTTP or HTTPS protocol according to the Probe configuration.
QCCR1H103978	The AM Push job fails on some probes from time to time during execution, with the ProbeAdhocTaskPickupTimeout Exception error.	Fixed the issue by implementing a code change. Now when the Probe picks up the Ad Hoc task and executes it properly, no error message will be thrown in the log file.
QCCR1H105064	When using Push Adapter on a UCMDB instance on Oracle database, NET8 Error message is received due to the Oracle library being used.	Fixed the issue by updating the JDBC Oracle driver.
QCCR1H105103	(OMi 10.01) OMi-UCMDB integration fails on port 80. This is because the DefaultSessionTenant header is missing from the message causing OMi JBoss to reject the messages.	Fixed the issue by implementing a code change to add the DefaultSessionTenant header to the message. **Note:** This fix requires that you manually redeploy the UCMDB 10.x adapter package located in the **C:\hp\UCMDB\UCMDBServer\content\adapters** directory after installing UCMDB 10.22 CUP2.
QCCR1H105229	TQL result count calculated in the Server UI does not match the calculation via JMX or SM data push.	Fixed the issue by implementing a code change to the calculation logic. Now the TQL result count calculated in the Server UI matches the calculation via JMX or SM data push.
QCCR1H105260	There is a problem with red icons on UCMDB 10.11, which are not colored in red 10.11.	Fixed the issue by implementing a code change so that red icons are properly colored.
QCCR8D44233	(OMi only) The OMi console crashes frequently with "Internal Server Error". When the problem happens, JBoss does not abort but consumes up to 50% CPU.	Fixed the issue by implementing a code change.
QCCR1H105344	The Oracle LMS Report cannot be saved from the reader server in HA mode.	Fixed the issue by implementing a code change, now reader server can also download and save the

Global ID	Problem	Solution
		Oracle LMS report.
QCCR1H105510	By default, scheduled SM population jobs synchronize changes only. Setting full-population-days-interval to 0 in the SM adapter XML has no effect -- only changes are synchronized.	Fixed the issue by implementing a code change so that it is possible to schedule full SM populations by setting full-population-days-interval to 0 in the SM adapter XML.
QCCR1H105680	When pushing the data from UCMDB to OMi, if the data is larger than the chunk size, invalid CIs are pushed to OMi and fail to be reconciled.	Fixed the issue by implementing a code change, so that related topologies data are sent from UCMDB to OMi properly in different chunks.
QCCR1H105717	When trying to display the probe status from the Data Flow Probe Status page, there is no results for some probes, and the following error is found with the **DiscoveryDestDAO.getDisplayLablesForTriggerIds()** method in the **error.log**: 'ORA-01795: maximum number of expressions in a list is 1000'.	Fixed the issue by implementing a code change to split the SQLs if the number of expressions exceeds 1000.
QCCR1H105901	There is a custom rule that creates “Membership” relation between Location and Node CIs based on a custom attribute (building) in CIT Node. But after running the enrichment, no relationship is generated.	Fixed the issue by implementing a code change to improve the data import so that the correct CI type name is used by the enrichment.
QCCR1H105928	UCMDB to UCMDB push back global Ids is disrupting the aging on the low level UCMDB by updating the Last Access Time value.	Fixed the issue by implementing a code change to disable the aging mechanism on the push back flow.
QCCR1H105984	Probe start services sequence is not correct, and probe crashes when AM integration is run.	Fixed the issue by implementing a code change to correct the probe start services sequence.
QCCR1H106039	When loading the Integration Studio, if there are many integration points, the system takes a very long time to display the user interface.	Fixed the issue by implementing a code change to build cache for queries to reduce query execution.
QCCR1H106079	The SQL DB transaction logs are filling up daily, because the Rebuild indexes job is deactivated and the scheduler recreates it at every restart.	Fixed the issue by implementing a code change so that the Rebuild Indexes job is not recreated during restart and the same instance is kept.

Global ID	Problem	Solution
QCCR1H106141	There is no date template "EEE MMM dd HH:mm:ss zzz yyyy" for date values, thus the Solr engine is unable to parse such date format.	Fixed the issue by implementing a code change to add "EEE MMM dd HH:mm:ss zzz yyyy" date parser for logging unparsable dates for search purpose.
QCCR1H106201	(CAC authentication) After upgrading UCMDB from 10.20 CUP1 to 10.21, the UCMDB server is unable to complete startup when CRL file path is defined.	Fixed the issue by implementing a code change to add null check for the getCriticalExtensionOIDs() function and fix the logic for the CRL file to work properly.
QCCR1H106327	When any integration job execution causes links to be deleted, link deletion occurs but deletion status of the links is not displayed in the integration job statistics pane.	Fixed the issue by implementing a code change. Now the integration job works properly without causing any deletion.
QCCR1H106371	When the node is discovered by the Host Connection by Shell job, it sets the flag for the **host_iscomplete** attribute to **true**, and then when the Host Resources/Applications by Shell job is run, it changes this attribute to **false**. This is a problem for the Breakdown Report that takes this attribute into consideration.	Fixed the issue by implementing a code change to remove the **host_ iscomplete** condition from the Breakdown Report TQL query.
QCCR1H106428	Data Flow Probe JMX Console should pop up again asking for correct credentials instead of an HTTP 500 error when the password is wrongly entered.	Fixed the issue by implementing a code change so that the probe JMX Console pops up again asking for correct credentials when the password is wrongly entered.
QCCR1H106436	Java fails to finish downloading the Java applet before passing the 30 seconds timeout limit.	Fixed the issue by implementing a code change to set the Idle Timeout in the **JettyManager.class** class for each server connector to **-1**.
QCCR1H106760	Application server is using an optimization technique that is holding static content file handles open. This is preventing content pack documentation files to be updated while UCMDB server is running.	Fixed the issue by implementing a code change to disable the optimization for the UD Content Pack documentation context.
QCCR1H106762	SiteScope and OMi 10.10 Topology integration is not working because the **jythonGlobalLibs.xml** file for SiteScope is not properly converted.	Fixed the issue by implementing a code change so that the **jythonGlobalLibs.xml** file for SiteScope can be properly converted.

Global ID	Problem	Solution
QCCR1H106774	DB connections from the pool manager are removed, causing many DB statement to be idle. In the end the number of threads increases and the UCMDB system becomes unresponsive.	Fixed the issue by implementing a code change to handle the DB connections from the pool manager properly and not removing them when they should not be.
QCCR1H106779	After invoking the **startHistoryDB** JMX method, the HDM_xxxxxx_UNIX_1 and HDM_xxxxxx* tables are not dropped.	Fixed the issue by implementing a code change. Now invoking the **startHistoryDB** JMX method deletes all the history data by dropping the tables, and then the history data is initialized based on the existing CIs.
QCCR1H106844	On UCMDB 10.22, when setting **cryptoSource** as **windowsDPAPI**, instead of **lw**, a WebApplicationException error occurs and the **LWJDPAPI.dll** is never loaded. For LWSSO in UCMDB server, when using windowsDPAPI as cryptoSource, it uses **System.load()** routine to load the **LWJDPAPI.dll**, which requires the absolute full path of the dll file.	Fixed the issue by implementing a code change to use the absolute path for the **LWJDPAPI.dll** file.
QCCR1H106880	History operation "hist query: get data changes" does not close its attached transaction in the multi-tenancy environment.	Fixed the issue by implementing a code change to the flow for the transaction to be committed and adding more logging to catch smilar issues easier in the future. Now the history transaction when viewing CI history can be properly handled in the context of multi-tenancy.
QCCR1H106978	When a non-sysadmin normal LDAP user schedules a topology report, and the user's login name is different from the display name, then the report fails to be generated because the user could not be found.	Fixed the issue by implementing a code change to replace the **getDisplayName** method with the **getLoginName** method.
QCCR1H107107 QCCR1H107142	A few hours after the UCMDB server restarts, it slows, then stops functioning properly. The only way to get it working again is to restart the server. Performance issues encountered in all aspects: Data-in/Discovery, Enrichments/PBMs, UI access, and Data consumption/Reports.	Fixed the issue by implementing a code change to address the performance issues in all aspects.
QCCR1H107256	Aging fails with error "Oracle JDBC Driver	Fixed the issue by implementing a

Global ID	Problem	Solution
	Invalid parameter binding(s)" because three parameters are provided instead of four. In certain scenarios the number of parameters is not properly provided to aging related SQL statement.	code change to provide correct number of parameters to aging related SQL statement.
QCCR1H107363	Threads updating History get stuck, the Complement Layout Operation was running in timeout due to massive changes.	Fixed the issue by implementing a code change to increase Timeout to 4h and add it as explicit for this operation.
QCCR1H107371	Trigger IP cannot be added to WMI Discovery jobs, thus IP could not triggered properly.	Fixed the issue by implementing a code change so that IP could be properly triggered.
QCCR1H107462	UI Packaging is loosing selected TQLs due to long loading time, and the Save button is enabled before all resources are loaded.	Fixed the issue by implementing a code change to disable the **Save** button until all the resources are loaded. While loading is in progress the **Save** button has a tooltip to inform the user why it is still disabled: "Please wait, some resources are still loading...", which disappears after the resources are successfully loaded.
QCCR1H107487	UCMDB Browser fails to start after the deployment of UCMDB 10.21 CUP1. During startup the **ucmdb-browser.war** resource was being deployed twice and thus failed to be properly deployed.	Documented the following note as a Caution in the Release Notes: Apart from the OOTB files, DO NOT ADD any additional resources into the ***<UCMDB_Server_Home>*\deploy** directory. Because UCMDB will try to deploy every file from this location, which may cause the **ucmdb-browser.war** file not deployed completely, and as a result the UCMDB Browser will fail to start.
QCCR1H107590	The SM-UCMDB integration ignores class conditions and throws exceptions when two or more TQL queries matching a same CI are found.	Fixed the issue by implementing a code change. Now the SM-UCMDB integration filters class conditions when multiple TQL queries matching a same CI are found and exceutes those multiple TQL queries.
QCCR1H107669	The user cannot log in to the UCMDB 10.22	Fixed the issue by implementing a

Global ID	Problem	Solution
	when the login name is an email address.	code change so that now the user can successfully log in to the UCMDB 10.22 when the login name is an email address.
QCCR1H107675	Users are unable to create an enrichment, the dialogue always says that you need to enter a valid rule name even when a valid name is entered. When creating a new enrichment, a list with TQL queries is retrieved from the UCMDB server for a unique and a correct name. However, because of some corrupted TQL queries, the UCMDB server throws an exception that was not caught.	Fixed the issue by applying a code change to catch the exception. Now users are able to create new enrichments successfully.
QCCR1H107745	When processing discovery results, all datain operation failed with java.lang.StackOverflowError, causing UCMDB Server restart.	Fixed the issue by implementing a code change. Now there is no such UCMDB server performance issue.
QCCR1H107875	IT Universe Manager cannot keep the position of the attributes about column configuration in text mode.	Fixed the issue by applying a code change. Now column layout configuration stored in user preferences is no longer overwritten.
QCCR1H108223	After upgrading UCMDB to version 10.22 CUP1, the **Is Candidate for Deletion** status cannot be synchronized with the Push Flow.	Fixed the issue by applying a code change to detect the Data Push Flow and to ignore the set of **Is Candidate for Deletion**. Now the **Is Candidate for Deletion** status can be synchronized with the Push flow.
QCCR1H108541	UCMDB does not consider APM root context in case of distributed environment.	Fixed the issue by implementing a code change, so that the system takes into account root context.
QCCR1I118719	(APM 9.30 RTSM) If the Discovery Control Panel is accessed without a license, then Integration Studio is loaded instead.	Fixed the issue by applying a code change. Now when the Discovery Control Panel is accessed with a license, then the module will be available and all the discovery jobs are visible; if no license, a message will be displayed: 'No Discovery license is available'.

Fixed Defects for UCMDB 10.22 CUP1

The following table lists the defects that were fixed in the UCMDB 10.22 CUP1 release.

Global ID	Problem	Solution
QCCR1H99940 QCCR1H100476	In certain circumstances, database deadlock occurs in log files when multiple threads try to update records in different orders.	Fixed the issue by using row locks so that no deadlock occurs.
QCCR1H100082	Some jobs are scheduled to send reports via email, the job history seems perfect, but the emails users received have no attachments.	Fixed the issue by implementing a code change. Now before sending an email to recipients, empty email addresses are removed, and then the email will be sent to the remaining email addresses.
QCCR1H100903	Displaying a specific view crashes the UCMDB server. This is because too many nodes were returned by the view that caused many more number of meta links generation and crashed the system with OutOfMemory.	Fixed the issue by implementing a code change to calculate inter layer links only if the view's objects count is less then the maximum value that the map can show (Max Object Count GUI For TS). In case of views with huge number of nodes and relations, you may also increase the memory of the UCMDB server and the applet. For more details, see QCCR1H106088.
QCCR1H101054	After saving a view using the "Save As" option, the view becomes not editable.	Fixed the issue by implementing a code change to drop the automatic open after save as action. Users can manually open the saved views without any issue.
QCCR1H101061	When using a time period of around one week for the change report, it seems like one of the end points does not exist in the history table, and the change report fails.	Fixed the issue by implementing a code change to display an ERROR message in the log file that the CI Change Report contains inconsistent CIs. To display the ERROR message with IDs of inconsistent CIs, set **loglevel=INFO** in the **<*UCMDB_Server_Home*>\conf\log\ui-server.properties** file.
QCCR1H103374	Without granting the user the	Fixed the issue by implementing a code

Global ID	Problem	Solution
	Administration rights, the user couldn't see the scheduler tasks in the Scheduler. It's empty.	change, now the user without the Administration rights is able to see the Scheduler and the scheduled tasks.
QCCR1H103549	After applying the TCP package to support the ASM feature, probes crash when creating core dumps and getting disconnected with the UCMDB server.	Fixed the issue by applying a code change.
QCCR1H104139	When accessing a CI from UCMDB UI, the last item on the context menu for the CI is Open UCMDB Browser. This should open UCMDB Browser and details to that CI should appear. When using a corporate proxy to connect to the UCMDB web pages this menu item is not working and a "Ucmdb Browser is not connected to the server" message pops up.	Fixed the issue by implementing a code change to use HTTPS connection for the socket to detect if the URL is available. This is applicable only when the UCMDB Browser is configured to use HTTPS.
QCCR1H104234	Users see many **handlers.SecurityHandlersException** messages in the **probe-error.log** for one of their probes.	Fixed the issue by implementing a code change so that the **handlers.SecurityHandlersException** messages are not shown in the probe log anymore.
QCCR1H104237	NNMi Pull_Layer2 Topology Import from NNMi fails with NullPointer exception.	Fixed the issue by implementing a code change. Added null check to avoid NullPointer exception. The population now works properly.
QCCR1H104375	XML Enricher does not properly process scan files without executable signatures. When processing the scan files, many normalized applications are not reported in the Installed Software CIs list.	Fixed the issue by implementing a code change to the XML Enricher logic.
QCCR1H104584	In the Discovery Status, total and detailed counts for warnings and errors do not match, more errors are in the main view than in the detailed view.	Fixed the issue by implementing a code change to display correct amount of errors.
QCCR1H104730	The **Inventory Discovery by Scanner** job cannot be triggered, and there is no information about the Inventory Discovery by Scanner job in the ViewJobStatuses output in the UCMDB UI. The root cause for the	Fixed the issue by implementing a code change to allow the Inventory discovery by scanner job to trigger properly.

Global ID	Problem	Solution
	issue is that incomplete CIs are imported into UCMDB Server.	
QCCR1H104793	The UCMDB-SM integration is not bringing federated CIs if the reconciliation CIT is not specified in **serviceDeskConfiguration.xml**.	Fixed the issue by implementing a code change. For the fix to work properly, make sure you add the following line into the **serviceDeskConfiguration.xml** file manually: `<reconciliationClassConfiguration>ucmdbClassName="nt"</reconciliationClassConfiguration>`
QCCR1H104917	Saving a view with a new name results in loss of Report Layout for Group by CI Type.	Fixed the issue by implementing a code change to keep the report layout while saving a view.
QCCR1H105023	The UCMDB **error.log** often shows the "Unauthorized access at entry point" error (but not only for this user). However the user is not aware of any user authentication related problems.	Fixed the issue by implementing a code change. Now all users have the access right if they passed the authentication.
QCCR1H105030	The probe manager in separate mode cannot be switched to the FIPS mode automatically.	Fixed the issue by implementing a code change. Now in separate mode, after the probe gateway finishes downloading jars, a notification will be sent to the probe manager automatically.
QCCR1H105110	Version 10.10 probes appear to corrupt the PostgreSQL database under normal discovery loads. The root cause is that when Anti-Virus is scanning the PostgreSQL data folder, it could corrupt the PostgreSQL tables.	Added the workaround into the Release Notes. For details, see QCCR1H105605.
QCCR1H105257	Users experience poor performance, especially the Generic Database Adapter (GDBA) integrations running in full synchronization mode take extremely long time to finish.	Fixed the issue by implementing a code change to improve and enhance the performance.
QCCR1H105269	Slow performance with scheduled reports. If the client and the server are in different time zones then the reports	Fixed the issue by implementing a code change. Now a new method was added in order to properly convert server time zone into client time zone.

Global ID	Problem	Solution
	are wrongly inserted in the Job List Window.	
QCCR1H105294	Running multiple AM computer push jobs in parallel completes with failure rate of 6% to 8%, while less than 1% failure rate on running a single push job at a time. Most of the failures are caused by the following **java.lang.RuntimeException** error: ... 'execAql' exception: 'Error (12,011): Oracle error: ORA-00001: unique constraint (ACAPP.ASGMT_CMDBID) violated Index error: A record in table 'Portfolio items (amPortfolio)' with the value '<hidden>' for field 'uCMDB identifier (CMDBId)' already exists in the database.'	Fixed the issue by implementing a code change to made the code thread safe.
QCCR1H105314	The discovery analyzer does not work. During startup, it shows error: Failed creating DBServices for ProbeMgrDBServicesFactory!!	Fixed the issue by implementing a code change to the cmd script.
QCCR1H105315	The **Show Properties** button is available even though the Properties Menu Item is disabled in Roles for that CIT in some UI modules.	Fixed the issue by implementing a code change to ensure that the **Show Properties** button is disabled if the user does not have the right permissions for the selected CI.

QCCR1H105591	The installation of the UCMDB Browser 4.03 on the UCMDB server causes a performance issue for both the UCMDB Server and the UCMDB Browser.	Fixed the issue by adding the following line to the **<*UCMDB_Server_Home*>\bin\wrapper.conf** file:
		`wrapper.java.additional.120=`
		`-Dcom.sun.xml.bind.v2.`
		`bytecode.ClassTailor.`
		`noOptimize=true`

QCCR1H105593	The **getDestinationDataMap** method of the Environment interface introduced for content validators to access job parameters did not work correctly.	Fixed the issue by implementing a code change to fix the logic. Now the **getDestinationDataMap** method of the Environment interface works as expected.
QCCR1H105623	When trying to create a VMware Host	Fixed the issue by implementing a code

Global ID	Problem	Solution
	Report, it fails with a NullPointerException and the report is not generated.	change. Now the VMware Host Report can be properly generated.
QCCR1H105639	Once started running the host resources discovery jobs, the HPROF files are created in the **<*UCMDB_Server_Home*>\bin** directory. The History service tried to log a huge size of hash map which caused JVM OutOfMemoryError.	Fixed the issue by implementing a code change, now the OutOfMemoryError message will not appear in the log and the HPROF files will not be created anymore.
QCCR1H105818	SiteMinder with AJP does not work any more starting from UCMDB 10.21, because Jetty does not support it. That is why after upgrading to UCMDB version 10.21, the UCMDB integration with SiteMinder with IIS as a front-end will fail.	Documented this limitation in the Release Notes. See Known Problems, Limitations, and Workarounds.
QCCR1H105821	(Oracle database only) Duplicated Java processes are found after running the discovery job.	Fixed the issue by implementing a code change to increase the Oracle DB type CREATE OR REPLACE TYPE VARCHAR2_TABLE IS TABLE OF VARCHAR2(3950) from 300.
QCCR1H105888	When Configuration Manager is implemented with an F5 LB and WebSEAL junction, login to CM via WebSEAL server fails for LDAP accounts with MDSSO and WebSEAL errors.If CM is behind a proxy and the external URL differs from the internal URL, connection to CM does not work for HTTPS.	Fixed the issue by implementing a code change to adjust the internal URL.
QCCR1H106092	After implementing manual High Availability Cluster (HAC) failover of platform, an HTTP 503 Issue (Service Unavailable) was received. The HAC services successfully moved and started on the backup DPS server (and RTSM service as well), but RTSM on gateway still tried to connect to the primary DPS which was no longer running HAC services (RTSM was down).	Fixed the issue by implementing a code change to provide support for manual HAC failover.

Global ID	Problem	Solution
QCCR1H106398	When multiple threads try to modify the same domain document concurrently, credentials mappings saved in the domain document might get removed.	Fixed the issue by implementing a code change to fix the logic.
QCCR1H107745	When processing discovery results, all datain operation failed with java.lang.StackOverflowError, causing UCMDB Server restart.	Fixed the issue by implementing a code change. Now there is no such UCMDB server performance issue.

Documentation Errata

The following items are listed incorrectly in the documentation.

HPE Universal CMDB Hardening Guide

No information about the UCMDB-API client certificate key size

Location: *HPE Universal CMDB Hardening Guide*, version 10.21, page 30 (QCCR1H102759)

Error: There is no information about the minimum key size for the UCMDB-API client certificate.

Correction: Add the following note under the *Enable Mutual Certificate Authentication for SDK* section:

> **Note:** The UCMDB-API client certificate must have the minimum key size of no less than 2048 bits.

The LDAP Search User setting value should be the full user name only

Location: *HPE Universal CMDB Hardening Guide*, version 10.22, page 131

Error: In the LDAP Authentication Settings - Example table, the example value for the **LDAP Search User** setting is as follows:

CN=John Doe,OU=Users,OU=Dept,OU=US,DC=example,DC=com

Actually only the full user name is needed.

Correction: Change the example value for the **LDAP Search User** setting to the following: Full user name, for example, John Smith

---

Appendixes

This appendix includes:

How to Set UCMDB Server Time, Change Time Zone Setting, or Correct System-induced Clock Drift 33
How to Increase the Number of Threads for Data Push Jobs 34
How to Enable CI Type Tenant Owner Verification during the Matching Phase of Identification ... 35
How to Calculate Hash Code for JARs with Annotation 39
How to Increase the Java Heap Memory Used by the UCMDB UI Java Applet 41

How to Set UCMDB Server Time, Change Time Zone Setting, or Correct System-induced Clock Drift

> **Note:** UCMDB server (also all HA nodes servers) and the database server should be based on UTC time. This helps preventing issues caused by time zone and daylight savings time changes.

When changing the UCMDB server system time backward or forward on the database server, administrators should follow a scenario that eliminates risk of unresponsive servers and/or data inconsistencies (for both standalone or high-availability based UCMDB systems).

To do so,

1. Stop UCMDB server.

   In case of cluster environment, stop all the nodes.
2. Perform actions needed to change the system time.
3. On the UCMDB server machine, execute the following command:
   - **Windows:** Go to the **C:\hp\UCMDB\UCMDBServer\tools\dbscripts** folder, and run the following command from command prompt:

     dbtool resetClusterConf
   - **Linux: /opt/hp/UCMDB/UCMDBServer/tools/dbscripts/dbtool.sh resetClusterConf**
4. Restart UCMDB server.

How to Increase the Number of Threads for Data Push Jobs

Version 10.22 Cumulative Update Package 2 (CUP2) introduced a new JMX setting **com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory**, allowing you to increase the number of threads for data push jobs from the out-of-the-box value **3** to any desired value.

How to increase the number of threads for data push jobs

> **Note:** Apply this change for large UCMDB deployments where the hardware resources for UCMDB server and data flow probe are assigned as documented in the *HPE Universal CMDB Sizing Guide*.

To do so,

1. Log in to the UCMDB JMX console. (Launch the Web browser and enter the following address: **https://<server_name>:8443/jmx-console**. You may have to log in with a user name and password.)
2. Enter **setInternalSetting** in the Quick Search field and click the link that appears with the **UCMDB:service=Settings Services** category.
3. Invoke the **setInternalSetting** JMX method with the following parameters:
   - **customerID:** Enter your Customer ID. (**Default: 1**)
   - **key:** Enter **com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory**.
   - **value:** Enter a desired value as the number of threads for push jobs. (**Default: 3**).
4. Double check the value set by invoking the **getInternalSettings** JMX method.

   The returned result contains the **com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory** setting and its value.
5. Restart the UCMDB Server.
6. The new value is loaded successfully if you see the following message logged in the **startup.log** file:

```
The number of threads for manager
com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory was overridden
```

```
to ...
```

> **Note:** The **startup.log** file is located in the **<UCMDB_Install_dir>\runtime\logs** directory.

Revert the change

To revert the change and use the default value,

1. Perform either of the following from the UCMDB JMX console:
   - Invoke the **setInternalSetting** JMX method with the following parameters:
     - **customerID:** Enter your Customer ID. (**Default: 1**)
     - **key:** Enter **com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory**.
     - **value:** Enter the default value **3**.
   - Delete the new setting by invoking the **listResources** method from the **UCMDB:service=URM Services** category.

     If you delete the new setting, UCMDB will use the hard-coded default value.

     To do so,

     i. Enter **listResources** in the Quick Search field and click the link that appears with the **UCMDB:service=URM Services** category.

     ii. Invoke the **listResources** method with the following parameters:
       - **customerID:** Enter your Customer ID. (**Default: 1**)
       - **resourceType:** Enter **Settings_STATE_CUSTOMER_SETTING**.

     iii. On the returned result page, click **delete** for the **com.hp.ucmdb.synchronizer.manager.SynchronizerManagerFactory** setting.
2. Restart the UCMDB Server for the change to take effective.

How to Enable CI Type Tenant Owner Verification during the Matching Phase of Identification

You can dynamically add a verification criterion based on the **TenantOwner** attribute during the matching phase of the identification process for CIs by using the new JMX setting **reconciliation.tenantaware.citypes**. If, compared to the other CI, there is a different value among the

CI attribute values defined in this setting, the verification process stops and the match is rejected.

The following example explains how this setting works:

- If you have two node CIs:
  - Node1 with **TenantOwner**=t1 and **name**=n
  - Node2 with **TenantOwner**=t2 and **name**=n
  - **reconciliation.tenantaware.citypes** set to **node**

  This scenario will result in the two nodes not matching.
- If Node1 does not have **TenantOwner** set, the default Tenant will be provided.

> **Note:** If you add a node CIT, UNIX for example, you do not have to add it since it is inherited by identification rule. Only if you change the UNIX CIT identification rule, you need to add it explicitly.

To enable TenantOwner attribute verification for CITs that are identified by key attributes,

1. Add the **ID_ATTRIBUTE** qualifier for the **TenantOwner** attribute of the **managed_object** CIT.

   > **Note:** The **TenantOwner** attribute will be inherited to all the child classes. Make sure that a child class does not override it.

   a. Go to the **JMX console > UCMDB:service=URM Services**.

   b. Invoke the **listResourceTypes** method.

   c. On the returned page, click **CM_CLASS**, then click **managed_object**.

   d. In the Resource XML box, add the following attribute qualifier to the **TenantOwner** attribute:

   ```
   <Attribute-Qualifier name="ID_ATTRIBUTE" is-factory="true" is-user-
   modified="true" version="15" >
          <Data-Items/>
   </Attribute-Qualifier>
   ```

   e. Click **Save resource**.
2. Invoke the JMX method **updateClassModel** to update the class model (go to the **JMX console > UCMDB:service=Class Model Services**, and invoke the **updateClassModel** method with **1** in the **Value** field for customerID).
3. Reload the class model from persistency (go to the **JMX console > UCMDB:service=Class Model Services**, and invoke the **reloadClassModelFromPersistency** method).

4. Go to **JMX console > UCMDB:service=Model Services**, invoke the **recalculateID** method with **classname** field empty.

   This may take a while as it updates the calculated IDs for all instances of the classes with key attributes identification.

To enable the reconciliation.tenantaware.citypes setting for specific CITs (separated by comma) that are identified based on identification rules,

1. Go to **JMX Console > UCMDB:service=Settings Services > setSettingValue**.
2. In the **name** field, enter **reconciliation.tenantaware.citypes**.
3. In the **value** field, enter names of the CITs, separated by comma.

   > **Note:** To disable this setting, leave the **value** field empty.

4. Click **Invoke**.

To enable the reconciliation.tenantaware.citypes setting for all the CITs that are identified based on identification rules,

1. Go to **JMX Console > UCMDB:service=Settings Services > setSettingValue**.
2. In the **name** field, enter **reconciliation.tenantaware.citypes**.
3. In the **value** field, enter *****.
4. Click **Invoke**.

> **Note:**
>
> - If you changed the Tenant ID on the Data Flow Probe, make sure you clear the probe cache as well by performing either of the following:
>   - Log in to the probe server, run the following script:
>
>   **Windows:\hp\UCMDB\DataFlowProbe\tools\clearProbeData.bat**
>
>   **Linux:\hp\UCMDB\DataFlowProbe\tools\clearProbeData.sh**
>   - Log in to the UCMDB server UI, go to **Data Flow Management > Universal Discovery > Discovery Modules/Jobs**. For each of the jobs that run on the probe, right-click the job and select **Clear Probe Results Cache**.
> - In a multi-tenant aware environment, a tenant must be specified for the Data Flow Probe.

Tenant Owner Related Known Issues, Problems, and Workaround

- **PROBLEM:** After switching to Tenant aware reconciliation, the **OwnerTenant** attribute becomes read-only in the Configuration Item Properties dialog.

  Workaround: Use **Assign Tenants** functionality from the CI's context menu.

- **PROBLEM:** After removing the Key Attributes qualifier from the **OwnerTenant** attribute of the Managed Object, sometime no properties are displayed for the CIs in UI.

  Workaround: If you want to switch back (to disable Tenant aware reconciliation), do the following:

  a. Remove the **ID_ATTRIBUTE** qualifier for the **TenantOwner** attribute on the **managed_object** CIT.

  b. Remove the value of the **reconciliation.tenantaware.citypes** setting.

  c. Reload the class model from persistency (go to the **JMX console > UCMDB:service=Class Model Services**, and invoke the **reloadClassModelFromPersistency** method).

  d. Go to **JMX console > UCMDB:service=Model Services**, invoke the **recalculateID** method with **classname** field empty.

  e. Go to **JMX console > UCMDB:service=Model Services**, invoke the **updateClasModel** method.

- **LIMITATION:** Enrichment is not invoking the Reconciliation on Update **OwnerTenant** via **Associate Tenant Rule**. As a result, you may have duplicated data in the system in case if you update the **OwnerTenant**'s CI to a tenant that already has this CI.

  Workaround: None.

- **LIMITATION:** CIs with Identification rule would be duplicated in case if the user is updating the **OwnerTenant** CI to a tenant that already has this CI from **Update OwnerTenant** in the **Assign Tenants** module.

  Workaround: None.

- **PROBLEM:** When adding Consumer Tenants to a CI, the System Default Tenant appears in the list of Consumers after saving, even if it was not selected. This issue occurs only when changing the Owner Tenant or the Consumer Tenant.

  Workaround: None.

- **PROBLEM:** When removing all Consumer Tenants from a CI (from the IT Universe), an error is thrown and the Owner Tenant is overwritten with the System Default Tenant.

  Workaround: To avoid removing the System Default Tenant from the Consumer Tenants list, make sure you set the System Default Tenant as consumer.

  Only when the System Default Tenant is not set as consumer, the Owner Tenant will be overwritten with the System Default Tenant when trying to save.

- **PROBLEM:** Error message received when setting up a tenant aware environment, for the OOTB enrichments which are adding CIs. (QCCR1H104949)

  Workaround: If there are enrichments which are creating new CIs, after setting the environment as tenant aware, the attribute **Owner tenant** should be set for those CI Types which are being created through enrichments.

How to Calculate Hash Code for JARs with Annotation

Starting from UCMDB version 10.22 CUP1, it is possible to provide support for the application signature using the annotation in the CyberArk integration class.

To calculate the Hash Code for JARs with annotation,

1. Generate the application hash value by running the following command.

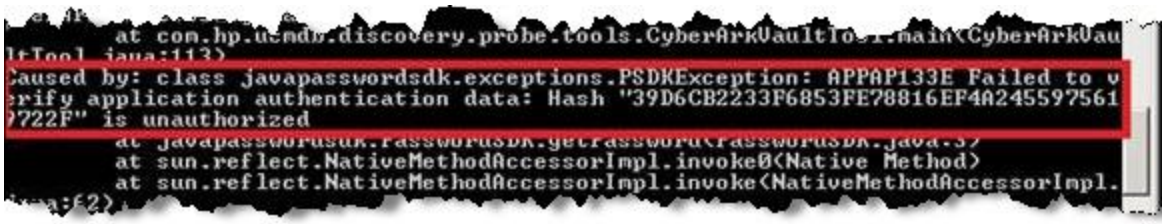
   ```
   java -Xms500m -Xmx1200m -jar JavaAIMGetAppInfo.jar GetHash
   /AppExecutablesPattern="C:\hp\UCMDB\DataFlowProbe\lib"
   /OnlyExecutablesWithAIMAnnotation=yes /LogFileDirectory="c:\temp"
   ```

   Note that the above command is an example, which might need to be updated according to your environment, the installation location of the UCMDB Server, and so on.

2. Add the newly generated hash value to the application authentication.

Troubleshooting

PROBLEM: When running discovery jobs or checking credentials, the following error occurs: "Failed to verify application authentication data: Hash XXX is unauthorized." This is caused by inconsistent hash values between UCMDB and CyberArk Server.



Workaround: Check if the hash value is the same as the one you configured on the CyberArk server. If different, regenerate the hash value and then fill the new hash value in the CyberArk server.

How to Increase the Java Heap Memory Used by the UCMDB UI Java Applet

This can be done using one of the following two methods:

- Editing the JSP File
- Editing the Control Panel Java Settings

Editing the JSP File

This change affects all applets launched from the Internet browsers on all different computers from where the UCMDB UI is accessed.

To perform the change on the UCMDB server computer, do the following:

1. Stop the UCMDB Server.
2. Increase UCMDB server's memory.
   a. Open the **<UCMDB_Server_Home>\bin\wrapper-platform.conf** file.
   b. Change the values for **wrapper.java.initmemory** and **wrapper.java.maxmemory** to 4GB or greater as follows:

```
wrapper.java.initmemory=4096
wrapper.java.maxmemory=4096
```

   c. Save the file.
3. Increase UCMDB Applet's memory.
   a. Open the **<UCMDB_Server_Home>\deploy\ucmdb-ui\applet\applet.jsp** file.
   b. Change the **java_arguments** parameter value to specify the amount of memory in megabytes, for example, to use 1280 MB, change it as follows:

```
<param name="java_arguments" value="-Xmx1280m -Xms1280m">
```

   c. Delete all files in the following folders:

UCMDB 10.22 or earlier:

- **<UCMDB_Server_Home>\runtime\jetty-cache**
- **<UCMDB_Server_Home>\runtime\jsp**

UCMDB 10.30 or later:

- **<UCMDB_Server_Home>\runtime\jetty-cache**

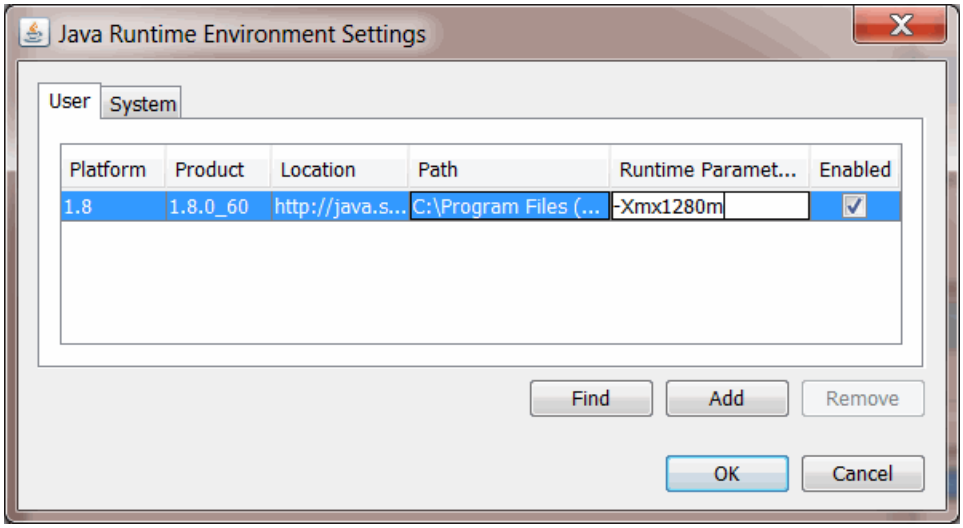
4. Start the UCMDB Server.

Editing the Control Panel Java Settings

This change only takes effect on the computer on which the Internet browser that is used to access the UCMDB UI is run.

To perform the change on the computer which is used for accessing the UCMDB UI, do the following:

1. From the **Start** menu, search **Java**.
2. Click **Configure Java**.
3. In the Java Control Panel, go to the **Java** tab, and click **View**.
4. In the Java Runtime Environment Settings dialog, double-click the value field for the **Runtime Parameters** column, and enter the amount of memory in megabytes in the `-Xmx` command line switch, for example, **`-Xmx1280m`**.



5. Click **OK**.

6. Click **Apply** and then click **OK**.
7. Close all open Internet browser windows and restart the UCMDB UI.

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 (HPE Universal CMDB 10.22 Cumulative Update Package 2 (CUP2))

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!