

HP Closed Loop Incident Process (CLIP) Solution

For the Windows operating system

Software Version: 9.10

Troubleshooting Guide

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Welcome to This Guide

Welcome to the HP Closed Loop Incident Process (CLIP) Troubleshooting Guide. This guide provides information for troubleshooting the CLIP Solution v9.10.

This chapter includes:

- How This Guide is Organized
- Who Should Read This Guide
- Additional Online Resources

Note: If you have any feedback or comments, please contact solutionpackagingandscp@hp.com.

How This Guide is Organized

This guide contains the following chapters:

Chapter 1 Purpose of This Document

Provides an overview of what this guide covers.

Chapter 2 Troubleshooting Integrations Between HP BSM and HP SM

Provides troubleshooting solutions for the HP Business Service Management and HP Service Manager Incident Exchange integration (ID#337), and HP Service Manager and HP Business Service Management Invoking BSM Business Impact Report integration (ID#381).

Chapter 3 Troubleshooting Integration Between HP UCMDB and HP BSM

Provides troubleshooting solutions for the Synchronization of CIs Between HP Universal CMDB and HP Business Service Management Platform (BAC) integration (ID#328).

Chapter 4 Troubleshooting Integration Between HP UCMDB and HP SM

Provides troubleshooting solutions for the CI Sync and Actual State Federation from HP Universal CMDB to HP Service Manager integration (ID#101).

Chapter 5 Troubleshooting Integration Between HP BSM and HP OO

Provides troubleshooting solutions for the Event to Remediation integration between HP Business Service Management and HP Operations Orchestration (ID#365).

Chapter 6 Troubleshooting Integration Between HP OO and HP SM

Provides troubleshooting solutions for Linking and Executing HP Operations Orchestration Flows in HP Service Manager Incident Record integration (ID#375).

Chapter 7 Troubleshooting LWSSO in CLIP

Provides various troubleshooting solutions when using Lightweight Single Sign-On in the HP Closed Loop Incident Process Solution.

Who Should Read This Guide

This guide is intended for a system implementer or system administrator responsible for upgrading the HP Closed Loop Incident Process Solution. This guide assumes that you have administrative access to all systems. The procedures in this guide may duplicate information available in your HP Business Service Management, HP Universal CMDB, and HP Service Manager documentation, but is provided here for convenience.

Additional Online Resources

Troubleshooting & Knowledge Base accesses the Troubleshooting page on the HP Software Support Web site where you can search the Self-solve knowledge base. Choose **Help > Troubleshooting & Knowledge Base**. The URL for this Web site is <http://h20230.www2.hp.com/troubleshooting.jsp>.

HP Software Support accesses the HP Software Support Web site. This site enables you to browse the Self-solve knowledge base. You can also post to and search user discussion forums, submit support requests, download patches and updated documentation, and more. Choose **Help > HP Software Support**. The URL for this Web site is www.hp.com/go/hpsupport.

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

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Chapter 1

Purpose of this Document

This document provides troubleshooting information for the HP Closed Loop Incident Process (CLIP) Solution, including basic triage information.

Triage

HP CLIP is a solution comprised of several products. First, you must determine which product or integration has failed.

Determine Where the Solution is Failing

In some cases, you can determine quickly which product has failed. If the problem source is not obvious, you can check log files or run verification tests to isolate the cause. If the source of the failure is one of the integrated products, see the HP Closed Loop Incident Process Solution Support Matrix for resource information. The CLIP Support Matrix can be found on the HP Live Network Web site located at: <https://www.www2.hp.com/>.

Check Log Files

Log files exist for most of the integrated products. This guide includes instructions on how to enable logging in for product components and integrations. This aids the troubleshooting process by providing more detailed information about the product's state and activities than reflected in the user interface.

Chapter 2

Troubleshooting Integrations Between HP BSM and HP SM

HP Product Log Files

Product	Location of Log's File
HP Business Service Management (BSM)	<BSM installation directory>\log
HP Service Manager (SM)	<SM installation directory>\Server\logs\sm.log

Data Processing Server Log Files for BSM

OPR (hpbsm_opr-backend)

- Configuration
 - HPBSM\conf\core\Tools\log4j\opr-backend\opr-backend.properties
- Logfiles
 - HPBSM\log\opr-backend\opr-backend.log
 - HPBSM\log\opr-backend\opr-flowtrace-backend.log

Mapping BSM Log Files to Issues

In the BSM GatewayServer, the **opr-event-sync-adapter.properties** file in **<BSM installation directory>\conf\core\Tools\log4j\wde** controls the log level for logging entries just before calling the groovy script and all logs for integrations that do not use the groovy script but directly call an external Web service (for example, **Remedy Link**).

wde (hpbsm_wde)

- Configuration
 - **HPBSM\conf\core\Tools\log4j\wde\opr-gateway.properties**
 - **HPBSM\conf\core\Tools\log4j\wde\opr-event-sync-adapter.properties**
 - **HPBSM\conf\core\Tools\log4j\wde\opr-common.properties**
 - **HPBSM\conf\core\Tools\log4j\wde\wde.properties**
- Logfile
 - **HPBSM\log\wde\opr-gateway.log**
 - **HPBSM\log\wde\opr-gateway-flowtrace.log**
 - **HPBSM\log\wde\opr-flowtrace-common.log**
 - **HPBSM\log\wde\opr-common.log**
 - **HPBSM\log\wde\wde.log**
 - **HPBSM\log\wde\wde.all.log**
 - **HPBSM\log\wde_boot.log**

BSM Log Files

In the BSM Gateway Server, locate the **opr-event-sync-adapter.properties** file in **<BSM installation directory>\conf\core\Tools\log4j\EJB**, and change the `loglevel` parameter value.

For example:

```
#loglevel can be any of DEBUG INFO WARN ERROR FATAL
loglevel=INFO
```

This affects the verbosity of **<BSM installation directory>\log\EJBContainer\opr-event-sync-adapter.log**, which logs entries when **Test Connection** is called in the Connected Server administration screen, or when you click the **External Info** tab in the Event Browser.

Configuration for **opr-event-sync-adapter.properties** exists in three folders:

- **HPBSM\conf\core\Tools\log4j\opr-ctxm-server**
- **HPBSM\conf\core\Tools\log4j\opr-ctxm-server**
- **HPBSM\conf\core\Tools\log4j\opr-ctxm-server**

In the BSM Gateway Server, the **opr-event-sync-adapter.properties** file in **<BSM installation directory>\conf\core\Tools\log4j\opr-ctxm-server** controls the log level for the file that logs most of the entries. This is the process that launches the groovy script and any logs that are made by the groovy script itself.

Configuration for **opr-event-sync-adapter.log** exists in three folders:

- **HPBSM\log\opr-ctxm-server**

Logs most of the entries. This is the process that launches the groovy script and any logs that are made by the groovy script itself.

- **HPBSM\log\wde**

Logs entries just before calling the groovy script and all logs for integrations that do not use the groovy script; for example, Remedy, which directly calls an external Web service.

- **HPBSM\log\EJB**

Logs entries when **Test Connection** is called in the Connected Server administration screen, or when you click the **External Info** tab in the Event Browser. Again, if a groovy script needs to be called by these actions, then the actual launching and running of the groovy script will log to the logfile in opr-ctxm-server.

SM Log Files

- **sm.log** is the General Service Manager log file, which is found in the default location **<SM installation directory>\Server\logs**.
- **sm.log's** verbosity level is controlled via **sm.ini** in **<SM installation directory>\Server\Run**.

Note: The path to the sm.log file can be changed using the parameter log in sm.ini. The default value is **.../logs/sm.log**.

When setting up the SM-OMi integration, there is an option to define the log level and log file location.

SM-OMi Integration Instance Log

- Log Name: **SMOMi-<date>.log**
- Location and debug level is set in the integration instance.

Note: The same settings apply to the SM-BIR integration instance.

ID#337 (BSM-SM) Incident Exchange

The integration between HP Business Service Management and HP Service Manager provides:

- Event forwarding to an external server

Operations Manager i (OMi) can forward an event record to Service Manager as an incident by calling a Service Manager Web Service. The incident ID is then stored in the event record.

- Incidents Exchange

After OMi opens an incident in Service Manager, Service Manager synchronizes the incident changes back to OMi.

Synchronizing Attributes

- Unidirectional update from Operations Management to HP Service Manager
 - Title
 - Severity
 - Priority
 - Operator (operator assigned to the event who forwarded the event)
 - Category
 - Subcategory
 - Related CI

- Bi-directional synchronization between Operations Management and HP Service Manager
 - Description
 - Lifecycle state (state is only updated when the state changes to closed)
 - Solution
 - Operations Management event annotations are synchronized to HP Service Manager activity log
 - Contents under the **External Info** tab in the Event Details

To change the out-of-the-box behavior regarding which attributes are updated, specify this in a Groovy script on the BSM side and BDM mapping on the SM side.

Problem: Forwarding of new events and event updates to SM system is slow or failing and/or the queue of events that are forwarded to SM for the incident's creation/update grows quickly over time

- Verify this by query of BSM's database:

```
EVENT_SYNC_BUFFER: select count *
```

Solution

The root cause for this problem is slow processing on the SM side. This can be caused by missing indices in SM's database.

Add the indices manually in SM via the Windows' client.

- The **collectionname** and **action** indices should be created manually in the **KMKNOWLEDGE1M1** table.

For more information, see [Software Support Online Troubleshooting](#).

Problem: Forwarded BSM events not opened in SM as incidents

Solution

Verify HP Service Manager server is up and running, and HP Business Service Management can connect to it:

- Navigate to **Admin > Operations Management > Connected Servers** and edit the SM entry.
 - On the **Outgoing Connection** tab, there is a **Test Connection** link.
- Verify that when setting up Connected Servers in BSM, the SM user credentials that were provided have all the required permissions to open incidents and access web services.
- Check **opr-event-sync-adapter.log** on the BSM side for errors.
- Check **C:\SMOMi-<date>.log** on the SM server side for errors.

Problem: When updating/closing incident that was opened from event, *Error 401* is displayed in SM user interface

Note: In most cases, this hints that SM used the "wrong" credentials to update the event in BSM.

Solution

- Verify that the BSM user credentials in the SM Integration are set up correctly.
- Cross-check in the BSM Connected Servers configuration.

Problem: In Event details, *View OMi Event* is not available when reviewing incident in SM

Solution

Verify that:

- Incident was actually opened by forwarding the event from OMi (and not submitting manually).
- CI sync infrastructure is in place, and both the BSM event and SM incident are linked to the same CI (they must have the same Global ID).

Problem: After some customization of BDM mapping, incident cannot be created

Editing the JavaScript code of BDM mapping in SM using SM Web Client corrupts the script and it fails to execute.

SM returns **DAO error code=Validation failed** in the logs.

Solution





- Make sure to use SM Eclipse Client to edit the JavaScript calls in mapping.
- When it is already corrupted, the only work-around is to export the definition from another working system.

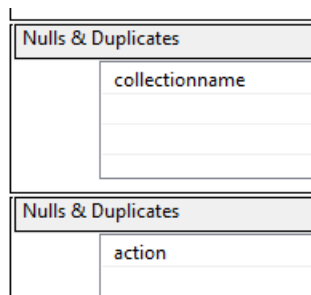
Problem: Due to missing indices in the database, queue of events forwarded to SM for incident's creation/update grows quickly over time

Tip: Only execute this procedure one time.

Solution

Work-around for this problem :

1. Log in to SM with the **Windows** client.
2. From the System Navigator, click **Tailoring > Database Dictionary**.
3. Enter **kmknowledgebaseupdates** and click **Search** .
4. Select the **Keys** tab. Click **Unique**, then **New Field/Key** . The key.window dialog box is displayed.
5. In the key.window dialog box, select **nulls & duplicates** from the drop-down list and enter **collectionname** in the text field. Click **Add** .
6. Repeat steps 4 and 5. This time enter **action** in the text field and click **Add** . Close this pane.
7. Repeat steps 2 and 3, and select the **Keys** tab. Verify the **collectionname** and **action** records are displayed in the **Nulls & Duplicates** operations.



8. Click **OK** to save your changes. The **collectionname** and **action** indices are set.

ID#381 (SM-BSM) Invoking BSM Business Impact Report

The Business Impact Report displays information about how a CI impacts the Business Services and Service Level Agreements (SLA) it belongs to. Data about the affected Business Service, Application, and Business Process CIs includes KPI data, over-time data, and SLA data.

The Business Impact Report can be launched via:

- SM Incident
- BSM Operation Management console

The integration is implemented by a simple URL launch—and relies on LWSSO and synchronization of CIs between BSM and SM.

To use the Service Manager to BIR integration, you must add and enable an instance of this integration in Integration Manager. Only one instance of this integration is allowed. If an instance of this integration already exists in Integration Manager, the SMBIR template is unavailable. You have to delete the existing integration instance before you can add a new one.

Setup Guidelines in SM

Only **Name** and **Version** are required fields. This integration does not use the **Interval Time(s)** and **Max Retry** Time fields as it is user interface based.

If there are no Business CIs attached to the CI, the report is not generated.

Problem: When trying to generate report from SM, BSM user interface is opened, but an error message appears on screen

Solution

Verify that the CI Sync infrastructure is in place, and the affected item field in the incident is filled with a legitimate CI that exists on the BSM side.

Problem: When launching Business Impact Report from SM incident, login page of BSM appears

Solution

- Eliminate LWSSO issues by verifying OMi-SM (Incident Exchange) integration is working properly. When viewing OMi event details from an incident, the data should be displayed without requesting login.
- If it is related to LWSSO, verify that the LWSSO settings are consistent in all the products—init String, encryption method, domain settings, and so on.

Chapter 3

Troubleshooting Integration Between HP UCMDB and HP BSM

HP Product Log Files

Product	Location of Log's File
HP Universal CMDB (UCMDB)	<UCMDBServer installation directory>\runtime\log\fcmdb.log
HP Business Service Management (BSM)	<BSM installation directory>\log

Log Files – RTSM/UCMDB Server Logs

The server logs are located in:

Product	Location of Server Logs
HP Universal CMDB	<UCMDB installation directory>\runtime\log
RTSM (BSM DPS server):	<BSM installation directory>\log\odb

File names:

- **error.log**: aggregates all errors (server side)
- **cmdb.reconciliation.log** (for population jobs): aggregates all data-in errors caused during the population
- **cmdb.reconciliation.audit.log**: easy-to-use summary of the full reconciliation log

Log Levels:

- **info**: shows only failed bulks
- **debug**: shows both failed and succeeded bulks

Note: CIs sync sends data in bulk. By default, each bulk contains 3000 CIs.

Log Files – DFM Probe Logs

When the probe is starting, it downloads the adapter.

When the job is running, the adapter "collects" the CIs from the remote machine according to the relevant Topology Query Language (TQL).

DFM Probe log files are located in:

- **<DFM Probe installation directory>\runtime\log**

Log file names:

- **wrapperProbeGw.log**: the **general** probe log, probe execution statuses
- **Fcmdb.adapters.log**: CIs that come from the adapter (probe ↔ remote server)
- **population.log**: easy to use SummaryCIs that come from the adapter (probe ↔ remote server)

Setting log level:

- **<DFM Probe installation directory>\conf\fcmdb.properties**

Log levels:

- **info** is a level for detecting the number of populated CIs and filtered CI messages
- **debug** shows this information for each CI (the ID, attributes, and so on)

ID#328 UCMDB-BSM Platform (BAC) Synchronization

Terminology

- **RTSM:** Run Time Service Model, formerly known as ODB (BSM9) and Internal CMDDB (BAC8)
- **CMS:** Configuration Management System that consists of Central UCMDB, additional UCMDB instances (or RTSMs), and external data repositories for federation

BSM-UCMDB CI Sync

BSM-UCMDB CI Sync synchronizes the CI and relationships between UCMDB and BSM. UCMDB is the Global ID generator. CIs across all three systems—UCMDB, SM and BSM—are identical and have the same Global ID.

A global ID is a unique CI ID that identifies that CI across the entire solution. Global ID synchronization can be performed in two ways:

- Synchronization of data using the population flow in both directions between two ODB instances
- Reconciliation of CIs with the data in the CMS

Two types of queries are supported for CMS-ODB synchronization:

- Live queries: all non-federated TQL queries
- Federated queries: queries that contain at least one federated node or attribute

During synchronization, data needed for the reconciliation process of the CIs brought by the population flow is automatically retrieved.

The required reconciliation data is determined by the reconciliation rules that have been defined for the CITs of the TQL query.

Problem: While trying to add queries to an integration job, CMS Sync folder includes only ODBtoCMS Sync, and other queries are missing

Solution

- Deploy the **CMS_to_RTSM_Sync.zip** package on the remote server.

If you are currently in the BSM user interface , then the remote server is **UCMDB**.

Problem: When modifying the integration, the custom TQL does not appear in the Add Query window (Job definition via Integration Studio)

Solution

Verify that the TQL type is **Integration**.

Problem: Global ID is not generated (UCMDB-ID is not identical in all products)

This problem may cause duplicate CIs in SM after CI sync.

Solution

- Verify that UCMDB is set as the Global ID generator via JMX:
UCMDB:service=Multiple CMDB Instances Services
- Verify that all other CMDBs/BSM are set as NonGlobalIDGenerator.

Problem: When running CI sync, the jobs get stuck in the *Waiting for probe* status

Solution

- Verify that the probe is up.
- Click **Test Connection** to verify the probe status. It must be up and running for the sync to work.

Problem: CIs are not populated into the RTSM

Sync returns "0" CIs in the **Statistics** tab.

Solution

There are no (0) results. This is not a problem.

Possible causes for no (0) results:

- Sync returns no results due to an empty TQL (on the source side).
- CIs have already been filtered by the probe since they have already been populated.
- Changes may take a few minutes to be detected by the live mechanism.

Wait a few minutes for changes to be populated by your next population job.

Problem: CIs removed in the source (remote) side not removed in the target (local) side

Solution

Confirm the **Allow Delete** check box in the population job properties is selected.

Problem: TQL with Compound Relations fails

When creating a TQL that involves a compound relation which includes a TQL in the CI sync, the sync fails.

For example:

```
WrapperProbeGw.log
population.log

[ERROR] [JobExecuterWorker-16:DS_BSM2CMS_pop]
(PopulationDirectTaskResultsDistributer.java:52) - Failed sending direct
population Task Result for job: DS_BSM2CMS_pop to server, population
will terminate

[ERROR] [JobExecuterWorker-16:DS_BSM2CMS_pop]
(AdapterService.java:182) - Failed running Datastore: BSM2CMS

jvm 1 | com.mercury.topaz.cmdb.shared.base.CmdbException:
[ErrorCode [-2147483648] undefined error code]

jvm 1 | Failed Inserting data to CMDB
```

Solution

Select **show full path** in the Compound Relationship settings.

Problem: Population between two machines with a large difference between their class model fails

Population fails with error.

WrapperProbeGw.log shows:

```
Properties condition exceeded maximum variables allowed...
```

Solution

1. Go to the Source machine JMX console:
Settings Services > setSettingValue
2. Change the value of the setting of **tql.validation.max.vars.propertiescondition** to a higher value (normally 150 will suffice).
3. Restart the source server.

Problem: Sync might fail when population CIs are marked as a candidate for deletion

Sync fails with the error:

```
“java.lang.NullPointerException at  
com.hp.ucmdb.reconciliation.datain.operation.  
AbstractDataInUpdateOperation.isUpdateCmdbType...”
```

Solution

Work-around for this problem:

On the synced TQL, in the **Is Candidate for Deletion** attribute condition, add the values: Operator: **Not Equal**, value: **True**.

Problem: Sync Failed – Fatal Error

Log shows missing reconciliation data:

```
2011-12-19 14:32:24,314 ERROR - !!!FAILED!!![Operation #688956136  
Name=DataInAddDataStrict]  
  
com.hp.ucmdb.reconciliation.datain.operation.DataInOperationException:  
[ErrorCode [63001] Reconciliation DataIn - not enough reconciliation  
data.{(mac_address on "interface") or (authoritative_dns_name on "ip_  
address") or (name) or (snmp_sys_name) or (net_bios_name) or (name
```

```
and routing_domain on "ip_address") or (bios_serial_number) or (bios_
uuid) or (serial_number) or (bios_asset_tag))}]
```

```
Error while trying to [addStrict] on level [1]! Object
[$TempObject00000000_ucmdb-azvolsky8824______] was not identified
```

Solution

Eliminate the specific CI that does not have enough reconciliation data.

Problem: When creating CI sync integration between CMS and RTSM, and trying to add queries to an integration job, the list under CMS sync includes only ODBtoCMSSync, and other queries are missing

Solution

- Deploy the **CMS_to_RTSM_Sync.zip** package on the remote server.
- If you are currently in the BSM user interface, then the remote server is UCMDB and vice versa.

For more information, see the [HP Business Service Management RTSM Best Practices Guide](#).

Chapter 4

Troubleshooting Integration Between HP UCMDB and HP SM

HP Product Log Files

Product	Location of Log's File
HP Universal CMDB (UCMDB)	<UCMDBServer installation directory>\runtime\log\fcmdb.log
HP Service Manager (SM)	<SM installation directory>\Server\logs\sm.log

UCMDB Server

For more details about a problem or error, change the log level to **DEBUG/INFO** under <UCMDBServer installation directory>\conf\log\fcmdb.properties and set the loglevel parameter to **DEBUG**.

SM Server

sm.log is the General Service Manager log file.

In addition, we can add this line to **sm.ini/sm.cfg debughttp:1**.

This parameter causes the HP Service Manager server to write HTTP SOAP requests and responses to the following log files.

- **logs\sm.log**
- **RUN\HTTP.log**

Caution: This has a heavy impact on performance – use only when troubleshooting!

ID#101 (UCMDB to SM) CI Sync and Actual State Federation

- Enables you to share information about the actual state of a configuration item between your UCMDB system and a Service Manager system
- Supports ITIL processes by verifying that CIs actually have the attribute values the organization has agreed to support
- Verifies that all CIs are uniquely identifiable by one key attribute (Global ID) generated by UCMDB

Problem: Forwarded BSM events not opening in SM as incidents

Solution

Verify the SM server is up and running, and BSM can connect to it.

- Navigate to **Admin > Operations Management > Connected Servers** and edit the SM entry.
 - On the **Outgoing Connection** tab, check the connection using the **Test Connection** link.
- Verify that when setting up **Connected Servers** in BSM, the SM user credentials that were provided have all the required permissions to open incidents and access web services.
- Check **opr-event-sync-adapter.log** on the BSM side for errors.
- Check **C:\SMOMi-<date>.log** on the SM server side for errors.

Problem: Incidents created, but *Incident Update* does not update the event. *Error 401* displayed in UI.

Solution

The most common cause for this problem is incorrect BSM user credentials that the SM Integration tries to use to update the event.

To verify that the correct user name and password are used:

1. In BSM, navigate to **http://abc.com** and try the credentials that were provided when setting up the SM integration in BSM (**Incoming Connection** tab).
2. In SM, disable the SMOMi integration instance and verify that credentials from step 1 are entered in the **Integration Instance** properties.

Problem: Event details *View OMi Event* not available when reviewing incident in SM

Solution

Verify that:

- Incident was opened by forwarding the event from OMi.
- CI sync infrastructure is in place, and both the BSM event and SM incident are linked to the same CI (they must have same Global ID).

Problem: Verify CI sync infrastructure is set up and working

Solution

1. In BSM, navigate to the **Administration > RTSM Administration > IT Universe** module, locate the CI of type **Windows**, and note its **Global ID** property value.
2. In SM, navigate to **Configuration Management > Resource Management > Search CIs**, and search for CIs of type **Computer**. Modify the displayed columns (**More** button, **Modify** column) to display the UCMDB ID field, and compare this ID with the CI from step 1.

Problem: Push job fails due to *no such element* exception error

For more information, see **error.log**.

Solution

There is a missing **root** node.

Push (sync) TQL must contain one and only one CI type labeled **Root**, which must be the top node of the TQL. The Root node is the main CI that the UCMDB synchronizes. All other CIs are contained CIs of the Root CI.

Problem: One or more CI attributes is not synchronized from UCMDB to SM

Solution

- All attributes of selected CIT to be synchronized to SM must be selected in advanced **Layout Settings**. If they do not, no attribute sync is performed. This may also fail the sync job.
- All replicated attributes must have the Change Monitored qualifier set. This

can be set from the CI Type Manager. If they do not, no attribute sync is performed. This may also fail the sync job.

Problem: Push fails due to: “ERROR - sm >> Push objects failedcom.hp.ucmdb.federationspi.exception.DataAccessGeneralException: No mapping is found for TQL: <TQL Name>

Solution

The TQL does not comply with the SM adapters mapping files.

To verify the configuration:

1. Open **UCMDB**.
2. Browse to **adapter manager > SM Adapter**.
3. Check the configuration.

Note: For Help, refer to the UCMDB-SM Best Practice Library.

To access the UCMDB-SM Best Practice Library:

1. Access <https://hpln.hp.com/>. The HP Live Network login page is displayed.
2. Click the **Solutions** tab.
3. Click **Configuration Management**.
4. In the Configuration Management pane, click the **OTHER FILES** link. Either the HP Passport sign-in page appears or, if you are already signed in to HP Passport, the HP Live Network site opens.
5. Complete the requested details and click **Sign-In** to access the HP Live Network. *(If you do not have an HP Passport, click the **New Users - please register** link to register, and follow the instructions given.)*

6. Click **CMS best practices library** (the latest revision) to download the zip file.
7. Extract the contents of the zip file to a suitable location.

**Problem: Push fails due to:
"com.mercury.topaz.cmdb.shared.
fcmdb.dataAccess.exception.
AdapterAccessGeneralException:
[ErrorCode [802] General Integration
Error{HiddenChangesDataSource}]
Integration[HiddenChangesDataSource]:
Federated Patterns are not supported"**

Note: UCMDB-SM federation contains only RFC, Problem, and Incident (all are checked OOTB).

Solution

Another integration is using federated CIT to influence the Push.

For example: **Interface** is a federated CIT in another integration point in the UCMDB's integration studio.

To resolve this, either:

- Temporarily disable the offending integration
- Permanently modify the offending integration
- Permanently modify the UCMDB-SM integration by removing the problematic CIT from sync TQL

Problem: After creating new CI, the Data push was failed

**java.lang.IllegalArgumentException:
*Failed decoding/encoding bytes[]
attribute [calculated_id]***

Solution

Push job is configured to use the **Changes** adapter (instead of **RMI**).

Modify the job to use the correct adapter, and re-run the sync.

Chapter 5

Troubleshooting Integration Between HP OO and HP BSM

HP Product Log Files

Product	Location of Log's File
HP Operations Orchestration (OO)	<OO installation directory>\Central\logs\Central_ wrapper.log
HP Business Service Management (BSM)	<BSM installation directory>\log

OO Log Files

Operations Orchestration side

The log file on the OO side can be found in **<OO installation directory>\Central\logs\Central_wrapper.log**.

Central_wrapper.log:

- Default location **<OO Central installation directory>/logs** folder
- Log level and size can be set in **<OO Central installation directory>/conf/wrapper.conf** file.
- Additional logging properties can be set from log4j.properties:
 - **log4j.logger.com.hp.sw.bto.ast.security=DEBUG**
 - **log4j.logger.com.iconclude.dharma.services.execution.HeadlessServiceBase=DEBUG,iconclude,headless**

BSM Log Files

Business Service Management side

Conf:

- **conf\core\Tools\log4j\EJB\OOIntegration.properties**

LogFile:

- **\HPBSM\log\EJBContainer\oo_integration.log**

Limitation:

The **oo_integration.log** is not created under the **hpbsm_opr**-backed process (relevant for automatic invocation only).

To generate the log, copy the **OOIntegration.properties** file to the **conf\core\Tools\log4j\opr-backend** folder. The log will be created in a couple of minutes.

HP Product Log Files

For Operations Orchestration

Central_wrapper.log:

- Default location **<OO Central installation directory>/logs** folder
- Log level and size can be set in **<OO Central installation directory>/conf/wrapper.conf** file.
- Additional logging properties can be set from **log4j.properties**:
 - **log4j.logger.com.hp.sw.bto.ast.security=DEBUG**
 - **log4j.logger.com.iconclude.dharma.services.execution.HeadlessServiceBase=DEBUG,iconclude,headless**

For Business Service Management

Conf:

- `conf\core\Tools\log4j\EJB\OOIntegration.properties`

LogFile:

- `\HPBSM\log\EJBContainer\oo_integration.log`

Limitation:

- The `oo_integration.log` is not created under `hpbsm_opr`-backed process (relevant for automatic invocation only).
- To generate the log copy the `OOIntegration.properties` file to the `conf\core\Tools\log4j\opr-backend` folder. The log will be created in a couple of minutes

ID#365 (BSM-OO) Event to Remediation

BSM uses OO's capabilities for building investigation tools or service remediation scripts, providing the operators with a simple way to validate a problem, investigate a problem, and automatically correct a problem.

An OO flow can be executed manually.

OO flows can be launched from:

- Event Browser applications (Event Console)
- Service Health

Caution: `mercury_start.bat` should never be edited!!

Predefined Mappings

The integration of BSM and OO provides the capability of mapping CI types to OO flows.

BSM provides a number of predefined mappings between CI types and OO flows.

Admin > Integrations > Operation Orchestration

Problem: Error when navigating to Admin > Integrations > Operations Orchestration

Log File shows an error message related to certificate “unable to find valid certification path to requested target...”.

Solution

Verify that the certificates in BSM and in OO are compatible by using the keytool command.

- In BSM (under **JRE64\lib\security directory**):
Keytool -list -keystore cacerts (password: changeit)
- In OO (under **<OO installation directory>\Central\conf**):
Keytool -list -keystore rc_keystore(password: bran507025)

Example (OO Certificates)

```
keytool -list -keystore rc_keystore
```

```
Enter keystore password:
```

```
Keystore type: JKS
```

```
Keystore provider: SUN
```

```
Your keystore contains 4 entries
```

```
rootca, Nov 7, 2011, trustedCertEntry,  
Certificate fingerprint (MD5):  
8A:25:8F:BA:6A:E5:C5:D6:7F:4F:C2:A9:F1:24:26:CE
```

```
pas, May 22, 2007, PrivateKeyEntry,  
Certificate fingerprint (MD5):  
DF:DD:22:1B:A2:1E:A9:9C:1C:AF:8F:E0:14:1F:B5:E0
```

```
ras, May 22, 2007, trustedCertEntry,  
Certificate fingerprint (MD5):  
93:17:58:A3:15:55:49:6A:3F:75:3D:EF:40:02:B2:4C
```

```
sm, Nov 7, 2011, PrivateKeyEntry,  
Certificate fingerprint (MD5):  
80:C5:83:89:9F:EF:A8:3F:E3:F2:CB:C2:42:B0:1F:F5
```

Example (BSM Certificates)

```
C:\HPBSM\JRE64\lib\security>keytool -list -keystore  
cacerts Enter keystore password:
```

```
Keystore type: JKS  
Keystore provider: SUN
```

```
Your keystore contains 78 entries
```

```
geotrustprimaryca, Nov 24, 2009, trustedCertEntry,  
Certificate fingerprint (MD5):  
02:26:C3:01:5E:08:30:37:43:A9:D0:7D:CF:37:E6:BF
```

```
oo_ca, Dec 6, 2011, trustedCertEntry,  
Certificate fingerprint (MD5):  
8A:25:8F:BA:6A:E5:C5:D6:7F:4F:C2:A9:F1:24:26:CE
```

Problem: Cannot execute flows with admin/admin user in BSM due to collision with built-in OO administrative user

Log shows:

```
“ERROR - Failed getting flow details for all flow IDs at once starting to  
retrieve flow details per flow ID
```

```
...
```

```
faultString: User not allowed to run headless flows.Cannot perform action,  
reason: user admin is missing the following capabilities: HEADLESS_  
FLOWS.”
```

Solution

1. Under the **Manage Users** menu, in the OO Administration page, create another user for BSM and OO.
2. Set it as external and enable **HEADLESS_FLOWS** permissions.
3. Add the new user to the **ADMINISTRATOR** group.

Note: This can happen with any BSM user that is not defined as external in OO.

Problem: Cannot see *Launch > Run Books* menu when right-clicking an event

Solution

Verify that:

- event has relevant related CI
- an OO flow is mapped to the correct CI type

Problem: When launching Run Book, OO login page appears

Solution

Check your browser settings to make sure third party cookies are accepted and session cookies are allowed. If pop-up blocker is enabled, you may need to allow pop-up from this site.

Problem: From BSM, Admin > Integrations > OO fails to load with error *Remote connection error*

Error in logs:

```
INFO |jvm 1 | 2012/02/22 15:03:11 | Caused by:  
com.hp.sw.bto.ast.security.lwcrypto.LWCryptoException: Unable to  
finalize decryption for the following 128 bytes:
```

Solution

Be sure that initString from BSM was not copied to OO lwssofmconf.xml.

Problem: From BSM, Admin > Integrations > OO fails to load with error *Remote connection error*

Error in logs:

```
ERROR [2096109425@qtp0-465] (15:03:11,941)  
com.iconclude.dharma.services.wscentralservice.WSCentralService -  
Must provide user name/password, LWSSO token, or SSO kerberos  
token for authentication.
```

Solution

Review manual changes in files.

Problem: Cannot launch OO flows from external client coming from outside of the corporate network

Solution

1. Create virtual name and listener for OO on the load balancer.
2. Make sure you can access OO from the external client using the virtual name.
3. Change integration settings to use this name instead of the actual OO server name.

Chapter 6

Troubleshooting Integration Between HP OO and HP SM

HP Product Log Files

Product	Location of Log's File
HP Operations Orchestration (OO)	<OO installation directory>\Central\logs\Central_wrapper.log
HP Service Manager (SM)	<SM installation directory>\Server\logs\sm.log

Integration Troubleshooting – Logs

Service Manager side

General SM server log:

- Default location **<SM Server installation directory>/RUN** folder
- Log level and location can be set in **sm.ini**.

SM-OO integration instance log:

- Log level and location set up in Integration Manager (**Tailoring > Integration Manager**)

Operations Orchestration side

The log file on the OO side can be found in **<OO installation directory>\Central\logs\Central_wrapper.log**.

Central_wrapper.log:

- Default location **<OO Central installation directory>/logs** folder
- Log level and size can be set in **<OO Central installation directory>/conf/wrapper.conf** file.

- Additional logging properties can be set from log4j.properties:
 - `log4j.logger.com.hp.sw.bto.ast.security=DEBUG`
 - `log4j.logger.com.iconclude.dharma.services.execution.HeadlessServiceBase=DEBUG,iconclude,headless`

SM – OO Integration Instance Log

When setting up the SM-OO integration, there is an option to define the log level and log file location in the SM server.

ID#375 (SM-OO) Linking and Executing OO flows in SM Incident Record Through a KM Article

The integration allows the Service Desk agent to launch OO flows that are associated with a specific Knowledge Management article. The Knowledge Management article is reviewed when searching for an incident solution.

Main Use Cases

- SM user analyzes an incident, and searches the knowledge base for possible solutions.
- The suggested solution can have an automated scenario (OO flow) linked to it that either helps troubleshoot the issue or resolves it in a consistent manner.
- This flow can use affected CI values (for example, computer name) as input parameters for flow execution.

Problem: Certain flows fail to execute

Specific OO flows fail to execute, while other flows continue to work.

Solution

In OO Studio, verify that the OO flow is fully non-interactive; that is, it does not prompt for user input mid-run.

Since the execution of OO flows is done via headless flow invocation, the prompt for user input during the execution causes the flow to fail. It is OK to provide parameters, but they should be passed when calling the flow, and cannot be provided mid-run.

Problem: Cannot attach OO flow to Knowledge Management document. *RAD Error 12* is given.

Solution

Update the wizard definition.

1. Navigate to **Tailoring > Wizards**.
2. Search for **SMOO-Execute OO Flow(1)**.
3. Add the line **\$fileID=number in \$kmmapsource** under **Actions > Expressions**.

Note: SM 9.30 Application Patch 1 also addresses this problem.

Problem: SSL connection fails

Cannot execute OO flows. **PKIX path building failed** error message is displayed.

Solution

Validate that SSL certificates in SM and OO match.

1. Using a Java keytool utility, list the contents of trust stores in SM and OO, as shown in the examples that follow:

```
C:\Program Files\Hewlett-Packard\Operations Orchestration\jre1.6\bin>keytool.exe
-list -keystore "C:\Program Files\Hewlett-Packard\Operations Orchestration\Cent
ral\conf\rc_keystore"
Enter keystore password:
Keystore type: JKS
Keystore provider: SUN

Your keystore contains 4 entries

rootca, Jan 5, 2012, trustedCertEntry,
Certificate fingerprint (MD5): 14:A4:E5:DF:6D:C2:E6:D0:F8:01:C9:BC:F5:DD:0B:BD
pas, May 21, 2007, PrivateKeyEntry,
Certificate fingerprint (MD5): DF:DD:22:1B:A2:1E:A9:9C:1C:AF:8F:E0:14:1F:B5:E0
ras, May 21, 2007, trustedCertEntry,
Certificate fingerprint (MD5): 93:17:58:A3:15:55:49:6A:3F:75:3D:EF:40:02:B2:4C
sm, Jan 5, 2012, PrivateKeyEntry,
Certificate fingerprint (MD5): FE:02:7D:60:92:65:6B:96:3E:B0:B5:A4:48:99:2F:1F
C:\Program Files\Hewlett-Packard\Operations Orchestration\jre1.6\bin>
```

Truststore contents in OO

```
C:\HP\Service Manager 9.30\Server\RUN>..\_jvm\bin\keytool.exe -list -keystore sm
trust -storepass bran507025
Keystore type: jks
Keystore provider: SUN

Your keystore contains 2 entries

rootca, Jan 5, 2012, trustedCertEntry,
Certificate fingerprint (MD5): 14:A4:E5:DF:6D:C2:E6:D0:F8:01:C9:BC:F5:DD:0B:BD
sm, Jan 5, 2012, trustedCertEntry,
Certificate fingerprint (MD5): FE:02:7D:60:92:65:6B:96:3E:B0:B5:A4:48:99:2F:1F
C:\HP\Service Manager 9.30\Server\RUN>
```

Truststore contents in SM

2. Resolve the inconsistency by generating and importing the certificates into the trust stores.

SSL Settings Validation

- In SM, usually the trust store file is located under **<SM installation directory>/RUN**. Its name and password are written in **sm.ini**.
- In OO, the trust store file is located in **<OO Central installation directory>/conf folder**. The default name is **rc_keystore** and default password is **bran507025**.

Problem with LWSSO

The user still needs to enter a user name and password after LWSSO is configured.

Solution

There are three possible reasons for this problem :

- The same user name does not exist in both Service Manager and Operations Orchestration. The password of this user can be different in these two servers.
- The OO user is not an external user.
- The init strings in the SM and OO configuration files are not the same.

Problem: No OO flow in SM

After starting the SMOO integration instance, there is no OO flow synchronized to SM.

Solution

Check the log file of SMOO.

For the integration log, go to the Log File Directory you defined in the Integration Manager. If you specify a directory that does not exist, the log files will get lost.

In the **SMOO-<Date>.log**, there is an **Error calling method: doSoapRequest in class:com/hp/ov/sm/server/utility/SoapClient Exception (com.sun.xml.messaging.saaj.SOAPExceptionImpl: java.security.PrivilegedActionException: com.sun.xml.messaging.saaj.SOAPExceptionImpl: Message send failed)** error.

This issue might be caused by an incorrect SSL configuration. Double-check your configuration.

Problem: Flows with input parameters fail when prompting for user input

Solution

When authoring flows for execution from SM, this situation can be prevented by providing input parameters for the complete flow level.

Chapter 7

Troubleshooting LWSSO in CLIP

Lightweight Single Sign-On is a framework that enables passing logged-in user context between two or more HP products.

Several use cases can be supported depending on specific needs:

- UI launch
- Web Service call
- External IdM

LWSSO Troubleshooting – Logs in SM

General SM server log:

- Default location **<SM Server installation directory>/RUN** folder
- Log level and location can be set in sm.ini.

SM-OMi/SM-OO/SM-BIR Integration instance logs:

- Log level and location set up in Integration Manager (**Tailoring > Integration Manager**)

LWSSO Troubleshooting – Logs in BSM

Generic BSM log:

- Default location **<BSM installation directory>/log** folder

LWSSO Troubleshooting – Logs in OO

Central_wrapper.log:

- Default location **<OO Central installation directory>/logs** folder
- Log level and size can be set in **<OO Central installation directory>/conf/wrapper.conf** file.
- Additional logging properties can be set from log4j.properties:
 - **log4j.logger.com.hp.sw.bto.ast.security=DEBUG**
 - **log4j.logger.com.iconclude.dharma.services.execution.HeadlessServiceBase=DEBUG,iconclude,headless**

LWSSO Configuration – BSM

This configuration is done in the user interface using the **Authentication** wizard.

LWSSO Configuration – Service Manager Server

This configuration is done in the file system.

- **<SM installation directory>\RUN\lwssofmconf.xml**

LWSSO Configuration – Service Manager Web Tier

This configuration is done in the file system.

- **<Apache Tomcat installation directory>\webapps\webtier-9.30\WEB-INF\classes\lwssofmconf.xml**

There are additional files that contain LWSSO-related settings in SM WebTier:

- **<Apache Tomcat installation directory>\webapps\webtier-9.30\WEB-INF\classes\application-context.xml**

Here LWSSO is added to a list of filters and a section is uncommented.

- **<Apache Tomcat installation directory>\webapps\webtier-9.30\WEB-INF\web.xml**

Here we uncomment two LWSSO-related sections and change the **isCustomAuthenticationUsed** and **querySecurity** values to **false**.

LWSSO Configuration – Operations Orchestration

This configuration is done in the file system.

- **<OO installation directory>\Central\conf\lwssofmconf.xml**
- **<OO installation directory>\Central\WEB-INF\web.xml**

Here we uncomment two LWSSO-related sections.

- **<OO installation directory>\Central\WEB-INF\applicationContext.xml**

Uncomment single LWSSO section.

Troubleshooting – Common Scenarios in CLIP

Problem: When clicking *Open in External Application* button in BSM, the new browser window opens with SM login prompt

Note: The reverse direction usually works from SM – successfully opens BSM details without re-login.

Solution

Verify that LWSSO settings are consistent across the products: init String, encryption method, domain settings, and so on.

Note: This can happen with other products as well. The symptoms are the same. The other product presents the login screen, since it could not parse/did not accept the LWSSO cookie due to difference in security settings.