Business Service Manager
Version 6.2.0

Troubleshooting Guide

SC27-8786-03

Note

Before using this information and the product it supports, read the information in Appendix A, “Notices,” on page 123.

Edition notice

This edition applies to IBM® Tivoli Business Service Manager Version 6 Release 2.0 and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Chapter 1. About this publication

This guide contains information how to operate, maintain, and configure the product.

Audience

This publication is for administrators and system programmers who need to use, install, maintain, or configure TBSM.

Publications

This section lists publications in the TBSM library and related documents. The section also describes how to access Tivoli® publications online and how to order Tivoli publications.

TBSM library

The following documents are available in the TBSM library:

- *Installation Guide*, GI11-8054-10

  Provides information about installing the product.

- *Quick Start*, GI11-8055-04

  Provides overview information about TBSM.

- *Exploring IBM Tivoli Business Service Manager*, GI11-8056-10

  Provides an overview of the product features.

- *Administrator's Guide*, SC23-6040-10

  Provides information about managing and configuring TBSM.

- *Service Configuration Guide*, SC23-6041-10

  Provides information on how to use the features of the product console.

- *Customization Guide*, SC23-6042-10

  Provides information on how to customize select features of the product.

- *Troubleshooting Guide*, GI11-8057-10

  Provides information about resolving common problems with the product.

- *Release Notes*,

  Provides latest information about the product discovered late in the test cycle that cannot be incorporated into the other publications.

Prerequisite publications

To use the information in this publication effectively, you must have some prerequisite knowledge, which you can obtain from the publications listed here.

These publications are available on the Tivoli Netcool/OMNIbus Knowledge Center:

https://www.ibm.com/support/knowledgecenter/SSSHTQ_8.1.0/com.ibm.netcool_OMNIbus.doc_8.1.0/omnibus/wip/common/reference/omn_ref_PDFbooks.html

- IBM Tivoli Netcool/OMNIbus *User Guide*

Provides an overview of Netcool/OMNIbus components, as well as a description of the operator tasks related to event management using the desktop tools. TBSM uses Netcool/OMNIbus as its event manager.

- IBM Tivoli Netcool/OMNIBUS *Administration Guide*

  Provides information about how to perform administrative tasks using the Netcool/OMNIbus Administrator GUI, command line tools, and process control. It also contains descriptions and examples of ObjectServer SQL syntax and automations.

- IBM Tivoli Netcool/OMNIBUS *Probe and Gateway Guide*

  Provides information contains introductory and reference information about probes and gateways, including probe rules file syntax and gateway commands. For more information about specific probes and gateways, refer to the documentation available for each probe and gateway.

- IBM Tivoli Netcool/OMNIBUS *Probe for Tivoli EIF*

  Provides reference information about the optional Probe for Tivoli EIF that is included with TBSM.

Related publications

The following documents also provide useful information and are included in the TBSM Information Center.

These publications are available on the IBM Tivoli Business Service Manager Knowledge Center:

https://www.ibm.com/support/knowledgecenter/SSSPFK

- IBM Tivoli Netcool/Impact *Administration Guide*

  Provides information about installing, configuring and running Netcool/Impact and its related software components. TBSM uses Netcool/Impact policies to parse events and other data.

- IBM Tivoli Netcool/Impact *User Interface Guide*

  Provides information about using the Netcool/Impact user interface.

- IBM Tivoli Netcool/Impact *Policy Reference Guide*

  Provides reference information about the Netcool/Impact Policy Language (IPL). It contains complete information about policy language syntax, data types, operators and functions.

- IBM Tivoli Netcool/Impact *Solutions Guide*

  Provides information about implementing Netcool/Impact in your environment.

- IBM Tivoli Netcool/Impact DSA *Reference Guide*

  Provides reference information about Netcool/Impact data source adaptors (DSA).

Accessing terminology online

The IBM Terminology Web site consolidates the terminology from IBM product libraries in one convenient location. You can access the Terminology Web site at the following Web address:

http://www.ibm.com/software/globalization/terminology.

Accessing publications online

The format of the publications is PDF, HTML, or both.

IBM posts publications for this and all other Tivoli products, as they become available and whenever they are updated, to the Tivoli Knowledge Center at https://www.ibm.com/support/knowledgecenter/SSSPFK

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File → Print** window that allows Adobe Reader to print letter-sized pages on your local paper.

Ordering publications

According to e-Business strategy, IBM Publications Center no longer supports ordering publications. The publications are made available in electronic format to be viewed or downloaded free of charge.

For documentation related to TBSM, go to https://www.ibm.com/support/knowledgecenter/en/SSSPFK.

Accessibility

This guide contains information how to operate, maintain, and configure the product.

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. In this release, the TBSM console does not meet all accessibility requirements.

Tivoli technical training

For Tivoli technical training information, refer to the IBM developerWorks Website at https://www.ibm.com/developerworks.

Support information

If you have a problem with your IBM software, you want to resolve it quickly. IBM provides the following ways for you to obtain the support you need:

Online
Access the IBM Software Support site at https://www.ibm.com/support/home/.

IBM Support Assistant
The IBM Support Assistant is a free local software serviceability workbench that helps you resolve questions and problems with IBM software products. The Support Assistant provides quick access to support-related information and serviceability tools for problem determination. To install the Support Assistant software, go to https://www-01.ibm.com/software/support/isa/.

Troubleshooting Guide
For more information about resolving problems, see the problem determination information for this product.

Conventions used in this publication

This publication uses several conventions for special terms and actions, operating system-dependent commands and paths, and margin graphics.

Typeface conventions

This publication uses the following typeface conventions:

Bold

- Lowercase commands and mixed case commands that are otherwise difficult to distinguish from surrounding text
- Interface controls (check boxes, push buttons, radio buttons, spin buttons, fields, folders, icons, list boxes, items inside list boxes, multicolumn lists, containers, menu choices, menu names, tabs, property sheets), labels (such as **Tip:**, and **Operating system considerations**:)
- Keywords and parameters in text

Italic

- Citations (examples: titles of publications, diskettes, and CDs
- Words defined in text (example: a nonswitched line is called a *point-to-point line*)
- Emphasis of words and letters (words as words example: "Use the word *that* to introduce a restrictive clause."; letters as letters example: "The LUN address must start with the letter *L*.")
- New terms in text (except in a definition list): a *view* is a frame in a workspace that contains data.
- Variables and values you must provide: ... where *myname* represents....

Monospace

- Examples and code examples
- File names, programming keywords, and other elements that are difficult to distinguish from surrounding text
- Message text and prompts addressed to the user
- Text that the user must type
- Values for arguments or command options

Chapter 2. Getting started with diagnosis

This document contains information that assists you in troubleshooting problems with IBM Tivoli Business Service Manager (TBSM). For an overview of the product components and how they work together, see the *IBM Tivoli Business Service Manager: Service Configuration Guide*.

If you are having problems, clicking the TBSM product name on the **Welcome** page displays the TBSM **About** page. The **TBSM** tab provides version and support information. It also provides links to additional resources. Clicking the **Support** tab provides information that may be valuable for problem determination situations.

Finding solutions
If you have the IBM Information/Access program, you can search the RETAIN database, based on a keyword string, to find similar problems and their solutions.

Working with IBM software support
If it is necessary to call IBM Software Support, first collect the appropriate information as described in Chapter 30, “Obtaining IBM Software Support,” on page 119.

Logs for scripts, utilities and language translation

The logs generated by scripts such as RAD shell and migration scripts are not UTF-8 encoded and may contain corrupted characters.

Operating system variables and paths

On both the Data server and the Dashboard server a script is provided that allows you to set environment variables for quick access to the TBSM directory structure. If you do not set the variables, you can substitute directories with full path names when you run commands.

You must run the script that applies to the servers that you installed. If you installed both servers on the same system, you must run both scripts.

The locations of these setup scripts on UNIX systems are as follows:

- *installdirectory*`/tbsm/bin/setupTBSMData.sh` for the Data server
- *installdirectory*`/tbsmdash/bin/setupTBSMDash.sh` for the Dashboard server

where *installdirectory* is the directory in which you installed the server. The default directory is `/opt/IBM/tivoli`.

The syntax used to run the UNIX scripts is:

```
. installdirectory/tbsm/bin/setupTBSMData.sh
```

The locations of these setup scripts on Windows systems are as follows:

- *installdirectory*`\tbsm\bin\setupTBSMData.bat` for the Data server
- *installdirectory*`\tbsmdash\bin\setupTBSMDash.bat` for the Dashboard server

where *installdirectory* is the directory in which you installed the server. The default directory is `C:\Program Files\IBM\tivoli`.

The `setupTBSMDash` script sets the following variables:

```
TBSM_HOME=/opt/IBM/tivoli/tbsmdash
JAZZ_HOME=/opt/IBM/JazzSM
TBSM_DASHBOARD_SERVER_HOME=
   /opt/IBM/JazzSM/profile/installedApps/JazzSMNode01Cell/isc.ear/sla.war
```

```
DASHBOARD_PROFILE=JazzSMProfile
JAVA_HOME=/opt/IBM/tivoli/tbsmdash/_jvm/jre
```

The `setupTBSMData` script sets the following variables:

```
TBSM_DATA_SERVER_HOME=/opt/IBM/tivoli/impact/wlp/usr/servers/TBSM/apps/TBSM.ear/
TBSM_HOME=/opt/IBM/tivoli/tbsm
TBSM_LIBS=/opt/IBM/tivoli/impact/lib3p
HOSTNAME=<hostname of the installed server>
HTTPSPORT=<https port of the Impact GUI server>
HTTPPORT=<http port of the Impact GUI server>
```

Variables used in TBSM Publications

For many of the commands and paths specified in this publication, both the UNIX and Windows equivalents are provided. However, in instances where only the UNIX convention has been specified, follow these directions for Windows systems.

When using the Windows command line, replace **$***variable* with **%** *variable***%** for environment variables and replace each forward slash (**/**) with a backslash (****) in directory paths. The names of environment variables are not always the same in the Windows and UNIX environments. For example, *%TEMP%* in Windows environments is equivalent to $TMPDIR in UNIX environments.

Note: If you are using the bash shell on a Windows system, you can use the UNIX conventions.

Audit Logging

Audit Logging is a specialized way of viewing logs and keeping track of configuration changes within IBM Tivoli Business Service Manager: who changed what, where, and when. The collected data can viewed, used in reports, and used in problem analysis.

Audit logging overview

Audit logging provides a means to keep track of data level changes within TBSM. For example, if a user logs into and changes the service "Internet Banking", Tivoli Business Service Manager keeps track of this change in an auditable manner.

The audit logging feature will keep track of the underlying changes to the data objects and they will be recorded in an audit log file on the associated server. In TBSM, the changes are logged on the data server, including any backup data servers. It meets the security compliance standards for audit logging.

You can configure the audit logging size limits for each server. You get a viewer for looking at the records, sorting, and filtering them. For Tivoli Business Service Manager, the objects maintained by the data server are business service, business service templates, data fetcher, data source, and attributes within those high level objects.

Enable Security Auditing in Dashboard Application Service Hub

The audit logging will track users who login to DASH along with their IP address and other information. Each time a DASH application/end user accesses a secured resource or any internal application server process it can be recorded as an auditable event.

To enable DASH audit logging

`<JazzSMHOME>/ui/bin/configureConsoleAudit.sh smadmin password true`

Where, JazzSMHOME is the JazzSM install directory.

DASH Audit Log files

DASH generates an Audit log file, which contains the audit records for various actions that is performed in DASH server. The log file is created in the following directory:

```
<JazzSMHOME>/profile/logs/server1 The log file is named as
“BinaryAudit_JazzSMNode01Cell_JazzSMNode01_server1.log"
```

Audit Log Records

You get a viewer (Audit Log Records page) for looking at the audit records for user login action on the DASH Dashboard. The user login audit type from the audit log file is the only item available for viewing on the Audit Log Records page. In this case, the DASH Audit Log file would have to be a text file format.

Note: The login information (successful or unsuccessful) is only for whatever DASH server the current user is logged into.

Configuring a server for audit logging

You need to select the server and configure the maximum size and number of audit log files.

About this task

Repeat these instructions for every server for which you want to collect audit log data. The servers available are those that are configured in your environment and that you have authority to access.

Procedure

1. In the navigation tree, click **Troubleshooting and Support** → **Tivoli Business Service Manager** → **Audit Log Configuration**
2. Select the system to configure for audit logging from the  list.

   The servers shown are retrieved from the central repository.

   Note: If only one server is available, it is selected by default.
3. Complete the **Audit Log File Configuration** fields.

   The fields contain default values. If you have already configured the audit log for the selected server, these fields are filled in and you can edit them as needed.

   Note: The **Location** field is set using a RadShell command. For more information, see the TBSM *Administrator's Guide*.

   a) For **Maximum Size (MB)**, enter the maximum size of each audit log file, from 1 to 50 MB.

   b) For **Total Files**, enter the number of log files that can be saved in this directory. The minimum number of files is 2 and the maximum is 999.

   After the maximum is reached, the oldest files are deleted to make room for the new. After you enter a size and file limit, an estimation of the disk usage is displayed. For optimum performance, there is a default maximum of 50 MB per file.

   Note: The **Total disk space** field indicates the disk space that is occupied if the maximum number of files is reached with each file reaching the maximum file size allowed.
4. Click **Apply** to save your changes and start audit logging; or click **Reset** to revert to the previously saved values.

What to do next

You can view audit log data in the **Audit Log Records** page. (See “Viewing audit log records” on page 7.)

Viewing audit log records

Review the audit logging on a server to see what changes that have been made. You can sort the table and search for particular changes.

About this task

The Audit Log Records page shows audit log data for the selected server. You can adjust and filter the display to show only what is pertinent.

Procedure

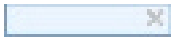
1. In the navigation tree, click **Troubleshooting and Support** → **Tivoli Business Service Manager** → **Audit Log Records**.
2. Select a server from the list  . The servers available are those for which audit logging was configured and for which you have access authority (see "Configuring a server for audit logging" on page 7).

   Note: If only one server is available, it is automatically selected.

Results

The audit logging summary is displayed with the time that audit logging was started and the number of audit log records in the unfiltered results. The default is to show all logging records collected on the current day, up to 2000. Beyond 2000, records will be dropped from the **From** end of the range. If auditing is disabled, no summary will be displayed.

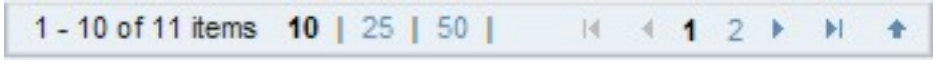
What to do next

You can filter the records to reduce the number or rows displayed and search for specific records. For example, click inside the  quick filter text box and type STARTUP to show the rows with STARTUP as the Operation Type. Then delete the text to see all rows again. Click **?** in the upper right corner of the Audit Log Records page to read about all the tools that are available.

Adjusting and moving through the table

Use the built-in table controls to reorganize the columns and rows and to hide those you are not interested in.

Procedure

- **Sorting rows**
  The default sort is by **Name** in ascending order. To change the sort order, click **v Single Sort - Descending** to reverse the order; click **×** to stop sorting by this column. To sort by other columns, hover a column heading and click **^ Single Sort - Ascending** and continue to click to cycle through the other two options. When sorting by multiple columns, you see a 1, 2, 3, and so on, next to the sort direction icon to indicate the sort value (primary, secondary, tertiary, and so on), such as  for primary sort ascending and  for secondary sort descending.
- **Filtering rows**
  For a quick filter, type a value (or partial value) in the Filter text box to exclude any rows that do not contain that value in any of the columns.
  The  filter bar is displayed below the column headings (in some tables, you must first click  **Show Filter Bar**) and remains enabled until you close the page or click  . Click the bar below a column heading to filter on that column.
- **Resizing columns**
  Drag a column heading border to the right or left to adjust the column width.
- **Hiding columns**
  Select  **Configure Options** to open a list of the column names. Clear a check box to hide the corresponding column; select a check box to display the column.
- **Paging**
  The table shows a small number of rows per page, which ensures quick response time. Click one of the other values to show more rows on a page. Use the paging tools to go to the first page, previous page, a page number, next page, last page, or to a specific page. Example:
  

Audit Log pages

You access the Audit Logging feature by navigating to **Troubleshooting and Support** → **Tivoli Business Service Manager** and then selecting **Audit Log Configuration**, to configure the server (or servers) to connect to, or **Audit Log Records**, to see the audit log for a server.

Audit Log Configuration

Use the Audit Log Configuration page to establish audit logging in your environment. Here you can specify how large the log can grow in size and number of files.

Server Information

Select the system to configure for audit logging from the  list. The servers shown are retrieved from the central repository.

The central repository contains the `Primary TBSM Data Server` and optionally the `Backup TBSM Data Server` (when the system is configured for failover).

Audit Log File Configuration

Complete these fields to configure the audit log size. If you have already configured the audit log for this server, these fields are completed for you. You can change them and click **Apply** to save your changes or you can click **Reset** to revert to the previously saved values.

For **Maximum Size (MB)**, enter the maximum size of each audit log file, from 1 to 50 MB. For **Total Files**, enter the number of log files that can be saved in this directory. After the maximum is reached, the oldest files are deleted to make room for the new. After you enter a size and file limit, an estimation of the disk usage is displayed. For optimum performance, there is a default maximum of 50 MB per file. The value in the **Total disk space** field indicates the total disk space occupied when all files reach their maximum file size.

After completing the fields and saving the page, you can view audit log data that has been recorded in the **Audit Log Records** page. (See "Audit Log Records" on page 9.)

Audit Log Records

Use the **Audit Log Records** page to view the audit log file of a server in your environment. And to view the login information from the TIP audit log file of the TIP server the current user is logged into.

Server Information

Select a server from the list  . The servers available are those for which audit logging was configured and for which you have access authority. See "Audit Log Configuration" on page 9.

Note: If only one server is available, it is selected by default.

Audit summary

The audit logging summary status is displayed with the time that audit logging was started and the total number of audit log records.

Time range

The **From** and **To** fields display the dates most recently entered. To edit the date range, click inside the field and select a date from the calendar or manually enter the date, then click **Query**. The records are retrieved and displayed with the newest changes at the top. If too many records satisfy the query, only the newest 2000 are returned.

Toolbar

The toolbar has functions for creating and managing groups, for filtering and sorting the group listing, and for hiding columns.

Tool	Action
 **Export**	Export the audit log items to an HTML or CSV file. After you export the table, it appears in a new tab or window of your browser.
 **Print**	Show a print preview, print the entire table, or print the selected rows.

Tool	Action
Configure Options	Hide any columns that you are not interested in.
Actions	The Actions menu provides an alternate method for selecting options.
Quick Filter	Click inside the quick filter text box and type the characters to filter by. As you type, any rows that do not contain what you typed in any column are removed from the table. To remove the quick filter, delete the value or click
Show Filter Bar	The filter bar is displayed below the column headings after you select **Show Filter Bar** (or Actions → Advanced Filter) and remains enabled until you close the page or click . Click or under a column name to compose the filter criteria. See "Filter" on page 11.

Column headings

These are the column headings and their descriptions. You can filter the display by values that are in or not in a column and you can filter on multiple columns. See "Adjusting and moving through the table" on page 8.

Column	Description
Time Stamp	This is the time at the server when the audit log entry was made.
Audit Item Type	This is the element that the entry was made for. For example, a data server might have **Service name** and **Propagation rule**. **Note:** For TIP Audit Log record, this column has the value of "TIP Server".
Audit Item	This is the name of the audit item. **Note:** All TBSM items are prefixed with `tbsm:`. For example: • `tbsm:PrimaryTemplateName` • `tbsm:Template` **Note:** For TIP Audit Log record, this column has the value of either "Login Successful" or "Login Unsuccessful".
Operation type	This is the type of operation that took place, such as LOGIN or DISABLE. **Note:** For TIP Audit Log record, this column has the value of "LOGIN".
Operation	This is the operation performed. **Note:** For TIP Audit Log record, this column has the value of "TIP login".
Changed Using	This is the method used for modifying the item, such as **Web client** or **CLI**. This field is hidden by default. It can be made visible by selecting it in the **Configure Options** dialog box.

Column	Description
Changed By	The user ID of the person who performed the operation.
Roles	This is the role of the user.
Groups	**Note:** For Operation type of TBSM server Startup and Shutdown, and Changed By column has the value of "SYS_ADMIN", this column will be blank. For Changed Using column has the value of "CLI", this column will be blank. This is the groups of the user roles. **Note:** For Operation type of TBSM server Startup and Shutdown, and Changed By column has the value of "SYS_ADMIN", this column will be blank. For Changed Using column has the value of "CLI", this column will be blank.

Filter

Use filtering to limit the rows in a list to show only those that are of interest to you. You can adjust the filter rules to see more or fewer rows.

If no filters have been defined, the **Filter** dialog box shows "Rule 1" with options for you to enter a new rule. If there are other rules that have been created, they appear in collapsed bars.

Match

This field is initially set to **all rules**, which means that a row is displayed only if the data in the row follows all the rules in the filter and excludes the row if its values do not follow any one rule. If there are multiple rules and you want a row included if it follows any of the rules, change the setting to **any rule**.

Column

Select the column to filter on from the list.

Condition

Select the comparison operator from the  list.

Condition	Row is included in the grouping table when...
contains	**Value** is found somewhere in the cell.
is	**Value** matches the cell value exactly, including letter casing.
starts with	the cell value begins with the same characters as **Value**.
ends with	the cell value has the same characters at the end as **Value**.
does not contain	the cell value does not include the same text or number as **Value**.
is not	the cell value is not an exact match of **Value**.
does not start with	the cell value does not begin with the same characters as **Value**.
does not end with	the cell value does not end with the same characters as **Value**.

Value

Enter the name or number to apply the condition to. After you enter a value, the expression appears in the rule bar.

Multiple rules

Leave **Match** set to **all rules** if you want the criteria in all rules to be met before displaying a row. Change the setting to **any rules** if the row should be displayed if it meets the criteria in any of the rules.

To edit a rule, click the rule bar and change any of the field values.

To delete a rule, select it and click  .

To define a new rule, click  and complete the fields.

Trace logging

By default, there is no trace logging enabled for TBSM 620 java code. TBSM java code uses WebSphere log methods rather than the `log4j` used by Impact.

To generate the TBSM trace logs, similar to TBSM 6.1.1, use the following steps:

TBSM Backend / Impact Server

For WebSphere logging in TBSM code, you need to change the following file:

`./wlp/usr/servers/TBSM/server.xml`

Change the logging entries as follows:

```
<logging maxFiles="20" maxFileSize="20" consoleLogLevel="AUDIT" copySystemStreams="false"/>
<logging
traceSpecification="*=info:com.ibm.tbsm.*=finest:com.ibm.tivoli.twa.marker.*=finest:com.micromus
e.*=finest"/>
```

After making this change, restart the Impact backend server TBSM.

Log files will be as per normal WebSphere logging:

```
impact\wlp\usr\servers\logs\trace...
```

Event logging:

To trace the processing of events and status changes, a special event logging setting can be set for TBSM. This is done by editing the `server.xml` file (as above) and including `EventLogging=FINER` in the `traceSpecification` as follows:

```
<logging
traceSpecification="*=info:com.ibm.tbsm.*=finest:com.ibm.tivoli.twa.marker.*=finest:com.micromus
e.*=finest:EventLogging=FINER"/>
```

Note: `FINER` must be in upper case.

Log files will be as per normal WebSphere logging:

```
impact\wlp\usr\servers\logs\trace...
```

TBSM UI / DASH Server

Logging for WebSphere logging in TBSM code is controlled using DASH and can be changed dynamically using the WebSphere Application Console. Use the same trace specification as above.

Log files will be as per normal WebSphere logging: `JazzSM\profile\logs`

There is also Impact code used in the TBSM DASH UI for connections to the name server there is Impact code (`nci.jar`, `ncCommon.jar`, `ncClient.jar`) in the JazzSM server but the logging is `log4j` which is not enabled.

To enable `log4j` logging, you need to place an `impactserver.log4j.properties` file in the `<install dir>/JazzSM/profile/installedApps/JazzSMNode01Cell/isc.ear/sla.war/etc` directory on the Jazz/DASH server.

After making this change, restart DASH.

UNIX environment variables

This document refers to environment variables for directories. By default, variables are not defined in the UNIX operating system, but you can set these variables with scripts.

If you do not set the variables, you can substitute directories with full path names when you run commands.

There is one script for the TBSM Data server and one for the TBSM Dashboard server. You must run the script that applies to the servers that you installed. If you installed both servers on the same system, you must run both scripts. You must add a ". " (dot space), so that the variables are set in your login shell. See the following examples:

```
$ . <installdirectory>/tbsmdash/bin/setupTBSMDash.sh
$ . <installdirectory>/tbsm/bin/setupTBSMData.sh
```

eWAS Tracing Concepts

The TBSM Dashboard server runs in a Dashboard Application Service Hub environment, which is based on WebSphere® Express (eWAS).

Logging levels

eWAS provides a continuum of logging levels.

Table 1. Logging levels

eWAS Logging Level	Message Log Output	Trace Log Output
off	None	None
error	Only Error messages	None
warning	Only Warning and Error messages	None
Info	Info, Warning, and Error messages	None
fine	Info, Warning, and Error messages	high-level flow; caught exceptions
finer	Info, Warning, and Error messages	entry/exit tracing; trace notes; exceptions
finest	Info, Warning, and Error messages	low-level details; entry/exit; notes; exceptions

Loggers

A Logger is created for each Java™ package in TBSM . The Logger name is the package name. This Logger can be used for both message and trace logging.

Table 2. Loggers

Logger name	Example of file
com.ibm.tbsm.ajax	java/com/ibm/tbsm/ajax/CacheManager.java
com.ibm.tbsm.ajax.navigator.customcanvas	java/com/ibm/tbsm/ajax/navigator/.customcanvas/CCanvasTableModel.java

Table 2. Loggers (continued)	
Logger name	**Example of file**
com.micromuse.common.canvascomponent.beans	java/com/micromuse/common/canvascomponent/beans/CanvasTemplateBean.java
com.micromuse.common.canvascomponent.servlet	java/com/micromuse/common/canvascomponent/servlet/GetTreeActionServlet.java

When setting trace levels, Loggers can be grouped using "*" as a wild card, for example:

- com.ibm.tbsm.ajax.*
- com.micromuse.common.canvascomponent.*
- com.ibm.tbsm.*
- com.micromuse.*

Trace specifications

The trace levels of individual Loggers are configured with trace specifications. A trace specification is a colon separated list that assigns logging levels to an individual logger or a group of loggers. The default trace specification for each eWAS profile is *=info ... The previous is true for generic eWAS. However, in TBSM, the default trace specification is *=info:com.ibm.tbsm.*=fine:com.micromuse.*=fine. This trace level creates the `trace.log` file so that it contains a modest level of tracing from certain TBSM-specific components.

Setting trace levels

About this task

Trace (Logging) levels are set by using trace specifications. Default trace levels are set at installation, but you can also set trace levels as follows:

- Using the Console GUI
- Using the setTraceLevel CLI
- In server.xml for start-up settings
- By enabling special performance tracing in RADServiceClientUpdateHandler

Installing sets default trace levels

About this task

The TBSM installation automatically sets the default trace levels for both the Data and Dashboard servers as follows:

- com.ibm.tbsm.*=fine
- com.micromuse.*=fine

The **`fine`** level allows all the messages formerly sent to `RAD_server.log` to appear in the trace.log.

Using console interface to set logging details

About this task

You can set the logging details for the TBSM dashboard server profile on the DASH Console.

Table 3. Profile and console interfaces	
TBSM dashboard server profile	**Console Interfaces**
JazzSMProfile	https://:16311/ibm/console

Procedure

1. Select **Settings -> WebSphere Administrative Console**.
2. Select **Launch WebSphere Administrative Console**. This opens a new browser tab or window with the **Administrative Console**.
3. Select **Troubleshooting -> Logs and Trace**.
4. In the Logging and Tracing Panel, select **Server1**.
5. Select "**Change Log Detail Levels**.
6. Select either the **Configuration** or **Runtime** tab.
7. To change the Log Details Levels, change the settings in the text box. For more information about the log settings, click **More information about this page** in the Help box on the right.
   a) Click **Components** to specify a log detail level for individual components.
   b) Click **Groups** to specify a log detail level for a predefined group of components.
8. If you want the changes you made to persist across restarts of the server, select **Save runtime changes to configuration as well**.
9. When you are done, **OK**.
10. Click **Save directly to the master configuration**. If you changed the startup trace specification, you need to save the eWAS configuration.
11. Click **Log out**.

Startup settings in `server.xml`

About this task

The startup trace specifications are stored in `server.xml`:

- `<JazzSMHome>/profile/config/cells/JazzSMNode01Cell/nodes/JazzSMNode01/servers/server1/server.xml`

Example

This file is an example of the `server.xml` file:

```
services xmi:type="traceservice:TraceService" xmi:id="TraceService_1209286949970"
        enable="true"
services xmi:type="traceservice:TraceService" xmi:id="TraceService_1209286949970"
        enable="true"
traceFormat="BASIC" memoryBufferSize="8"
     traceLog xmi:id="TraceLog_1209286949971"
        fileName="${SERVER_LOG_ROOT}/trace.log"
        rolloverSize="20"
        maxNumberOfBackupFiles="1"
    services
```

Working with the configuration documenter

The **Configuration Documenter** is used to view the configuration of a Netcool/Impact installation.

Configuration documenter overview

The **Configuration Documenter** is an integral part of any Netcool/Impact installation.

With the **Configuration Documenter**, you can view the detailed information about the system components:

- Cluster status: the name and the host where primary and secondary servers are running. Also, which server is currently the primary.
- Server status: information about the running services (including data fetchers) and the memory status for the server.
- Data sources: each defined data source
- All data types, including predefined data types such as **Doc**, **Schedule**, and **LinkType**; user-defined internal and external data types; and report data types.
- Policies
- Services

Accessing the Configuration Documenter

Use this procedure to open the **Configuration Documenter**.

About this task

The Configuration Documenter displays a view into the `TBSMOMNIbusEventReader`, a specialized Event Reader in TBSM, which reads events from OMNIbus and sends them to TBSM.

The Documenter page displays:

Current OMNIbus server

Events pending or processing in TBSM

Primary TBSM Server (if TBSM is configured in failover)

Server Status
The Server Status section lists all the data fetchers in TBSM and shows what database they are connected to aswell as how many events are pending processing by the data fetcher.

Cluster Status
The Cluster Status section lists the primary data server, and any backup servers that are configured.

To access the Configuration Documenter, follow these steps:

Procedure

1. In the left navigation pane, expand **Troubleshooting and Support > Tivoli Business Service Manager**.
2. Click **System Status**.
   The Configuration Documenter opens. Use the table of contents to view your cluster status, server status, data sources, data types, policies, and services.

Viewing the cluster status

Use this procedure to view the information about the current cluster status in the configuration documenter.

Procedure

1. Open the configuration documenter.

2. Select **Status** in the table of contents at the top of the page.

   The **Cluster Status** section contains the following information:

   - Which server is the primary server
   - The name and host where the primary server is running.
   - The name and host of each secondary server.

Viewing the server status

Use this procedure to view the information about the current server status in the configuration documenter.

Procedure

1. Open the configuration documenter.
2. Select **Server Status** in the table of contents at the top of the page.

   The **Server Status** section contains the following information:

   Memory status
   Shows the maximum heap size and the current heap size in MB that the Java Virtual Machine, where Netcool/Impact is running, can use.

   Service status
   Shows the number of events available in the event queues for the various event-related services like readers, listeners, and **EventProcessor**. It does not provide information about all the services that are currently running, only the status for event-related services. For each of these services, you can see from where the service is reading events. For example, for **OMNIbusEventReader** that would include the name of the datasource, whether events are being read from the primary, or backup source of that datasource, and additional connection-related information like the host, port, and the username that is used to connect to the datasource.

   TBSM-specific: For a TBSM server, the Server Status section will show the events pending in queue for the **TBSMOMNIbusEventReader**, which sends events to TBSM. It also lists all running data fetchers in TBSM and reports how many rows are pending for them to process.

   Omnibus Failover: For ObjectServer event readers (such as TBSMOMNIbusEventReader), the documenter shows which Omnibus it is currently connected to. If Omnibus is in failover configuration, this enables the user to know which of the pair is currently being read from by TBSM.

   Remember: In the case of the primary server, you can view the queue status for readers or listeners and **EventProcessor**. For a secondary server, you can view only the queue status for **EventProcessor**, because the readers or listeners run only on the primary server.

Viewing data sources

Use this procedure to view the data source details in the configuration documenter.

Procedure

1. Open the configuration documenter.
2. Choose **Data Sources** in the table of contents at the top of the page.

   A list of defined data sources displays showing the data source names and data source types.
3. Choose the data source that you want to view.

   The data source details list displays showing host, port, and database information.

Viewing data types

Use this procedure to view data type details in the configuration documenter.

Procedure

1. Open the configuration documenter.
2. Choose **Data Types** in the table of contents at the top of the page.
3. Choose a data type from the data type list.

   You can view the following details about a data type:

   - Field Name
   - Display Name
   - Data source name (for external data types). By clicking the data source name, you can display the connection information.
   - Configuration information for each of the fields in the data type, including the **Field Name**, **Display Name**, **Key field**, **Alias**, **Default Expression**, and **Choices**.
   - Dynamic links that are associated with the data type
4. To see the connection information for an external data type, click the data source name.

Viewing policies

You can use the configuration documenter to view the policy details.

Procedure

1. Open the configuration documenter.
2. Choose **Policies** in the table of contents at the top of the page.
3. Choose a policy from the Policy list.

Viewing services

Use this procedure to view service details in the configuration documenter.

Procedure

1. Open the configuration documenter.
2. Choose **Services** in the table of contents at the top of the page.
3. Choose the service that you want to view from the Services list.

   You can use the configuration documenter to view the following information about a service:

   - Name
   - Class Name
   - Run status (running or not running)
   - Auto start configuration
   - Logging configuration
   - Configuration properties
4. Select the associated policy link to see it displayed in the documenter.

Chapter 3. Installation

For more information about problems you may encounter while installing TBSM, see the troubleshooting installation issues section of the TBSM *Installation Guide*.

Default TBSM groups not created during the installation process

This topic describes how to manually create TBSM groups and assign roles.

Symptoms

Default TBSM groups are not created during installation.

Resolution

Completing the following procedure:

1. Go to *$TBSM_HOME*/bin.
2. Run the following commands to create TBSM groups:
   a. UNIX ./vmm_create_entities.sh *<WAS admin userid> <WAS admin password> <repository user suffix> <repository group suffix>*
   b. Windows ./vmm_create_entities.bat *<WAS admin userid> <WAS admin password> <repository user suffix> <repository group suffix>*
3. For file-based authentication, run the following command:

```
./vmm_create_entities.sh tbsmadmin password "o=
defaultWIMFileBasedRealm" "o=defaultWIMFileBasedRealm"
```

4. For OMNIbus authentication, run the following command:

```
./vmm_create_entities.sh <WAS admin userid> <WAS admin
password> "o=netcoolObjectServerRepository" "o=netcoolObjectServerRepository"
```

5. For LDAP, use the LDAP user and group suffixes, such as ou=tivoli, dc=ibm, dc=com.
6. Run the following command to assign roles to the created group:
   a. UNIX ./assign_group_roles.sh *tbsmadmin password*
   b. Windows assign_group_roles.bat *tbsmadmin password*

Installing TBSM on AIX over SSH

Using an SSH session to install TBSM on some versions of AIX® can result in a problem.

Symptoms

The installation fails and TBSMInstall-00.log might contain the following message:

```
com.ibm.ac.si.install.InstallException: ACUINI0083E The Deployment Engine install
        failed because Deployment Engine was unable to successfully install CIT.
```

Resolution

Try using a Telnet session instead of SSH.

Note: This issue is resolved in the GOLD release of openSSH scheduled for November 2008. If you need a fix before then or you have upgraded openSSH and the issue still occurs, contact IBM support and open a PMR against AIX, citing PMRs 82979 and 90889.

"Backup failed" while installing TBSM

Symptom

On Windows, when running from an unmapped directory or UNC path, the following error is displayed during pre-install :

```
The TBSM backup failed. Installation cannot continue.
```

Cause

Windows allows for programs to be run from a UNC path that is not mapped to a drive letter. This is common when using windows terminal services or remote desktop to access a system and sharing drives with the host system. However non-mapped UNC paths can be used elsewhere. The TBSM installer does not support this setup however and requires that the install take place on a mapped drive.

Resolution

Don't use an un-mapped drive. An easy way to check if you are running on a mapped drive, is to check the path you are running from, if it begins with `c:`, `d:`, `z:`, etc, your drive is mapped; however if the path begins with \\ you are running from an un-mapped path and should map this folder to a network drive before installing TBSM.

Database configuration installer fails

Symptoms

The database configuration installer fails.

Solution

The database name contains invalid characters. For example, you used Chinese characters in the name. If you specify an invalid name, the database configuration installer will fail, but the files will still be installed. You can modify the database name in the properties file and re-run `tbsm_db` script after installation to complete the database creation. Otherwise, uninstall the tool, and re-install specifying a valid database name. Valid characters for names:

- A through Z. When used in most names, characters A through Z are converted from lowercase to uppercase.
- 0 through 9.
- `! % ( ) { } . - ^ ~ _` (underscore) `@`, #, $, \ (backslash), and space.

For more information about valid characters for DB2® names, see the documentation for the version of DB2 you are using here:

http://publib.boulder.ibm.com/infocenter/db2luw/v9/index.jsp?topic=%2Fcom.ibm.db2.udb.doc%2Fdoc%2Ft0021844.htm

Failed to add roles and groups to the tbsmadmin user and waapi views during the TBSM Dash Server installation

Symptoms

Although the TBSM Dash Server installation is successful, the `tbsmadmin` user might not have got assigned with the appropriate roles and groups. This is because of the `global.lock` file being present in the following location:

`/opt/IBM/JazzSM/profile/config/cells/JazzSMNode01Cell/applications/isc.ear/deployments/isc/isclite.war/WEB-INF`

Solution

To resolve this issue follow the below steps.

1. Run the following command:

   On Linux

   ```
   cd $JazzSM_Home/ui/bin
   ./tipcli.sh Unlock –username smadmin –password $password
   ```

   On Windows

   ```
   cd %JazzSM_Home%\ui\bin
   tipcli.bat Unlock –username smadmin –password %password%
   ```

2. Stop the JazzSM server.
3. Delete the `global.lock` file if it exists.
4. Start the JazzSM server.
5. Assign the roles and groups to the `tbsmadmin` user manually by running the `assign_groups_roles.sh` script.
6. Run the following command:

   On Linux

   ```
   cd /opt/IBM/netcool/gui/omnibus_webgui/waapi/bin/
   ./runwaapi -file /opt/IBM/JazzSM/profile/installedApps/JazzSMNode01Cell/isc.ear/
   sla.war/install/webtopcore/create_tbsm_views.xml -user tbsmadmin
   -password passw0rd
   ```

   On Windows

   ```
   cd C:\Program Files\IBM\Netcool\gui\omnibus_webgui\waapi\bin
   runwaapi -file %JazzSM_Home%\/profile\installedApps\JazzSMNode01Cell\isc.ear\
   sla.war\install\webtopcore\create_tbsm_views.xml -user tbsmadmin
   -password passw0rd
   ```

TBSM Dashboard server reinstall issue

Symptoms

If uninstalling the TBSM Dashboard server fails to delete the TBSM modules due to server issues, you will not be allowed to reinstall the TBSM Dashboard server using the same default port for Dashboard server.

Solution

Remove the pending modules from JazzSM, before reinstalling Dashboard server using the following commands:

On Linux/Unix:

```
./wsadmin.sh -lang jacl -username smadmin -password passw0rd -connType SOAP -c
"\$AdminApp update isc modulefile
{ -operation delete -custom forceRemove=true -contenturi sla.war }"

./wsadmin.sh -lang jacl -username smadmin -password passw0rd -connType SOAP -c
"\$AdminConfig save"
```

Note: After removing modules, restart JazzSM server.

On Windows:

```
c:\Program Files\IBM\JazzSM\profile\bin>wsadmin.bat -lang jacl -username smadmin
-password smadmin -connType SOAP -c
"$AdminApp update isc modulefile {-operation delete -custom forceRemove=true
-contenturi sla.war }"

c:\Program Files\IBM\JazzSM\profile\bin>wsadmin.bat -lang jacl -username smadmin
-password smadmin -connType SOAP -c
"$AdminApp update isc modulefile {-operation delete -custom forceRemove=true
-contenturi twa.war }"
```

Note: After removing modules, restart JazzSM server.

Installing TBSM DASH Server in Console mode

Symptoms

If installing the TBSM Dashboard server in Console mode you may get the following error message:

```
ERROR: A fully qualified Host Name or IP Address was not specified, please
provide a valid value.
```

This is because the system hostname does not match the expected hostname for the system on which the Console installation of the TBSM DASH Server is being performed.

Solution

Change the server hostname to match the expected DNS hostname. If you are in doubt as to what the expected DNS hostname is, contact your system administrator.

Checklist for configuring an external LDAP user repository for the TBSM Data Server

The following checklist items apply when you are configuring an external LDAP user repository for the TBSM Data Server

Ensure the `tbsmadmin` and `impactadmin` users and passwords are correct and encrypted in the `RAD_sla.propsfile`

If the `tbsmadmin` and `impactadmin` users and passwords are not correct or are not encrypted, you will see the following error message in the Impact UI log:

```
[8/13/19 2:15:36:278 PDT] 00000ddb id=00000000 com.ibm.ws.security.wim.registry.util.LoginBridge
E com.ibm.wsspi.security.wim.exception.WIMSystemException: CWIML4520E: The LDAP operation could
not be completed. The LDAP naming exception javax.naming.NamingException: LDAP response read
```

```
timed out, timeout used:60000ms.; remaining name 'ou=Users,dc=example,dc=com'; resolved object
com.sun.jndi.ldap.LdapCtx@860a09c3 occurred during
processing.com.ibm.wsspi.security.wim.exception.WIMException:
com.ibm.wsspi.security.wim.exception.WIMSystemException: CWIML4520E: The LDAP operation could
not be completed. The LDAP naming exception javax.naming.NamingException: LDAP response read
timed out, timeout used:60000ms.; remaining name 'ou=Users,dc=example,dc=com'; resolved object
com.sun.jndi.ldap.LdapCtx@860a09c3 occurred during processing.
        at com.ibm.ws.security.wim.ProfileManager.loginImpl(ProfileManager.java:1808)
        at
com.ibm.ws.security.wim.ProfileManager.genericProfileManagerMethod(ProfileManager.java:250)
        at com.ibm.ws.security.wim.ProfileManager.login(ProfileManager.java:216)
        at com.ibm.ws.security.wim.VMMService.login(VMMService.java:246)
        at com.ibm.ws.security.wim.registry.util.LoginBridge.checkPassword(LoginBridge.java:116)
        at
com.ibm.ws.security.wim.registry.WIMUserRegistry.checkPassword(WIMUserRegistry.java:151)
        at
com.ibm.ws.security.authentication.jaas.modules.UsernameAndPasswordLoginModule.login(UsernameAnd
PasswordLoginModule.java:75)
…
[8/13/19 2:15:36:283 PDT] 00000ddb id=00000000
y.authentication.jaas.modules.UsernameAndPasswordLoginModule A CWWKS1100A: Authentication did
not succeed for user ID impactadmin. An invalid user ID or password was specified.
```

Encrypting a password

The following example command produces an encrypted password:

```
../tivoli/impact/bin/nci_crypt {impactadmin/tbsmadmin user password}
```

Update the TBSM_sla.props file, for example:

```
impact.sla.vmm.admin.username=impactadmin/ tbsmadmin
impact.sla.vmm.admin.password={aes}032B4527E7EABE8B3A076DBAE4C1069B
```

Make similar changes for other passwords and update the corresponding properties files.

Use the bypassvalidation=false property when starting the TBSM Data server

If while attempting to start the TBSM Data Server for LDAP the server fails to start and the following error is generated in TBSM Data Server log:

```
[8/13/19 2:57:59:362 PDT] 0000004c id=00000000 com.micromuse.sla.impact.RADService 1
startRunning NOTE ^^T^CTGBF0012E An error occurred while establishing a session. The user ID
impactadmin is not valid.
com.micromuse.sla.soap.RADSoapException: CTGBF0012E An error occurred while establishing a
session. The user ID impactadmin is not valid.
        at
com.micromuse.sla.configserver.SessionServerFacade.setUserForSession(SessionServerFacade.java:21
8)
        at com.micromuse.sla.impact.InterpreterHolder.<init>(InterpreterHolder.java:75)
        at com.micromuse.sla.impact.InterpreterHolder.getInstance(InterpreterHolder.java:59)
        at com.micromuse.sla.impact.RADService.startRunning(RADService.java:468)
        at com.micromuse.response.server.ServiceManager.doAutoStartup(ServiceManager.java:372)
        at
com.micromuse.response.broker.cluster.ClusterMember.convertRoleToPrimary(ClusterMember.java:1210
)
        at
com.micromuse.response.broker.cluster.ClusterMember.startMemberAsPartOfCluster(ClusterMember.jav
a:525)
        at com.micromuse.response.broker.cluster.ClusterMember.<init>(ClusterMember.java:429)
        at
com.micromuse.response.broker.cluster.ClusterMember.getClusterMember(ClusterMember.java:361)
        at com.micromuse.response.server.ResponseServer.<init>(ResponseServer.java:113)
        at com.micromuse.response.server.Server.start(Server.java:265)
        at com.micromuse.response.server.management.ManagedImpactServerSupport
$1.run(ManagedImpactServerSupport.java:297)
```

Then you will need to set the **bypassvalidation** property.

Setting the bypassvalidation property

Update the following properties file on the Data Server:

$TBSM_HOME/tbsm/etc/TBSM_sla.props

Set the following property:

```
impact.sla.dataserver.bypassvalidation=false
```

Restart the TBSM Data Server

Note: If you are using an Active Directory LDAP server, the property must be set to `true`:

```
impact.sla.dataserver.bypassvalidation=true
```

Checklist for configuring an external LDAP user repository for the TBSM DASH Server

The following checklist items apply when you are configuring an external LDAP user repository for the TBSM DASH Server.

Ensure the `tbsmadmin` and `impactadmin` users and passwords are correct and encrypted in the `RAD_sla.propsfile`

If the `tbsmadmin` and `impactadmin` users and passwords are not correct or are not encrypted, you will see one of the following error messages in the log:

```
Error message in log:
[6/10/19 17:56:54:693 CEST] 000000f6 FfdcProvider  W com.ibm.ws.ffdc.impl.FfdcProvider
logIncident FFDC1003I: FFDC Incident emitted on /opt/IBM/JazzSM/profile/logs/ffdc/
server1_aeb8775e_19.06.10_17.56.54.6885848727006125333739.txt
com.ibm.websphere.security.PasswordCheckFailedException 190
[6/10/19 17:56:54:685 CEST] 000000f6 ContextManage <  runAs(System) -> Exception occurred. Exit
                                com.ibm.websphere.wim.exception.PasswordCheckFailedException:
CWWIM4529E
The password verification for the 'tbsmadmin' principal name failed. Root cause:
'javax.naming.AuthenticationException: [LDAP: error code 49 - 80090308: LdapErr: DSID-0C090400,
comment: AcceptSecurityContext error, data 52e, v1db1\u0000]; resolved object
com.sun.jndi.ldap.LdapCtx@12b61e8b'.
```

Or

```
[6/12/19 12:06:01:876 CEST] 000000c7 exception     E
com.ibm.websphere.wim.security.authz.AccessException
                                com.ibm.websphere.wim.security.authz.AccessException:
CWWIM2008E  The principal 'UNAUTHENTICATED' is not authorized to perform the operation
         'GET  PersonAccount' on 'CN=tbsmadmin,OU=prod,OU=sgtic,OU=Servicios
Centrales,OU=Usuarios,DC=wnd,DC=inem,DC=es'
        at
com.ibm.ws.wim.env.was.JACCAuthorizationService.checkAccessResult(JACCAuthorizationService.java:
1320)
        at
com.ibm.ws.wim.env.was.JACCAuthorizationService.checkPermission_GET(JACCAuthorizationService.jav
a:578)
         ...
        at com.ibm.websphere.wim.client.LocalServiceProvider.get(LocalServiceProvider.java:364)
        at com.micromuse.sla.security.VMMUserGroupManagerImpl
$3.run(VMMUserGroupManagerImpl.java:360)
        at java.security.AccessController.doPrivileged(AccessController.java:620)
        at javax.security.auth.Subject.doAs(Subject.java:488)
        at com.ibm.websphere.security.auth.WSSubject.doAs(WSSubject.java:133)
        at com.ibm.websphere.security.auth.WSSubject.doAs(WSSubject.java:91)
        at
com.micromuse.sla.security.VMMUserGroupManagerImpl.getGroupsForUser(VMMUserGroupManagerImpl.java
:352)
        at com.micromuse.sla.security.UserStore.getGroupsForUser(UserStore.java:99)
        at com.micromuse.sla.security.VMMUserImpl.initializeGroups(VMMUserImpl.java:325)
        at com.micromuse.sla.security.VMMUserImpl.getVMMGroups(VMMUserImpl.java:244)
        at
com.micromuse.sla.restprovider.collections.VMMUserWrapper.<init>(VMMUserWrapper.java:58)
```

Encrypting a password

The following example command produces an encrypted password:

```
../WebSphere/AppServer/bin/crypto.sh {impactadmin/tbsmadmin user password}
```

Update the RAD_sla.props, for example:

```
impact.sla.vmm.admin.username=tbsmadmin
impact.sla.vmm.admin.password={AES}1C09D0508A96864E66E6AE731A68F005
impact.sla.impact.admin.username=impactadmin
impact.sla.impact.admin.password={AES}A1FD4E0DE2389E727873104C811FB744
```

Make similar changes for other passwords and update the corresponding properties files.

Avoid using duplicate groups

After installation, you can configure TBSM to use an external user repository. However, if you select a repository after installation that contains the same user ID or groups as those already in the default repository, you must remove any duplicate groups from the default repository before you configure the external repository. If you do not, it may cause a conflict and you might not be able to log into TBSM using the default administrative user ID.

See Configuring TBSM to use an external user repository after installation.

Check that the TBSM Server Model Data Provider connection appears in DASH

If the **TBSM Server Model Data Provider** connection is not displayed in the **Connection** page, then use the following URL to test whether the data provider is working on DASH:

`https://Dash_server_hostname:port/ibm/tivoli/test.html`

For example: `https://adjoint1.fyre.ibm.com:16311/ibm/tivoli/test.html`

Enter the URI as: `/ibm/tivoli/rest/providers`

Click **GET**.

The response data should contain an item for the **TBSM Service Model Data Provider**.

Ensure the `impactadmin` user exists in the `tbsmAdmins` group for the LDAP repository

If the `impactadmin` user is not in the `tbsmAdmins` group, the following error is generated in the Jazz/Dash log:

```
[6/7/19 15:42:41:073 CEST] 000000dc security      1 com.micromuse.sla.security.VMMUserImpl
initializeGroups NOTE ^println-catch^S^VMMUserImpl: caught exception while initializing group
information
[6/7/19 15:42:41:073 CEST] 000000dc security      2 com.micromuse.sla.security.VMMUserImpl
initializeGroups EXIT ^tag1^T^Error occurred while initializing group information for user
impactadmin: null
```

For details about managing users and groups, see Configuring TBSM to use an external user repository after installation

Ensure that JazzSM and Impact are on different machines

If JazzSM and Impact are on the same machine, there will be a ActiveMQ Port conflict and you will see the following error in the Websphere or Liberty log:

```
ERROR [Default Executor-thread-9] (BrokerService.java:621) - Failed to start Apache ActiveMQ
([ActiveMQBroker, null], java.io.IOException: Failed to bind to server socket: nio://
0.0.0.0:16324 due to: java.net.BindException: Address already in use).
java.io.IOException: Failed to bind to server socket: nio://0.0.0.0:16324 due to:
java.net.BindException: Address already in use
```

See ActiveMQ Port conflict when JazzSM and Impact are on the same machine

Chapter 4. LDAP configuration issue CWWIM4548E

This section describe issues in LDAP configuration.

Symptom

You are configuring LDAP using "Sun Java System Directory Server", and you get the following error:

```
CWWIM4548E The LDAP attribute used as an external identifier 'nsuniqueid' has
 a null value for entity 'uid=xxxxxx,ou=xxxxxx,o=xxx.
```

Resolution

Add a line to the `wimconfig.xml` file:

1. Change to the directory:

   ```
   <JazzSmHome>/profile/config/cells/JazzSMNode01Cell/wim/config
   ```

2. Edit the file:

   ```
    wimconfig.xml
   ```

3. Search for line: `<config:attributeConfiguration>`
4. After this line, add the following line:

   ```
   <config:externalIdAttributes name="cn" />
   ```

   So that it looks like:

   ```
   <config:attributeConfiguration>
          <config:externalIdAttributes name="cn" />
           <config:attributes name="userPassword"
    propertyName="password" />
   ```

Chapter 5. Login issues

This section describes how to resolve known login issues.

User is unable to login

Symptoms
After the correct user ID and password information has been entered, the user cannot log in.

Cause
The user does not have any roles directly or indirectly assigned through group membership. For LDAP, existing users are not assigned roles or group membership.

Resolution

1. Log in to the DASH Console as an administrative user.
2. Assign the appropriate roles to the user that cannot log in or place the user in a group that has the appropriate roles assigned to it for that user.

For LDAP, do the following steps:

1. Log in to the TBSM console as an administrative user.
2. Select **Settings > Manage Groups**.
3. Select the user and add a group membership.

User is unable to log in as tbsmadmin

Symptoms
When OMNIbus is stopped and TBSM is using OMNIbus as a user repository, the user may not be able to log in with the tbsmadmin ID and applicable password.

Cause
OMNIbus must be running before the tbsmadmin ID login can be used.

Resolution
Start OMNIbus. Then log in with the tbsmadmin ID.

Chapter 6. Browser Issues

This section describes issues with browsers.

Java plug-in issues

This section describes issues encountered with Java plug-ins.

If you have any Java plug-in issues, check the Software Product Compatibility Reports for the supported Java versions.

Software Product Compatibility Reports

The most up-to-date information about supported hardware, software, browsers and operating systems is provided by the IBM Software Product Compatibility Reports at:

http://pic.dhe.ibm.com/infocenter/prodguid/v1r0/clarity/index.html

For more information about running the Software Product Compatibility Reports, see the Overview and Planning section of the TBSM Wiki.

https://www.ibm.com/developerworks/mydeveloperworks/wikis/home?lang=en#/wiki/Tivoli%20Business%20Service%20Manager1

Internet Explorer issues

This section describes issues encountered using the Internet Explorer browser.

Hover preview Health tab is blank

This section describes how to resolve an issue where the **Health** tab is blank in Internet Explorer.

Symptoms

On Internet Explorer, the **Health** tab is blank in a hover preview window.

Cause

If the Tivoli Enterprise Monitoring Server is not running, the **Health** tab displays no data in Internet Explorer. In Firefox, an error message indicates that the Tivoli Enterprise Monitoring Server is not running.

Resolution

To resolve the trouble, open a hover preview window in Firefox to verify that your Tivoli Enterprise Monitoring Server is running. If necessary, restart the Tivoli Enterprise Monitoring Server.

Note: Deprecation for Jazz™ for Service Management Registry Services is due with version 1.1.3 and thus the Open Services Lifecycle Collaboration (OSLC) Hover Preview functionality, which uses this feature, is also deprecated, when used with versions or Jazz™ for Service Management equal to or greater than version 1.1.3.

JavaScript pop-up dialog boxes that display when running Internet Explorer

This section describes JavaScript pop-up dialog boxes that you might see when you run Internet Explorer (IE).

Symptoms

JavaScript pop-up dialog boxes may be displayed when IE is running.

Resolution

Ensure that script debugging and notification is disabled in IE by completing the following steps:

1. Select **Tools -> Internet Options**
2. In the Internet Options dialog box, select the **Advanced** tab
3. In the **Settings** section, under **Browsing**:
   a. Select **Disable script debugging (Internet Explorer)**
   b. Select **Disable script debugging (Other)**
   c. Clear **Display a notification about every script error**

System Status page does not display correctly in Internet Explorer

When you display the TBSM System Status page in Internet Explorer, the page displays, but is missing table shading and formatting.

Symptoms

When you open the System Status page, a security warning message displays:

In Internet Explorer 8, the message is a pop-up window:

```
Do you only want to view web page content that was delivered securely?
```

If you click **Yes**, the page displays, but is missing some table shading and formatting.

In Internet Explorer 9, the message appears at the bottom of the screen:

```
Only secure content is displayed.
```

If you do not click Show all content, the page displays, but is missing some table shading and formatting.

Cause

The Internet Explorer security settings cause the messages to display and block some content by default.

Resolution

You can change your security settings to disable these warnings as follows:

1. Click **Tools->Internet Options->Security**
2. Click the **Security** tab . -
3. Click the **Internet zone** icon at the top of the tab page
4. Click the **Custom Level**.
5. In the **Miscellaneous** section change **Display mixed content** to **Enable**
6. Repeat the above steps for the **Local intranet** and **Trusted sites** zones

User cannot create new users, groups, or pages on Windows Server 2008

This topic describes an issue with Internet Explorer versions 7, 8, and 9 on Windows Server 2008, where the user cannot create new users, groups, or pages.

Symptoms

When using Internet Explorer versions 7, 8, and 9 on Windows Server 2008, even with the correct TBSM or DASH authority, the user cannot create new users from the **Manage Users** panel, new groups from the **Manage Groups** panel, or new pages from the **Page Management** panel.

Each of these attempts results in a javascript error, indicated by a little yellow triangle with a black exclamation point in the lower left corner of the browser.

Resolution

On the browser, complete the following steps:

1. Select **Tools** > **Internet Options**. The **Internet Options** window displays.
2. Click the **Security** tab.
3. Select **Internet**.
4. Click **Custom Level...**. The **Security Settings** window displays.
5. Verify that the **Enable** radio button under **Scripting** > **Active Scripting** is selected.
6. Click **OK** to save Internet zone security settings.
7. Click **OK** to save internet options.
8. Log out and then log back in for the changes to take effect.

Note: For Internet Explorer 7 running on Windows Server 2008, this procedure is required for these functions (and possibly others) to work, even if the TBSM Dashboard server host name has been added to the local intranet or trusted zones, where this setting may already be enabled.

WARNING: Be aware that enabling this setting for the Internet zone enables it for all Internet Web sites that you browse to, except those specifically listed in the trusted and restricted zones.

Policy Editor comes up blank on Internet Explorer 8

This topic describes an issue with Internet Explorer 8, where the user cannot use the Policy Editor.

Symptoms

When using Internet Explorer 8, the Policy Editor launches, but the policy does not display in the editor.

Cause

Active Scripting must be enabled in the Internet Zone.

Resolution

To enable Active Scripting, complete the following steps:

1. Select **Tools** > **Internet Options**. The **Internet Options** window displays.
2. Click the **Security** tab.
3. Select **Internet**.
4. Click **Custom Level...**. The **Security Settings** window displays.
5. Selecthat the **Enable** radio button under **Scripting** > **Active Scripting** is selected.
6. Click **OK** to save Internet Zone security settings.
7. Click **OK** to save Internet Options.

Firefox issues

This section describes issues unique to the Mozilla Firefox browser.

TBSM dialog windows blank

This section describes issues where popup dialogs may appear empty.

Symptoms
The browser indicates that it is finished loading the a popup dialog page such as a rule editor, but the page is blank.

Cause
The page does not load correctly at the first attempt. This appears to happen more frequently on slower network connections, or where the browser is remote from the Dashboard server.

Resolution
Press the F5 key to refresh the page. It may take more than one Refresh for the dialog to populate.

TBSM hangs when closing

This section describes how to resolve an issue related to the Firefox browser and the JRE level.

Symptoms
Firefox fails to respond when you close TBSM components.

Cause
The JRE needs to be updated.

Resolution

Supported Java runtime versions: The most up-to-date information about supported hardware, software, browsers and operating systems is provided by the IBM Software Product Compatibility Reports at:

https://www.ibm.com/software/reports/compatibility/clarity/prereqsForProduct.html

1. In the **Full or partial product name:** field, type `Business Service` and click the search button.
2. From the **Search Results**, select **Tivoli Business Service Manager.**
3. From the **Version** field, select **6.2.0**.
4. From **Mandatory capabilities:**, select **Java**.
5. Click **Submit**.

Note: The Java Runtime Environment that is being used should be updated to the most recent fix level.

Important: These web browser settings are required:

- JavaScript is enabled in the browser.
- Set your browser to allow pop-up windows. If you block pop-up windows, you will disable features of TBSM that require pop-up windows.
- Set your browser to accept third-party cookies.

Note: This update might prevent certain LIC scenarios from working as expected.

Firefox memory growth issue

This section describes how to address memory related performance issues with the Firefox Web browser.

Symptoms

When running the TBSM console in the Firefox browser, you may encounter memory-related performance problems.

Cause

These issues may be due to the browser consuming more than an appropriate quantity of memory. If you are experiencing such issues while using Firefox, check to see how much memory the browser is consuming. To check the amount of memory used by the browser:

1. Launch the browser.
2. In the address field, enter: `about:cache?device=memory`
3. In the data returned, examine the lines near the top that contain Maximum storage size. For example:

```
Memory cache device
Number of entries: 20
Maximum storage size: 65536 KiB
Storage in use: 379 KiB
Inactive storage: 339 KiB
```

   This sample data indicates that the browser might consume as much as 64 MB of storage.

   Note: KiB stands for Kibibyte, a contraction of kilo binary byte. One KiB is equivalent to 1024 bytes.

Resolution

If the amount of memory in use seems unusually high (more than 64 MB), do the following:

1. In the address bar of the browser, enter:

   `about:config`
2. Right-click in the white preference panel and select **New > Integer**.
3. In the **New Integer Value** window that opens, enter:

```
browser.cache.memory.capacity
```

4. Click **OK**.
5. In the **Enter integer value** window that opens, enter a memory value (in KiB) that limits the amount of memory the browser can use. On a typical Windows system, a size of 64 MB (enter 65536) should be more than sufficient.
6. Click **OK** to close the window and then restart the browser.

View Service error

This section describes an error that occurs in the **View Service *service_name*** tab of the **Service Editor** portal.

Symptoms

The user selects a service on the **Services tree** in **Administration -> Service Administration**. After all loading is complete, an error is displayed in the **View Service *service_name*** tab of the **Service Editor** portal.

Cause

This problem occurs because third-party cookies are disabled in Firefox.

Resolution

To enable third-party cookies on the client work stations:

1. Select **Tools -> Options** from the Firefox menu bar.
2. Select the **Privacy** tab.
3. Ensure that the following options are checked:
   - **Accept third-party cookies from sites**
   - **Accept third-party cookies**

   is selected.
4. Click **OK** to confirm the settings.
5. Log on to TBSM to test the resolution.

Data does not display in low resolution

This section describes an issue where data does not display when using Firefox in low resolution.

Symptoms
When using Firefox in low resolution, the data in the Data Fetcher, Data, Custom Canvas, or Urgent List does not display.

Resolution
Change the resolution to at least 1280 x 1024. If this does not resolve the issue, revert to Internet Explorer as your browser.

Note: If you use Firefox with the higher resolution, you might still see a large gray area between the headings and data.

TPC cannot launch from TBSM in Firefox

When using the Firefox browser, you cannot launch TPC.

Symptoms
The launch from TBSM to supported launch point TPC does not work in Firefox, and shows an error when Oracle Java is used.

Resolution

The launch points, such as TPC, only support IBM Java in Firefox. Due to a documented issue in the Firefox browser, only Oracle Java will allow the Service Viewer to display and function correctly.

Use a supported version of Internet Explorer (8 or 9) running a supported version of the IBM Java. This will allow you to both launch and use TBSM functions that also require the Java plug-in.

Chapter 7. Server issues

The topics in this section describe how to resolve issues that cause the TBSM server to malfunction or shut down unexpectedly.

ISC server request error

Clearing the browser cache can resolve an error that is returned when selecting Integrated Solutions Console (ISC) Service Administration.

Symptoms
After logging on to ISC, you select **BSM Menu** > **Service Administration**. The following error is returned:

```
TIPMSG1003E
An error occurred while making server request.

Error: 'this.domNode' is null or not ab object
```

Cause
This error might occur after installing an E-Fix or fix pack. The browser cache must be cleared.

Resolution
Clear the browser cache.

Restarting the Dashboard server

It may be necessary to restart the Dashboard server. Refer to the following instructions for Windows and UNIX.

Restarting the Dashboard server using Windows command line
To restart the Dashboard server from the Windows command line, enter the following stop and start commands:

```
<JazzSMHome>\profile\bin\stopServer server1

<JazzSMHome>\profile\bin\startServer server1
```

Restarting the Dashboard Server in UNIX

On UNIX platforms the servers are restarted from the command line. To restart the Dashboard server from the command line. Enter the following stop and start commands::

```
<JazzSMHome>/profile/bin/stopServer server1
<JazzSMHome>/profile/bin/startServer.sh server1
```

Restarting the Data server

It may be necessary to restart the Data server. Refer to the following instructions for Windows and UNIX.

Restarting the Data server from Windows Services
To restart the Data server from the Services user interface, do the following steps:

1. Select **Start** > **All Programs** > **Administrative Tools** > **Services**.

2. Locate the service with the name "Tivoli Business Service Manager - TBSM Server Port_17310" (this is the default, the port name could be different depending on the server configuration.)
3. Right-click the service and click **STOP**.
4. When the stop is completed, right-click the service and click **Start**.

Restarting the Data server using Windows command line
To restart the Data server from the Windows command line, enter the following:

```
%IMPACT_HOME%\bin\stopImpactServer
%IMPACT_HOME%\bin\startImpactServer
```

Restarting the Data server in UNIX
To restart the Data server from the UNIX command line, enter the following:

```
$IMPACT_HOME/bin/stopImpactServer.sh
$IMPACT_HOME/bin/startImpactServer.sh
```

Server shuts down with too many open files exceptions

This section describes how to resolve the too-many-open-files error.

Symptoms
On Linux®, HP-UX, AIX, and Solaris hosts, the TBSM server crashes and the trace log `SystemOut.log`, or `SystemErr.log` has an exception as follows: `Too many open files`.

Cause
This exception indicates that the TBSM server process has exceeded a system-imposed limit on the number of files that can be open by a given process or user. You can increase the system limit for files. Change the system limits first as described in the resolution section for each operating system.

Resolution on Linux

The system administrator must add the following lines to the `/etc/security/limits.conf` file:

```
tbsmadm      soft      nofile   8192
tbsmadm      hard      nofile   8192
```

Where `tbsmadm` is the user ID that runs the TBSM server process. If your user ID is different, then replace the user ID in the sample lines as appropriate.

The `tbsmadm` user might need to log out and log in for the change to take effect.

To verify the change, run the following command from the shell prompt where the TBSM server is started:

```
ulimit -a
```

The value reported for open files (`-n`) should be 8192.

Note: Make sure that 8192 or whatever value is chosen for the TBSM server process does not exceed the system-wide limit for the maximum number of open files. The system-wide limit resides in the `/proc/sys/fs/file-max` directory. The number chosen for the TBSM server should be a fraction of the limit specified in `file-max`.

Resolution on HP-UX
The system administrator needs to increase the values for the following kernel configuration tunables:

- **maxfiles** - Initial (soft) maximum number of file descriptors per process (increase at least to 8192)
- **maxfiles_lim** - Hard maximum number of file descriptors per process (increase at least to 8192)

You can modify these parameters using either the System Administration Manager (SAM) utility or System Management home page (SMH) utility. SMH replaces SAM as the system management interface as of HP 11i v3 (11.31).

To enable the maxfiles changes, you must reboot the system.

Resolution on Solaris
The system administrator needs to add or increase the following values in the `/etc/system` file:

- **set rlim_fd_max** - Hard maximum number of file descriptors per process (increase at least to 8192)
- **set rlim_fd_cur** - Initial (soft) maximum number of file descriptors per process (increase at least to 8192)

To enable the changes, you must reboot the system.

Resolution on AIX
The system administrator needs to permanently change the `ulimit` setting of the user running the TBSM server. The `unlimit` setting specifies the number of open file descriptors for a given user. The change this setting:

1. Log on as the root user on the TBSM host.
2. To change the number of open files limit to 8192, enter the command:

   ```
   chuser "nofiles=8192" username
   ```

3. Log on as *username* and confirm the new setting with the command:

   ```
   ulimit -a
   ```

   The command output needs to match the number you specified in step 2.

   ```
   nofiles(descriptors)  8192
   ```

Disable database connection check
If you continue to receive the too-many-open-files exception after you change your system settings, you can disable or decrease the frequency of the health check for the TBSM database connection. By default, the TBSM Data server checks the database connection every 30 seconds and stops the server if the database cannot be connected. To disable the connection check or decrease its frequency, complete the following steps:

1. Change to the directory `IMPACT_HOME/etc` (`IMPACT_HOME\etc` for Windows).
2. In a text editor, open the file: `TBSM_sla.props`.
3. Add the following property:

   ```
   impact.sla.checkdbstatus=false
   ```

4. Add the following property to change the frequency of the check:

   ```
   impact.sla.dbcheckconnectionwaitseconds=SS
   ```

   SS is the number of seconds between database connection checks. This property is ignored if step 3 is performed.

Special considerations for dual-mode IPv4 and IPv6 environments

This section describes how to resolve the issue of the IPv4 and IPv6 servers not communicating properly.

Symptoms
The client continually tries to reconnect itself.

Cause

This problem occurs when a Dashboard server is configured for IPv4/IPv6 with two host names and two different IP addresses, and the Data server is configured for only IPv6 with only one host name.

Resolution
To resolve this problem, perform the following steps to manually add the host name for the Data server to communicate with.

1. Stop the dashboard.
2. Edit the `<JazzSMHOme>/profile/installedApps/JazzSMNode01Cell/isc.ear/sla.war/etc/RAD_server.props` file.
3. Set the impact.server.iphostname=*<your IPv6 hostname>*.
4. Edit the `/<JazzSMHome>/profile/config/cells/JazzSMNode01Cell/nodes/JazzSMNode01/servers/server1/server.xml` file.
5. Add the following property to the beginning of genericJvmArguments: -Djava.rmi.server.hostname=<your IPv6 hostname>. The property should look like the following:

   genericJVMArguments="-Djava.rmi.server.hostname=cvtsol08v6.tivlab.raleigh.ibm.com -Dname=RAD ... *<rest of the property settings are continued here>*
6. Start the dashboard.

Maintenance schedules are not saved according to local time

This topic describes a maintenance scheduling issue where local browser and server are in different time zones.

Symptoms
When saving maintenance schedules, the local time set in the browser is not converted to TBSM server time in the database.

Cause
Local browser is in a different time zone than the server. This means the schedule time is set for the TBSM server time, not the time expected by the user setting it.

Resolution
Maintenance mode windows should be defined using either:

- a browser in the same time zone as the server
- by command line on the server (using the APIs documented in the *createScheduleMaintenanceWindow* topic in the *Administrator's Guide.*)

If you must set the maintenance windows with a browser in a different time zone, you will need to manually adjust the time window to accommodate for the time zone difference.

LDAP server certificates expire

Symptoms
The TBSM servers do not function correctly after your LDAP server certificates expire and are replaced with new ones.

Cause
When the LDAP server certificates are changed, the TBSM servers will not run correctly, since they will still be using the expired LDAP certificates.

Resolution

Use the following steps to remove TBSM/DASH's connection to LDAP temporarily and import the new certificates. Then restore the LDAP connection after the new certificates are successfully in place.

1. Stop dashboard or data server that is configured for the expired certificates.
2. Backup the `wimconfig.xml` file that contains LDAP connectivity information. Do this for each TBSM server that is configured for the expired certificates. The `wimconfig.xml` file is in the directories:

   Dashboard server

   ```
   $JazzSmHome/profile/config/cells/JazzSMNode01Cell/wim/config
   ```

   Data server

   For the details of LDAP connections for Data Server see:

   https://www.ibm.com/support/knowledgecenter/SSSHYH_7.1.0.12/com.ibm.netcoolimpact.doc/admin/imag_ldap_configure.html

   ```
   <TBSM_INSTALL_HOME>\tipv2\profiles\TBSMProfile\config\
   cells\TBSMCell\wim\config\
   ```

3. For each server, replace the `wimconfig.xml` with original `wimconfig.xml` (or one that does not attempt to connect to LDAP).
4. Start the TBSM server.
5. Using the original `wimconfig.xml`, import the new certificates into the server trust store
6. Stop the server
7. Restore the backed up `wimconfig.xml` file that contains the LDAP connectivity information
8. Restart the server.

Now that the new certificates are in place, the connection to LDAP will be successful and users will be able to login again.

Dashboard server only - rad_crypt command fails

Symptoms

This section describes an issue where the `rad_crypt` command fails.

Running the `rad_crypt` command fails on a Dashboard only Server when *TBSM_DATA_SERVER_HOME* environment variable is set.

The command fails on line 208 with a return code of 1.

Cause

The `rad_crypt` script checks whether the environment variable TBSM_DATA_SERVER_HOME is set, and if so, assumes the Data Server is installed on the machine.

If this is a Dashboard Only Server, and the environment variable *TBSM_DATA_SERVER_HOME* is set, the `rad_crypt` script will fail because the path the Data Server does not exist..

Resolution

On Dashboard only servers, unset the *TBSM_DATA_SERVER_HOME* environment variable before attempting to run `rad_crypt`. This variable should not be set by default.

Chapter 8. Addressing security vulnerabilities

This section describes how to resolve security vulnerabilities.

Session cookie not set for httpOnly

This section describes how to resolve security issue where the session cookie settings need to be modified.

Symptoms

If the TBSM session cookie does not contain the `HttpOnly` attribute, it might be accessed by a malicious script injected to the site, and its value can be stolen.

Resolution

Add the `com.ibm.ws.webcontainer.httpOnlyCookies` setting to the Dashboard Application Service Hub `server.xml` file on your Dashboard server as follows:

1. In a command window, change to the directory: `$JazzSMHome/profile/config/cells/JazzSMNode01Cell/nodes/JazzSMNode01/servers/server1` .
2. In a text editor, open the `server.xml` file.
3. Add the property:

```
<properties xmi:id="Property_12"
name="com.ibm.ws.webcontainer.httpOnlyCookies"
value="LtpaToken2,JSESSIONID_ibm_console_16310,JSESSIONID"/>
```

Important: Setting the `httpOnly` tag may cause some custom applications and Netcool/OMNIbus WebGUI portlets to malfunction. If you have issues after adding the `httpOnly` tag, upgrade the Java JRE to version 7.0/1.7 to resolve the problem.

Session cookies do not have the secure attribute enabled

This section describes how to resolve the security issue where an encrypted session (SSL) is using cookies without the "secure" attribute.

Symptoms

If a cookie does not have the secure attribute enabled, it is possible to steal user and session information (cookies) that was sent during an encrypted session.

Resolution

To resolve this you need to set the secure attribute for the session information cookies.

Configure the secure attribute for these session information cookies:

- `LtpaToken2`
- `WASReqURL`
- `WASPostParam`

1. Log in to the Dashboard Application Service Hub console as a user with administrator permissions.
2. Click: **Settings -> WebSphere Application server Console**.
3. Under **Authentication** click **Web Security->Single Sign-on (SSO)**, and check **Requires SSL**.

To set the secure attribute for JSESSIONID_ibm_console_16310:, session cookie, edit the file: deployment.xml.

1. In a command window, change to the directory:

```
$JazzSmHome/profile/config/temp/download/cells/JazzSMNode01Cell/applications/
isc.ear/deployments/isc
```

2. In a text editor, open the file: deployment.xml.
3. Add the secure="true" attribute to the defaultCookieSettings line. For example:

```
<defaultCookieSettings xmi:id="Cookie_1308679351797"
 name="JSESSIONID_ibm_console_16310"
 domain="" maximumAge="-1" secure="true"/>
```

Chapter 9. Data fetcher issues

This section describes issues related to the TBSM data fetcher.

Query builder errors

This section describes issues related to SQL errors when viewing results from the Query Builder.

Symptoms
After creating a query using the query builder an attempted view of the data from the query fails with an invalid query error.

Causes
The query does not match the schema. For example, the schema may have double quotes and use mixed case in column and table names.

Resolution
If schema accessed by the query builder was created with mixed case/must match syntax (that is,double quoted), then the table and column references in the query generated by the query builder must be manually double quoted.

Data fetchers are not updating services

This section describes issues with using data fetchers to set status or attribute values for services.

Symptoms
Services are not showing the expected status or custom views and scorecards are not showing expected numeric values. The metric rules defined for the templates with which the services are tagged are using data fetchers for event data.

Causes
Possible causes include:

- Connection to the data source is broken.
- The ESDA or data fetcher SQL query contains errors or is not retrieving the correct data.
- The data fetcher cache may need to be cleared if the data fetcher is configured to cache the values it fetches.
- The fetching interval is set too high.

Resolutions
First, check the data fetcher log (right-click on the data fetcher name and select **Show log** in the Data Fetcher tab). The log should indicate problems with the datasource, query, or caching. Depending on the problem, resolution includes one or more of the following steps:

1. Check the data source connection. There is a test connection button on the Data Source editor.
2. Verify that the SQL query is defined correctly and the schema for the source database has not changed. Copy the query to a utility program for the DBMS and make sure that the query executes correctly.
3. Older data fetchers, created before TBSM 6.1, may be caching the data that is retrieved.. For performance reasons, a configurable number of fetched rows are cached (the default is 100 rows) and on the next fetch only the changed rows are processed. If the row that would have affected a newly

created service was fetched prior to the creation of the service, and the row content did not change on the next fetch, then the row is not processed again after the service is created. Go to the editor page for the data fetcher and click the **Clear Cache** button to clear the cache. This ensures that all rows process when the query executes again.

Note: For more information about data fetcher caching, see *Data fetcher tuning* in the *Administrator's Guide*.

You can set data fetchers to fetch once daily at a particular time, or to fetch on regular intervals throughout the day. Make sure that the interval is appropriate for your service model. Pay special attention when editing the data fetcher to the description of the values that set the fetching interval.

Degraded Console or Data Server performance with data fetchers and/or ESDA rules

This section describes how to check the external database connections when the console or Data server performance becomes degraded.

Symptoms

The Data server runs numerous data fetchers that must connect to external data sources. There may also be ESDA queries that run to these same external data sources. The Service Tree responsiveness is degraded when trying to expand the ESDA resources to show child or parent services, which may lead to generally slower response for UI interactions. Also, utility functions, like the `rad_radshell` utility, may also start responding more slowly.

Cause

The Data server may fail to connect to some of the external data sources being used by data fetchers and ESDA rules. In some cases, the connection failures may be caused by timeouts, which can cause the server to wait up to 2 minutes in extreme cases. In addition, the server may continue to try these connections, resulting in more overhead.

Resolution

Check the TBSM `messages.log` file found in `%IMPACT_HOME%\wlp\usr\servers\TBSM\logs` on Windows platforms or `$IMPACT_HOME/wlp/usr/servers/TBSM/logs` on Linux and UNIX platforms. Look for exceptions that have been logged due to failures to connect to external data sources. These exceptions can include timeout exceptions, unknown host exceptions, connection refused, login failures, and fetcher SQL exceptions.

If the log indicates failures to connect to external data sources, correct the datasource connection problems by updating the data source definition with the correct connection information. You could also disable failing data fetchers if they are not needed until the datasource can be corrected.

Including the hash character (#) in Oracle queries

In order to include the hash character (*#*) in Oracle queries, you need to set the **`db.tableandfield.illegalchars`** property in the `server.props` file. This property specifies which characters are illegal within Oracle queries.

By default, this property is set to `" - |#|%|\\+|/|\\s+"`, which includes *#* among the characters deemed illegal. If *#* is included within the name of a column (for example: PHONE*#*), and you want to include that column within an Oracle query without getting an invalid character error, you need to change the value set for the **`db.tableandfield.illegalchars`** property to `" - |%|\\+|/|\\s+"`. This ensures that *#* is no longer treated as an illegal character.

Chapter 10. ITM policy Data fetcher issues

This section describes IBM Tivoli Monitoring TEPS(Tivoli Enterprise Portal Server) connection issues related to TBSM ITM policy-based data fetchers.

Test Web Service Connection fails when configuring an ITM policy-based data fetcher

This topic describes how to manually test the connection to the Web Service for DASH Console charts deployed on a TEPS server.

Symptoms

User is unable to connect to the IBM Tivoli Monitoring Data server.

Resolution

Complete the following steps:

1. Verify the network connection between the Dashboard server and the IBM Tivoli Monitoring server. For example, ping or trace route.
2. Verify that the IBM Tivoli Monitoring server is running and the user can log on and connect using the Tivoli Enterprise Portal Console.
3. Check `JazzSMHome/profile/logs/server1 SystemOut.log` and `SystemErr.log` for any exceptions that might point to errors with connection or authentication.
4. If using SSO, verify that the LDAP Server is running and available. Also, verify that the clocks between the IBM Tivoli Monitoring computer and the DASH Console computer are synchronized within a minute of each other.
5. Verify that the "Web Service for DASH charts" has been deployed on your ITM TEPS server. A simple test to verify the Web Service is available is to attempt to access the Web Service using one of the following URLs in a browser:

   If SSL is configured -

   ```
   https://your_teps_server:15201/TIPWebServiceHttpRouter/services/QueryPort
   ```

   If SSL is NOT configured -

   ```
   http://<your_teps_server:15200/TIPWebServiceHttpRouter/services/QueryPort
   ```

   If the TIP Web Service is deployed and running, you get a basic response from the URL request such as:

   ```
   {http://chart.tip.tivoli.ibm.com/chartservice.wsdl}QueryPort
       Hi there, this is a Web service!
   ```

   For documentation of how to deploy the TIP Web Service see the section titled "Enabling TIP Web Service for Tivoli Integrated Portal charts" in the ITM *Administrator's Guide*.

   Note: Note: The TIP Web Service is only available in ITM 6.2.2 FP2 and higher. It is strongly recommended that you use ITM 6.2.2 FP6 or ITM 6.2.3 as the version of TIP Web Service contains some important fixes and updates.

Chapter 11. Data source issues

This section describes issues encountered with data sources.

Informix database error CTGBA0024E

This topic describes an Informix database error, and how to resolve it.

Symptoms
When creating a new data source for an Informix database, you may receive the following error message after testing the connection to the database:

```
CTGBA0024E The test connection was not opened.
```

Cause
The TBSM Data Server must be restarted, whenever creating a new data source for an Informix database.

Resolution
Restart the TBSM Data Server after creating a new data source for an Informix database.

New or migrated data source not connected

This topic describes issue with New or migrated data sources.

Symptom
A new or migrated datasource does not connect successfully.

Cause
The JDBC drivers for the database type defined for the datasource may not be installed on TBSM 6.1.

Resolution

Install the JDBC driver for your database.

Tivoli Business Service Manager supplies the following database JDBC drivers with this release:

- DB2
- HSQL
- Informix
- ObjectServer

If you want to use other databases as data sources, you need to obtain these drivers from the database manufacturer and copy them to your TBSM host.

These files are typically provided by the database vendor with the database or the database client package. For example, you can find the Oracle file on your Oracle host system or as part of your Oracle client installation.

1. Obtain the appropriate JDBC driver for your database.
2. Stop the Data server.
3. Copy the JDBC driver to the `$IMPACT_HOME/dsalib` directory.

   This directory is created during the installation, and initially it is empty.

4. Restart the server.

Chapter 12. Discovery Library toolkit issues

This section describes how to resolve issues with the Discovery Library toolkit.

For more information about installing and configuring the Discovery Library toolkit, see the TBSM *Installation Guide* and *Administrator's Guide*.

The TBSM Discovery Library toolkit imports data from Tivoli Application Dependency Discovery Manager 7.1.2 or later, Discovery Library books, the toolkit API, and non-CDM namespace books.

- Discovery Library toolkit service/daemon
  - Naming
  - Labeling
  - Composite
  - Event
- Service Component Registry (SCR)
- Mapping
- External Service Dependency Adapters (ESDA)

Discovery Library toolkit processing
The service handles both the reading of discovery library books and the querying of data from Tivoli Application Dependency Discovery Manager.

For book processing, the sequence of events follows:

1. The `xmltoolkitsvc.properties` file in the `$TBSM_HOME/XMLtoolkit/bin` directory includes properties that define the monitored directory and polling interval. The directory defined by **`DL_FileSystem`** is monitored for new books. The file system is checked at the interval defined by **`DL_PollIntervalSeconds`**.
2. When a new book is placed into the file system, the name of the book is parsed, and the date and time information is extracted from the book.

   For a book named `TMSDISC100-A.`*`hostname`*`.2006-12-18T18.27.57Z.refresh.xml`, the date `2006-12-18T18.27.57Z` and author `TMSDISC100-A.`*`hostname`* is extracted from the name of the book. For each author, only books with later dates since the last book from that author will be processed. The author and data information is kept in the database in the table `scc_authorlist_config`.
3. The book is preprocessed by a number of transforms. These transforms generate SQL that is stored in the `$TBSM_HOME/XMLtoolkit/xml/src/out` directory. The SQL is the result of the naming, labeling, composite, and event mapping configuration, in addition to the mapping of common data model objects and relationships to the TBSM service model.
4. Following the transforms, the SQL is applied to the database, first placing the data from the transforms in the stage_* tables, which is then merged with data in the scc_* tables.

For Tivoli Application Dependency Discovery Manager processing, the sequence of events follows:

1. Either a delta or bulk download of data is requested from Tivoli Application Dependency Discovery Manager. Data requested is governed by the classes filtered in the file `$TBSM_HOME/XMLtoolkit/config/filters/classfilters.xml`. This file is stored in the database and the database copy is used at runtime. To change this file, use the `getArtifact` command to extract the file from the database, then use the `putArtifact` command to update the database. The toolkit must be restarted to pickup filter changes.. Data is only requested for classes and subclasses not filtered by these files.
2. The data extracted from Tivoli Application Dependency Discovery Manager is parsed and resulting SQL is stored in the `$TBSM_HOME/XMLtoolkit/xml/src/out` directory. The SQL is the result of the

labeling, composite, and event mapping configuration, in addition to the mapping of common data model objects and relationships to the TBSM service model.

3. Following the transforms, the SQL is applied to the database, first placing the data from the book in the stage_* tables, which is then merged with data in the scc_* tables.

Service Component Registry (SCR)
The Service Component Registry (SCR) is a series of tables that are used for temporarily storing new data read from a book as well as the permanent store of information discovered through the toolkit. The staging tables (stage_*) are truncated for each book or Tivoli Application Dependency Discovery Manager discovery sequence, and temporarily store this data. The scc_* tables are the permanent store of information discovered through the toolkit.

Mapping
Mapping is used to map between the classes defined in the common data model and templates defined in the TBSM service model. Mapping also maps between the relationships defined in the common data model, and dependencies defined in the TBSM service model.

External Service Dependency Adapters (ESDAs)
ESDA rules extract data from the SCR scc_* tables, and place the data into the TBSM database. The ESDA rules are part of the SCR templates and seed service you load after you install the Discovery Library toolkit. For more information about ESDA rules, see the TBSM *Service Configuration* and *Customization* guides.

Note: Due to the manner in which TBSM imports data from the Service Component Registry (SCR) and the complexity of the relationship model it is loading, it is possible that an SCR object will be seen in multiple places in the TBSM tree hierarchy. That will not change the fact that the object is the same, with the same children and the same status.

Discovery Library toolkit logs
The following two logs are generated by the service/daemon:

- `msgGTM_XT.log` - message log
- `traceGTM_XT.log` - trace log

The logs are controlled by properties in the `enqueuecl.properties` file. This property file is in the `$TBSM_HOME/XMLtoolkit/bin` directory. See the **`MessageLoggingLevel`** and **`TraceLoggingLevel`** properties to control the level of detail in the logs. The default is to set the logging at the minimal level.

The most prominent message to scan for is `GTMCL5205E`. This message is used for logging exception data. For more information about the Discovery Library toolkit properties, see the *Administrator's Guide*.

Collecting data for service
If a problem cannot be resolved, collect the following data:

- Run `$TBSM_HOME/XMLtoolkit/bin/util -e collect_db_info.xml`(utils.sh on UNIX)
- `$TBSM_HOME/XMLtoolkit/xml` directory
- `$TBSM_HOME/XMLtoolkit/log` directory

If you can recreate the problem, edit the `enqueuecl.properties` file and set **`MessageLoggingLevel=INFO`** and **`TraceLoggingLevel=FINEST`**, recycle the service, and recreate the problem. Then collect the data noted above.

Unable to connect to database

This section describes how to resolve database connection issues.

Symptoms
The `msgGTM_XT.log` file indicates that the connection with the database failed and that it waits a period of time.

Cause
The exception typically indicates that either the user does not exist or authentication failed. This exception may also be a sign that the TBSM server is no longer running. Check to see if the TBSM server is running.

Resolution
The TBSM database user ID must be the internal database user ID, not the user ID that the service is running under. On Windows, this ID is an internal user ID that was generated when the database was installed. On UNIX systems, this user ID was typically used when the TBSM base server was installed.

1. To set the TBSM database user ID and password run the **`setxmlaccess`** command with these options:

   ```
   setxmlaccess -tbsmdbid tbsm_DB_user -tbsmdbpw password
   ```

2. To set the TADDM database user ID and password, run the **`setxmlaccess`** command with these options:

   ```
   setxmlaccess -taddmdbid taddm_db_user -taddmdbpw password
   ```

   .

3. Stop and start the Discovery Library toolkit.

Other possible database connection errors include client authentication at the database level. Authentication can be regulated to specific hosts, or you can enable global access. Verify that the settings in this file allow the connectivity from the host on which the toolkit is installed. Connectivity is typically a problem only if the toolkit is installed on a different computer to the database.

Discovery Library book not processed

This topic describes issues related to Discovery Library book processing.

Symptoms
A new book was moved into the directory monitored by the Discovery Library toolkit, but the resources were not loaded into TBSM. The **`DL_FileSystem`** property in the `xmltoolkitsvc.properties` file specifies this directory.

Cause
If you copy a UNIX-style book as a binary file to a Windows computer, a **Do not transfer books as binary files** transform error occurs. Also, if the book by this author was previously processed, the failed book may have a time stamp that is older than the previously processed book. The book may also have formatting errors.

Resolution

Copy the book as an ASCII file.

If you continue to get errors, look in the `msgGTM_XT.log` file for any type of exception. If a transform error occurs, it is likely that the book is not properly formatted. If so, correct the book and place it back into the discovery library file system.

Verify that the new book has a later time stamp than the previously processed book from this author. If the book is older, it will not be processed. The timestamps associated with each author are in the file `$TBS_HOME/XMLtoolkit/xml/authorList41.cfg`.

Tivoli Application Dependency Discovery Manager loaded book or imported data issue

This section describes a problem where nothing is visible in the user interface after a book or imported data is successfully loaded from Tivoli Application Dependency Discovery Manager.

Symptoms
A book has been successfully loaded or data imported from the Tivoli Application Dependency Discovery Manager. The `msGTM_XT.log` indicated that the upload was successful and there were no exceptions in the log. However, the book or imported data is not visible in the user interface.

Cause
There are two possible causes:

- The templates were not installed during the base TBSM server installation.
- The toolkit's XML configuration files were modified and the changes were not valid.

Resolution
If the cause is missing templates, it is visible from the TBSM user interface. On the TBSM user interface, examine the templates. If there are no templates listed, then the templates were not loaded.

On the TBSM user interface, examine the Service Component Repository. The Component Registry should be listed under the user interface, and there should be several folders. If it does not exist, the templates were not loaded.

The template and Service Component Repository definitions are located in `$TBSM_HOME/install/BSM_Templates.radsh`. To load them run the command:

- For Windows: `%TBSM_HOME%\install\BSM_Templates.radsh | %TBSM_HOME%\bin\rad_radshell`
- For UNIX: `cat $TBSM_HOME/install/BSM_Templates.radsh | $TBSM_HOME/bin/rad_radshell`

If the templates are okay and the toolkit's XML config files were changed, open the changed XML file in a browser. The browser will validate that the basic XML syntax is correct. Then check the `msgGTM_XT.log` for any exceptions that may have occurred when the toolkit was starting, before the book loading or the Tivoli Application Dependency Discovery Manager import. If you do not identify any issues, perform the following steps:

1. Restore the backup copy of your XML file.

   The **`listArtifact`** command will show if a backup copy of the configuration file is stored in the database. If one exists, the **`removeArtifact`** command removes the existing configuration file, thus restoring the backup copy.
2. Stop and restart the toolkit.
3. Run the following command: `$TBSM_HOME/XMLtoolkit/bin/utils -e reload_cdm_definitions.xml`.

No children on expanding imported Business Services issue

Symptoms

Even though the **CRViewer** shows components imported from TADDM, there are no services displayed when the imported Business Services is expanded in the TBSM Service Tree.

Cause

The DB2 driver used by Impact was upgraded to v4 by APAR IJ12231 in FP16. This results in the SQL from the ESDA policies returning incorrect column names. This is because of a change in how aliases are handled in v4 DB2 driver. See https://www-01.ibm.com/support/docview.wss?uid=swg21975352.

The following SQL is run using JDBC for ESDA top level services (this can be seen in the `TBSM_policylogger_ESDA_Custom_SCC_TOPLEVEL_Down_1.log`):

```
select distinct sc.id as "id", sc.cntDepends as "dependency_cnt", sc.class as
"class", sc.label as "label", sc.radinstanceid as "radinstanceid",
sc.primaryTemplate as "primarytemplate", sc.otherTemplates as "othertemplates"
from tbsmscr.view_componentswithtemplates as sc LEFT OUTER JOIN
tbsmscr.view_dependencycomponents o on o.tgtid=sc.id and o.srcprimarytemplate
IN ( 'BSM_SOProcess','BSM_BusinessService','BSM_BusinessApplication' ) LEFT
OUTER JOIN tbsmscr.view_tbsmcreatedobjs as tbsmobjs ON tbsmobjs.comp_id=sc.id
where o.srcid is null and tbsmobjs.comp_id is null and sc.primarytemplate IN
( 'BSM_SOAProcess','BSM_BusinessService','BSM_BusinessApplication' ) WITH UR
```

With v3 DB2 driver, the columns returned are:
`id,dependency_cnt,class,label,radinstanceid,primarytemplate,othertemplates`

With v4 DB2 driver, the columns returned are:
`ID,CNTDEPENDS,CLASS,LABEL,RADINSTANCEID,PRIMARYTEMPLATE,OTHERTEMPLATES`

This change in column name causes an issue for the ESDA policies in TBSM.

Resolution

1. Ensure the only DB2 driver in `impact/lib3p` or `impact/dsalib` is a v4 driver, namely `db2jcc4.jar`.
2. Create a file called `TBSM_com.ibm.db2.jcc.DB2Driver.props` under `$IMPACT_HOME/etc` which includes the following property:

   `useJDBC4ColumnNameAndLabelSemantics=2`

   This does require a restart of the Impact server.
3. Using the UI, invalidate the Imported Business Services top level service and then re-expand the Service.
4. If necessary, run a TADDM import, or import an IDML book.
5. Ensure the services are created in TBSM.

   Note: The workaround is to enable the **Invalidate** button in the TBSM UI for Imported Business Services. By default, the **Invalidate** button has been hidden. To enable it on the screen, go to the JazzSM directory where TBSM Deployable Artifact has been installed and edit the following file:

   `/opt/IBM/JazzSM/profile/installedApps/JazzSMNode01Cell/isc.ear/sla.war/etc/RAD_ sla.props`

   Change the key `impact.esda.enable=false` value to `true` and restart the JazzSM Server.

Related issue:

There is a related issue which happens if TBSM 620 GA is used when Impact is at version FP14 or higher. Because Impact FP14 moved to java 8 and TBSM 620 is at an earlier Java version, the following error will be seen in the toolkit logs after importing from TADDM :

```
[2019/06/17-16:05:53.089] com.ibm.tbsm.cltools.service.ASIRadFacade getFacade
[34] GTMCL5309I: Initiating connection with the TBSM facade at noi09.noi.local
using port 9080

[2019/06/17-16:05:58.312] com.ibm.tbsm.cltools.service.ASIRadFacade getFacade
[34] GTMCL5342E: An error occurred while invalidating resources in the TBSM
Data server. This a permanent error, therefore invalidation will be disabled.
Other aspects of data processing will continue as normal, but new data will not
appear on the TBSM UI unless the effected resources are invalidated from the
TBSM UI. This error is often caused by a classpath issue. The property
DL_TBSM_Server_Classpath in xmltoolkitsvc.properties contains the jar files
used for invalidation. This property should be changed so that it includes the
missing files. Once the classpath has been corrected, the toolkit will need to
be restarted to pickup the change. Invalidation will automatically be
reactivated when the toolkit is started.

[2019/06/17-16:05:58.312] com.ibm.tbsm.cltools.service.ASIRadFacade getFacade
[34] GTMCL5205E: Exception caught. JVMCFRE003 bad major version; class=com/
micromuse/response/dblayer/ConfigRepository, offset=6.
```

This message means that the toolkit cannot tell TBSM to invalidate its tree which means the ESDA policies will not run. The fix is to install TBSM 620 FP1. The workaround is to enable the invalidate button in the TBSM UI for Imported Business Services. Click the button and then expand the tree.

Duplicate computer systems occur

Duplicate computer systems can occur when importing data from both IDML books and TADDM. This section will discuss how to resolve this condition when the duplicates are caused by an incomplete signature attribute in the IDML book.

Symptoms

When duplicate computer systems occur, it is usually seen in the Service Component Repository under the Servers folder; two computer systems has the same name, one instantiated from an IDML book and the other instantiated from TADDM. The source contact information and source token attributes indicates the source of the computer system (IDML or TADDM)

Cause

Duplicate computer systems occur when two sources report the existence of a resource, but the naming information supplied for each resource is not sufficient to reconcile the resources. Some IDML books, especially the older ITM DLA books, contain an incomplete signature attribute, resulting in duplicate computer systems if a computer system is instantiated from an IDML book before the computer system is instantiated from a TADDM import. The signature attribute from TADDM is IP_Address(MAC_address) and the signature attribute from the IDML book is just IP_Address. If the computer system is instantiated from TADDM first, and then an IDML book containing the computer system is loaded, this condition does not occur.

Resolution

If duplicate computer systems are found, and one is from TADDM and the other was from an IDML book, then the duplicates can usually be reconciled by importing another book from the original IDML author. Importing another IDML book from the same author after the TADDM import has completed, forces the reconciliation code to reevaluate the signatures and to recognize that the two computer systems are actually the same systems.

Relationship change in Tivoli Application Dependency Discovery Manager is not reflected in TBSM after import

This section describes how to resolve an issue where a relationship change in Tivoli Application Dependency Discovery Manager is not reflected in TBSM after an import.

Symptoms
A re-import of resources moved from TADDM is not reflected in the TBSM Service Tree.

Cause
Thus issue occurs if the TBSM Service Model is corrupted in the TBSM database. A fix has been delivered in 6.1.0-TIV-BSM-FP0001 to address a TBSM database corruption issue. For more information, see APAR IV15748. However, if the relationships have been corrupted, they are not reflect after you have imported from TADDM.

Resolution
To fix the relationships complete these steps:

1. Stop the Data server to ensure that the in-memory model is not different from the database model.
2. From the command prompt, run these commands:

```
cd $TBSM_HOME/XMLtoolkit/bin
./dumpsql.sh -t DB2 -s db-cleanup.sql
cd $TBSM_HOME/XMLtoolkit/log/DB2
```

3. Using `db-cleanup.sql`, run each line within the file individually. This can be done from the DB2 Control Center or another equivalent query analyzer.
4. Start the TBSM Data server

Tivoli Application Dependency Discovery Manager out of memory exceptions

A Discovery Library Toolkit load does not complete because of out of memory errors in TADDM.

Symptoms

One of these errors is displayed in the Discovery Library Toolkit log file:

```
An unexpected error occurred.; nested exception is: . java.rmi.ServerError: Error
occurred in server thread; nested exception is: . java.lang.OutOfMemoryError...
```

or

```
GTMCL5205E: Exception caught. Error occurred in server thread; nested
exception is: java.lang.OutOfMemoryError.
```

or

```
com.ibm.tbsm.cltools.service.ASIAPIObserver run [4]  NOTE ^com.ibm.tbsm.cl
tools.nls.CLToolsResources^S^GTMCL5205E: Exception caught.
java.lang.OutOfMemoryError
```

Resolution

This issue requires technical support from the TADDM support team. However, before contacting technical support, you can restrict the amount of data coming from TADDM by setting the `import` parameter to `false` for some classes in the `classfilters.xml` file located in the TBSM database:

1. Retrieve the `classfilters.xml` file from the database using the command:

```
./getArtifact.sh -U <username>  -P <password> -d <directory>
-n classfilters.xml -c taddmfilters
```

   where <directory> is the directory to which you want to copy the file.
2. Edit the `classfilters.xml` file to change the `import` parameter to `false` for any classes that you want to exclude. Save the file.
3. Upload the updated file using the command:

```
./putArtifact.sh -U <username>  -P <password> -n <directory>
/classfilters.xml -c taddmfilters
```

   where <directory> is the directory from which you want to upload the file.
4. Restart the Discovery Library Toolkit.

Discovery Library Toolkit is out of Java heap memory

A Discovery Library Toolkit load does not complete because the Discovery Library Toolkit runs out of heap memory.

Symtoms
An error is displayed in the Discovery Library Toolkit log file:

```
GTMCL5205E: Exception caught.  java.lang.OutOfMemoryError.
```

Cause
To identify the causes of heap out of memory errors, analyze the Java heap. Edit the Discovery Library Toolkit `tbsmrdr_zstrtd.sh` script located here:

```
$TBSM_HOME\XMLtoolkit\bin\tbsmrdr_zstrtd.sh
```

Add `-XX:+HeapDumpOnOutOfMemoryError` and `-XX:HeapDumpPath` to the startup script at the line appropriate for your operating system.

For example, to add `-XX:+HeapDumpOnOutOfMemoryError` and `-XX:HeapDumpPath` to this file, for Linux, locate the line:

```
java -Dcom.collation.home="$TBSMRDRHOME/sdk" -Xbootclasspath/p:"$ENDORSED_PATH"
-Xms$MSVAR -Xmx$MXVAR com/ibm/tbsm/cltools/service/ASIXMLToolkitSvc
```

and amend it to read:

```
java -Dcom.collation.home="$TBSMRDRHOME/sdk" -Xbootclasspath/p:"$ENDORSED_PATH"
-Xms$MSVAR -Xmx$MXVAR -XX:+HeapDumpOnOutOfMemoryError -XX:HeapDumpPath=/tmp/TBS
M_OOM.phd com/ibm/tbsm/cltools/service/ASIXMLToolkitSvc
```

This produces a heap dump file `/tmp/Toolkit.phd` for an out of memory condition.

You can also add garbage collection log settings track how quickly the heap is exhausted. For the latest information about performance tuning including garbage collection, see https://www.ibm.com/developerworks/mydeveloperworks/wikis/home?lang=en#/wiki/Tivoli%20Business%20Service%20Manager1/page/Home.

Resolution

To resolve the issue, increase the amount of memory available to the Discovery Library Toolkit. To increase the maximum amount of heap memory available to the Discovery Library Toolkit:

1. Locate and open the $TBSM_HOME\XMLtoolkit\bin\xmltoolkitsvc.properties file.
2. Update the mx parameter:

```
# NOTE:  If this property is changed, mx= must start in column 1
# with no spaces.
mx=1000m
```

   The default setting is 1000m, which is 1000 MB, or 1 GB. This is usually sufficient. If you want to increase this parameter, verify that there is enough memory available for other processes on the system. On 32-bit environments, the parameter must not be made larger than 1536m.
3. Save the file and restart the Discovery Library Toolkit.

Discovery Library Toolkit bulk load does not complete on TADDM 7.1.2

This topic addresses an issue that occurs when you are connecting to TADDM Version 7.1.2 and a bulk load fails.

Symptoms

A error message is displayed in the Discovery Library Toolkit log file:

```
com.ibm.tbsm.cltools.taddm.ASITADDMConnection findRelationships [2]
NOTE ^com.ibm.tbsm.cltools.nls.CLToolsResources^S^GTMCL5205E: Exception caught.
com.collation.proxy.api .client.ApiException: java.rmi.UnmarshalException:
Error unmarshaling return header;
```

Cause

TBSM use the TADDM API, rather than direct database access. If TADDM is not properly this error can occur during discovery.

Resolution

To resolve this issue, complete these actions:

- If possible, upgrade your TADDM version to Version 7.2 or later. If this is not possible, upgrade TADDM 7.1.2 to the latest available Fix Pack. At a minimum, ensure that you have Fix Pack 9 installed.
- Verify that the com.collation.kodo.DataCacheEnabled property is set to false. If you change this property, restart TADDM. For more information, see the TADDM Information Center.
- Verify that TADDM is operating correctly. Run the TADDM api.sh command and select from the table on which the Discovery Library Toolkit import is failing. For example, if discovery is failing on Operating Systems, use:

```
/api.sh -u <username>  -p <password> find --depth 1 "select *
from OperatingSystem" >  <output filename>
```

Discovery Library Toolkit bulk load does not complete if DB2 logs are too small

This topic address a failure in a Discovery Library Toolkit bulk load that results from the size of DB2 log.

Symptoms

A error is displayed in the Discovery Library Toolkit log file:

```
com.ibm.tbsm.cltools.jdbc.ASIJDBCConnection executeUpdate [1]
GTMCL5205E: Exception caught.
-964 - DB2 SQL error: SQLCODE: -964, SQLSTATE: 57011, SQLERRMC: null.
```

Cause
The DB2 transaction log fills up and prevents the Discovery Library Toolkit from completing the bulk load.

Resolution

Check the Discovery Library Toolkit logs for DB2 SQL error 57011 or 0964. This indicates a space issue with the database transaction log.

The correct number of log files depends on the log file size and other activities not related to Discovery Library Toolkit but occurring at the same time on the database server. By default TBSM specifies 64000 for the log file size. However, this can be amended.

Increasing the number of log files increases the space available for the DB2 transaction log. The secondary transaction logs, rather than the primary transaction logs, must also be increased, as these are allocated when required and released when not required. Run the following command:

```
db2 UPDATE DATABASE CONFIGURATION FOR <TBSM_DATABASE_NAME> USING LOGSECOND <x>;
```

where <TBSM_DATABASE_NAME> is typically TBSM and <x> is a higher value than currently in use. In large environments, you might need a number up to 50. A value greater than 100 is not required.

Bulk TADDM load does not start

This topic addresses an issue where a TADDM load does not start because of incorrect TADDM access details. This can be caused by an error in the RMI connection or an issue with the database connection.

Symptom

The Discovery Library Toolkit logs display these errors when the RMI connection fails:

```
com.ibm.tbsm.cltools.taddm.ASITADDMConnection cleanup [2]
GTMCL5371E: Unable to login to TADDM, verify the TADDM user identifier
and password. Use the setxmlaccess script to reset these values.
com.ibm.tbsm.cltools.taddm.ASITADDMConnection getConnection [2]
GTMCL5276I: Requesting a connection to the TADDM server at 10.14.10
1.232. SSL enabled: false.
com.ibm.tbsm.cltools.taddm.ASITADDMConnection getConnection [2]
GTMCL5205E: Exception caught. java.rmi.ConnectException: .
com.ibm.tbsm.cltools.taddm.ASITADDMConnection getConnection [2]  GTM
CL5327W: The toolkit has been unable to connect to TADDM after trying
for 30 minutes. The toolkit will continue trying, but until the connection
is established, no further progress will be made on the current import.
com.ibm.tbsm.cltools.rmi.ASIRmiCliImpl stop [8]
GTMCL5447I: RMI request received, type: stop
```

If this issue results from a database failure, a message is recorded in the log file. The message is similar to:

```
[2012/12/11-06:30:06.699] com.ibm.tbsm.cltools.jdbc.ASIJDBCConnection
getJDBCConnection [0]  GTMCL5205E: Exception caught. -99999 - [ibm][db2]
[jcc][t4][2013][11249] Connection authorization failure occurred.
Reason: User ID or Password invalid..
[2012/12/11-06:30:06.700] com.ibm.tbsm.cltools.service.ASITADDMObserver
init [0]  GTMCL5386E: The toolkit was unable to connect to the TADDM database.
Review the earlier exceptions. Use the setxmlaccess to set the TADDM
database user and password. Use the taddmdirect script to test and configure
the TADDM database connection. Restart the toolkit after the database connection
has been configured.
[2012/12/11-06:30:06.701] com.ibm.tbsm.cltools.service.ASITADDMObserver init
[0]  GTMCL5205E: Exception caught. taddm database connection failed.
[2012/12/11-06:30:06.701] com.ibm.tbsm.cltools.service.ASITADDMObserver
ASITADDMObserver [0]  GTMCL5401W: A connection with the TADDM server could
not be established. Book and API processing will continue while connection
attempts continue.
```

Resolution

If the error results from an RMI connection error:

1. Run the `taddmrmiconfig.sh` command to test the connection and to address any issues with the host and port values.
2. Run the `setxmlaccess` command to reset the username and password. The command to set the username and password for the RMI is:

```
setxmlaccess taddmid xxxx tadddmpw yyyyy
```

If the error results from a database issue:

1. Run the `taddmdirect.sh` command to test the connection and to address any issues with the host and port values. . If the database connection is functioning correctly, this command returns the message:

```
GTMCL5276I: Requesting a connection to the TADDM server at
<TADDM server> SSL enabled: {1}.
GTMCL5277I: Connection established with <TADDM server>.
retCode: 0
```

2. If required, run the `setxmlaccess` command to reset the username and password:

```
setxmlaccess taddmdbid aaaa taddmdbpw bbbb
```

For information about these commands, see the *TBSM Administrator's Guide*. For additional troubleshooting information, see the *Unable to connect to database* section of the *TBSM Troubleshooting Guide*.

Clearing data from Service Component Repository

This topic outlines how to address a situation where you want to clear data from the Service Component Repository (SCR).

It might be necessary to clear the data imported into the SCR from TADDM and books. For example, if you are switching TBSM from one TADDM environment to another. To clear data from the SCR, stop the Discovery Library Toolkit and run the command:

```
    $TBSM_HOME/XMLtoolkit/bin/setdbschema.sh -U <dbuser> -f a
```

After this command has run, restart the Discovery Library Toolkit. This clears the SCR, but TBSM services already discovered, are maintained in TBSM until their ESDA lifetime period expires. To update TBSM, invalidate the `Imported Business System` service to prompt the ESDA to run.

For more information, see the TBSM wiki http://www.ibm.com/developerworks/wikis/display/tivolibsm/Integrating+TBSM+4.2+with+Tivoli+Application+Dependency+Discovery+Manager.

Inappropriate TADDM jar files in TBSM

This topic outlines how to ensure that the appropriate TADDM jar files are installed in TBSM.

Symptom

When updated TADDM jar files are downloaded, a message is displayed in the Discovery Library Toolkit logs to indicate that file has been downloaded and that the Discovery Library Toolkit must be restarted to complete the installation of the new jar files:

```
com.ibm.tbsm.cltools.taddm.ASITADDMWebService checkClientSdkJarCrc [0]
GTMCL5402W: The TADDM Java API jar file taddm-api-client.jar, used by TBSM
to communicate with the TADDM server, has changed on the TADDM server.
```

```
An updated copy of the file will be downloaded from the TADDM server.
com.ibm.tbsm.cltools.taddm.ASITADDMWebService processGetJarRequest [0]
GTMCL5405W: A new copy of the TADDM jar file, taddm-api-client.jar, has
been retrieved from the TADDM server. To prevent possible interruptions in
service it is recommended that the toolkit be stopped and restarted so that
the new jar file can be used.
```

Resolution

Manually stop and start the Discovery Library Toolkit if the above messages are displayed. If the Discovery Library Toolkit is monitored by the TBSM Agent, a situation can be added to ITM to ensure that a notification is displayed when this situation occurs.

Chapter 13. Custom namespace issues

This section outlines some of the issues that might occur when you use the Discovery Library Toolkit with custom namespaces.

References to log files in the section refer to the Discovery Library Toolkit log that can be found in the `$TBSM_HOME/XMLtoolkit/log/msg_GTM_XT_log.0` or `%TBSM_HOME%\XMLtoolkit\log \msg_GTM_XT_log` file.

Setting an anchor point for the Service tree

To set an anchor point for a Service tree:

Cause

When a top-level Service Component Registry (SCR) object is assigned a primary template of either `BSM_BusinessService` or `BSM_BusinessApplication`, it is automatically imported from the SCR into the TBSM service model via the TBSM object named *Imported Business Services.*

Resolution

If you want to use a different primary template and want this same support, complete the following steps:

1. Use the **`getAbstract`** command to retrieve `CDM_TO_TBSM4X_MAP_Templates.xml` from the database.
2. Edit the `CDM_TBSM4x_MAP_Templates.xml` file:
   - Add a statement to the `<refreshserviceinstance>` element and designate your primary template for the top level service.
   - Save the file and use the **`putAbstract`** command to write the updated file to the database.
3. Restart the Discovery Library Toolkit.
4. To the **Additional Properties** of the `Imported Business Service` object, add your template name to the list of templates for the property named `primarytemplatefilter`.
5. Save the changes.
6. Validate the `Imported Business Service` object.

This is an example of adding the primary `MY_BusinessServiceTemplate` template to the `CDM_TBSM4x_MAP_Templates.xml` file:

```
<refreshserviceinstance>
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessService' />
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessApplication' />
<add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='MY_BusinessServiceTemplate' />
</refreshserviceinstance>
```

Books not displaying in the Service Component Registry

The book was processed but nothing is displayed in the Service Component Registry (SCR).

Symptoms

You created the `OtherNamespaces.xml` file with the class definitions for the new namespace and loaded it into the database. The IdML books are loaded, but when you check the SCR, nothing is related to the new namespace. This situation can be caused by an incorrectly named XML file or by errors in the file.

Cause

There are two potential causes for the issue:

Naming the custom namespace file
The Discovery Library Toolkit does not process the `OtherNamespaces.xml` file if the naming, including case sensitivity, is incorrect.

Invalid definitions in the custom namespace file
Unlike other Discovery Library Toolkit XML files, such as the `CDM_TO_TBSM4x_MAP_Templates.xml` file, no messages are written to the log to indicate parsing errors in the XML file or that a custom namespace is being used. The Discovery Library Toolkit starts regardless of errors in this XML file. However, nothing is shown in the SCR that is related to the custom namespace even though the log suggests that the book was processed successfully.

Resolution

The resolution for these issues relates to the cause:

Naming the custom namespace file
Verify the name carefully. For example, a file name of `othernamespaces.xml` is ignored on UNIX and Linux systems and consequently, no services are created in the SCR.

Invalid definitions in the custom namespace file
Verify the syntax of the `OtherNamespaces.xml` file by using an XML editor or Internet Explorer browser to eliminate the possibility of an invalid XML file. If errors are found, update the `OtherNamespaces.xml` file, restart the Discovery Library Toolkit, and reload the books. Books containing the custom namespace resources that were processed must be reloaded.

In either case, an invalid file name or invalid service definitions, if the Discovery Library Toolkit has processes the book at least once, the book's file will need to be renamed before the Discovery Library Toolkit will process the book's file again. The Discovery Library Toolkit maintains a list of books that have been processed by the book's file name.

To verify a book has been processed, check the `scc_authorList.config` table. If the book's file name is listed in this file, the file name will need to be renamed in order for the Discovery Library Toolkit to re-process the book.

To rename the book's file :

1. First copy the original file into a directory other than `$TBSM_HOME/discovery/dlbooks`.
2. In the new directory rename the file using the Discovery Library Toolkit file naming standards.
3. Copy the renamed file into the `$TBSM_HOME/discovery/`

Note: Do not rename the book file from within the Discovery Library book directory while the Discovery Library Toolkit is running. Unexpected results can occur.

Top-level services not displaying

Top-level services are not displayed under the `Imported Business Services` object.

Cause

When a top-level Service Component Registry (SCR) object is assigned a primary template of either `BSM_BusinessService` or `BSM_BusinessApplication`, it is automatically imported from the SCR into the TBSM service model via the TBSM object named *Imported Business Services*.

Resolution

If you want to use a different primary template and want this same support, complete the following steps:

1. Use the **`getAbstract`** to retrieve `CDM_TO_TBSM4X_MAP_Templates.xml` from the database.
2. Edit the `CDM_TBSM4x_MAP_Templates.xml` file:
   - Add a statement to the `<refreshserviceinstance>` element and designate your primary template for the top level service.
   - Save the file.
   - Use the **`putAbstract`** command to write the updated file to the database.
3. Restart the Discovery Library Toolkit.
4. To the **Additional Properties** of the `Imported Business Service` object, add your template name to the list of templates for the property named `primarytemplatefilter`.
5. Save the changes.
6. Validate the `Imported Business Service` object.

This is an example of adding the primary `MY_BusinessServiceTemplate` template to the `CDM_TBSM4x_MAP_Templates.xml` file:

```
<refreshserviceinstance>
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessService' />
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessApplication' />
<add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='MY_BusinessServiceTemplate' />
</refreshserviceinstance>
```

Log indicates book processing error

Errors in the log indicate that the book was not processed successfully and that prefix not bound errors occurred.

Cause

The Discovery Library Toolkit displays error messages if the prefix for the namespace is not defined in the header of the IdML book:

Resolution

For information about declaring a namespace prefix, see the *Custom namespace* section of the TBSM *Customization Guide*.

The book was processed but nothing appears in the SCR

You created the `OtherNamespaces.xml` file, entered the definitions for the new namespace, and loaded the xml file into the database. Books are loaded, but when you check the Service Component Registry (SCR), nothing seems to be related to the new namespace. This situation can be caused by an incorrectly named XML file or by errors in the file.

Naming the custom namespace file

The Discovery Library toolkit does not process the `OtherNamespaces.xml` file if the naming, including case sensitivity, is incorrect. Verify the name carefully. For example, a file name of `othernamespaces.xml` is ignored on UNIX and Linux systems and consequently, no services are created in the SCR.

Invalid definitions in the custom namespace file

Unlike other Discovery Library toolkit XML files, such as the `CDM_TO_TBSM4x_MAP_Templates.xml` file, no messages are written to the log to indicate parsing errors in the XML file or that a custom namespace is being used. The Discovery Library toolkit starts regardless of errors in this XML file. However, nothing is shown in the SCR that is related to the custom namespace even though the log suggests that the book was processed successfully. Verify the syntax of the `OtherNamespaces.xml` file by using an XML editor or Internet Explorer browser to eliminate the possibility of an invalid XML file. If errors are found, update the `OtherNamespaces.xml` file, restart the Discovery Library toolkit, and reload the books. Books containing the custom namespace resources that were processed must be reloaded.

In this case, invalid service definitions, if the Discovery Library Toolkit has processes the book at least once, the book's file will need to be renamed before the Discovery Library Toolkit will process the book's file again. The Discovery Library Toolkit maintains a list of books that have been processed by the book's file name.

To verify a book has been processed, check the `scc_authorlist_config` table. If the book's file name is listed in this file, the file name will need to be renamed in order for the Discovery Library Toolkit to re-process the book.

To rename the book's file :

1. First copy the original file into a directory other than `$TBSM_HOME/discovery/dlbooks`.
2. In the new directory rename the file using the Discovery Library Toolkit file naming standards.
3. Copy the renamed file into the `$TBSM_HOME/discovery/`

Note: Do not rename the book file from within the Discovery Library book directory while the Discovery Library Toolkit is running. Unexpected results can occur.

Deleting all content from Service Component Registry

During the development of IdML books, it is sometimes necessary or desirable to start with a clean Service Component Registry (SCR). The `setdbschema` command can be used to accomplish this task.

Important: When the `setdbschema` command is issued, all data in the SCR is lost.

The syntax for the command is:

```
setdbschema –U user –P password –f a
```

This command uses the `scc_schema_views.sql` file that might have been modified to include new attributes for the alternate namespace. You might need to rerun this SQL file if modifications were made to a copy of this file. For more information about using the `scc_schema_views.sql` file, see section *Adding attributes to the TBSM service model* in the *Customization Guide*.

Top-level services are not showing up under the Imported Business Services object

When a top-level Service Component Registry (SCR) object is assigned to either BSM_BusinessService or BSM_BusinessApplication templates, it is automatically extracted from the SCR into the TBSM service model using the TBSM object named Imported Business Services.

About this task

If you want to use a different primary template and want this same support, complete the following steps:

Procedure

1. Use the **getArtifact** command to retreive CDM_TO_TBSM4X_MAP_Templates.xml from the database.
2. Edit the CDM_TBSM4x_MAP_Templates.xml file.
3. In the <refreshserviceinstance> element, set your primary template as the top- level service.
4. Save the file.
5. Use the **putArtifcat** command to copy the updated xml file in the database.
6. Restart the Discovery Library Toolkit.
7. In the TBSM console, open the **Additional Properties** tab for the Imported Business Service object and add your template name to the list of templates for the property named primarytemplatefilter.
8. Save the changes.
9. Validate the Imported Business Service Object.

Example

This example adds the primary MY_BusinessServiceTemplate template to the CDM_TBSM4x_MAP_Templates.xml file::

```
<refreshserviceinstance>
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessService' />
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessApplication' />
```

<add radinstanceid='ImportedBusinessServices_OOB_Anchor'

```
primarytemplate='MY_BusinessServiceTemplate' />
</refreshserviceinstance>
```

Setting an anchor point for the Service tree

Rather than using the Imported Business Services object as an anchor point in the Service tree, I would like to set a different anchor point for my custom namespace objects.

About this task

Use these steps to manually create a top-level service from the Administration page that, when using the appropriate parameters, pulls in services from the Service Component Registry:

Procedure

1. Add a new service and assign the SCR_TopLevelAggregateTemplate to the newly created service. In the example shown, the service instance name is called MyImportStartingPoint.
2. Click the **Additional** tab for this service.
3. For the primarytemplatefilter parameter, specify the primary templates of the services that you want to be children of this top-level service. Multiple templates may be specified.

4. Restart the toolkit.

Example

In this example, any service in the IdML book that as been mapped to the MY_CINode template is a child of the manually created top-level service.

Edit the CDM_TBSM4x_MAP_Templates.xml file by adding a statement to the <refreshserviceinstance> element. Designate your primary template for the top-level service and the service instance name of the new top level anchor point:

```
<refreshserviceinstance>
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessService' />
     <add radinstanceid='ImportedBusinessServices_OOB_Anchor'
primarytemplate='BSM_BusinessApplication' />
```

<add radinstanceid='MyImportStartingPoint'

```
primarytemplate='MY_BusinessServiceTemplate' />
</refreshserviceinstance>
```

Querying the database to verify that services have been imported into the SCR

You can use the following SQL queries to help determine whether your services loaded correctly:

select * from tbsmscr.view_components where class = '*yournamespaceclass***'**

or

select * from tbsmscr.view_components where class like '*myprefix:%***'**

where yournamespaceclass is a class defined in OtherNamespaces.xml and myprefix is the namespace prefix defined in the IdML book.

Because a resource in the Service Component Registry (SCR) must be mapped to a template in the CDM_TO_TBSM4x_MAP_Templates.xml file to show up within the TBSM interface, these queries help you determine if your system is correctly customized for the alternative namespace objects:

select * from tbsmscr.view_componentswithtemplates where class = 'yournamespaceclass'

or

select * from tbsmscr.view_componentswithtemplates where class like 'myprefix:%'

Chapter 14. Display issues

This section describes how to resolve common display issues.

Configuration Documenter does not launch

This section describes how to resolve an issue where the Netcool/Impact Configuration Documenter does not launch.

Symptoms
The Configuration Documenter does not launch.

Cause
By default, The Configuration Documenter uses the IP address of the Data server. In some cases, it cannot connect to the Data server with an IP address.

Resolution
Configure the system to launch the Configuration Documenter using the fully qualified host name of the Data server.

1. Stop the Data server before making any changes to the props file.
2. Change to the directory: `$IMPACT_HOME/etc.`
3. In a text editor, open the file `TBSM_server.props.` On a backup server, the file name is `TBSM_B_server.props.`
4. Add the property:

   ```
   impact.server.iphostname=<full_hostname>
   ```

   Where *<full_hostname>* is the fully qualified host name to the Data server. For example:

   ```
   impact.server.iphostname=myhost.tivoli.rtp.ibm.com
   ```

5. Save and close the file.
6. Start the Data server.
7. Open any component of Netcool/Impact in the workspace on the right.

   For example, from the navigation tree, select **Impact UI > Data Model.**
8. Click the Configuration Documenter icon (**i**), next to the Cluster menu, to launch the configuration documenter for the selected cluster.

   The Configuration Documenter launches using the hostname of the Data server.

TBSM view loads slowly

This section describes how to resolve an issue related to slow connectivity.

Symptoms
TBSM view takes a long time to load, even in excess of 10 minutes.

Cause
Slow connectivity can affect the load time.

Resolution
If you have slow connectivity, install an additional Dashboard Server closer to the location where the browsers are being used.

Popup dialog box is displayed in a separate window behind main browser window

This section addresses an issue where a popup dialog box is displayed in a separate window behind the main browser window.

Symptoms

A pop-up dialog box is displayed in a separate window behind the main browser window. This window may not catch the user's attention immediately.

Resolution

Manually switch to the new window in order to interact with the dialog.

Tooltips not appearing in Windows 2003

This section describes an issue where tooltips intermittently fail to display in the Windows 2003 version of the Service Viewer.

Symptoms

Tooltips intermittently fail to appear in the Service Viewer on Windows 2003.

Resolution

Use Sun Java 1.6.0 instead of IBM Java 1.6.0.

Portlet errors displayed because backend Data server is not running

This section describes how to resolve certain portlet errors.

Symptoms
When you are logged in to the Dashboard server, and have launched the Service Availability or Service Administration pages, portlet errors are displayed.

Cause
The backend Data server is not running.

Garbage text appears in portlets when minimizing or maximizing

This section describes an issue when garbage text appears in portlets when minimizing or maximizing the **Services** tree.

Symptoms

When minimizing or maximizing the **Services** tree screen, garbage text may appear.

Cause

Maximizing and then immediately restoring a portlet may result in garbage text appearing in the portlet.

Resolution

After selecting to Maximize or Restore a portlet, wait for the portlet to pane completely before selecting to Restore or Maximize it again. If the garbage text appears, close and reopen the current page. An alternative is to log off, log on, and open the page again.

Display issue when expanding parent nodes

Timeout messages occur when you attempt to expand parent nodes that contain tens of thousands of child services under one parent.

Symptoms

The following message displays when you attempt to expand parent nodes:

```
Error:  TIPMSG1001E: A request to the server took too long to complete.
```

Cause

If you have tens of thousands of child services under one parent, timeout messages might be displayed when you expand the parent node in the **Service Navigator** tree. This issue occurs more often on lower-powered TBSM Data and Dashboard servers.

Resolution

It is recommended that you limit the number of services under a single parent node. Including very large numbers of services under a single parent node can cause performance problems when expanding and collapsing nodes on both the Data and Dashboard servers. Include additional levels in your service model, rather than a single flat hierarchy. Also, you must ensure that you have appropriately powered Data and Dashboard servers. For more information, see the Hardware for production environments section of the *IBM Tivoli Business Service Manager 4.2 Performance Tuning Recommendations Guide* available at: https://www.ibm.com/developerworks/mydeveloperworks/wikis/home?lang=en#/wiki/Tivoli%20Business%20Service%20Manager1/page/Performance%20and%20Tuning.

TBSM console session time out causes browser issues

This section describes how to resolve an issue related to TBSM console disconnecting when the browser session times out.

Symptoms

When a TBSM page is open for a long time, the session times out and the browser becomes unstable.

Cause

If the browser is unattended and the connection times out, internal commands continue to retry to connect, using up available memory that can cause browser instability.

Resolution

You can increase the connection time-out settings from the Dashboard Application Service Hub administration console as follows:

Th default for the LTPA timeout, 120 minutes. The value can be configured through the Websphere Admin Console from an **LTPA** link on the Global Security page. The value can also be changed with `wsadmin` commands, such as these examples that change the timeout to 1440 minutes (24 hours):

Jython:

```
AdminConfig.modify('(cells/JazzSMNode01Cell|security.xml#LTPA_1)',
[['timeout', 1440]])
AdminConfig.save()
```

JACL

```
$AdminConfig modify (cells/JazzSMNode01Cell|security.xml#LTPA_1) {{timeout 1440}}
$AdminConfig save
```

If the above commands are placed in a script file, they can be executed simply:

Jython

```
wsadmin.bat|sh -conntype NONE -lang jython -f script.py
```

JACL

```
wsadmin.bat|sh -conntype NONE -lang jacl -f script.jacl
```

The Websphere Application Server rejects non-number values, but it is recommended not to use zero or negative numbers, for obvious reasons.

The command can be executed with the server started or stopped, but the change will take effect the next time the server is started. So if the server is running, a restart will be necessary.

Portlets blank on custom page

This section describes how to resolve the issue with TBSM portlets on a custom page.

Symptoms
The TBSM portlet is blank on a new custom page that was created by a user with the `iscadmins` role, but with no TBSM roles.

Cause
Any user with the `iscadmins` roles is allowed access to all of the porlets in the portlet picker when creating a new page. However, if the user does not have TBSM roles, the portlet will not render on the page.

Resolution
If you are creating a page that includes TBSM portlets, make sure your user also has TBSM roles assigned. For example, the `tbsmadmin` user already has the necessary roles assigned for this task.

Malformed URL message in the Business Service Manager agent

An error message is displayed in the **HTTPResponseMessage** column of Web Application Response Time view of the Business Service Manager agent.

Symptoms
The following error message appears in the **HTTPResponseMessage** column of Web Application Response Time view of the Business Service Manager agent:

```
Connection failed. Possibly malformed URL
```

Cause
This message occurs because the version of Java that the agent code uses does not contain support for secured SSL/HTTPS communication. By default the version of Java used by the agent code is the version bundled and installed with the agent.

Resolution

To correct this problem the TBSM agent code must use a version of Java that contains support for secured SSL/HTTPS communication. A script variable, JAVA_HOME, has been provided to allow you to set the version of Java used by the TBSM agent. To update the Java version used by the TBSM agent:

1. Open the `tbsmmonitorcdp.bat` script for Windows or `tbsmmonitorcdp.sh` script for UNIX. This file is generally located:

   Windows

   ```
   %CANDLE_HOME%\TMAITM6
   ```

   UNIX

   ```
   $CANDLE_HOME/<arch>/r9/bin
   ```

2. Locate and edit the line:

   Windows

   ```
   @rem SET JAVA_HOME=c:\Program Files\IBM\tivoli\impact\sdk\bin\java
   ```

   by removing the `@rem` text.

   UNIX

   ```
   #JAVA_HOME=/opt/IBM/tivoli/impact/sdk/bin
   ```

   by removing the # character at the start of the line

3. Save the file and re-start the agent.

Chapter 15. Service Availability or Service Administration issues

This section describes issues encountered with the Service Availability page, the Service Administration page, or both.

Service Availability or Service Administration are not displayed in left panel

This section describes how to resolve an issue where TBSM role assignments can interfere with the display of the Service Availability or Service Administration pages.

Symptoms
A user that is logged in cannot see the Service Availability or Service Administration pages in the left navigation panel.

Cause
The user does not have the appropriate TBSM roles assigned.

Resolution
The user needs to have the `tbsmAdminUser` role assigned to view both of these pages. Assign the `tbsmReadOnlyUser` role to allow viewing of the Service Availability page, which is the minimum permission setting.

Chapter 16. Services tree issues

This section describes issues encountered with the Services tree or Service tree portlet.

Services tree times out for ESDA models

This section describes how to resolve Services tree display issues related to large ESDA models.

Symptoms
The Services tree starts to load, but fails after approximately 2 minutes.

Cause
If you have ESDA rules that create large service models with more than 500 service instances, the Services tree may take too much time to display.

Resolution
To resolve this issue, increase the time-out property for ESDA policies to 600 seconds.

1. In a text editor, open the file `TBSM_sla.props` in the `$IMPACT_HOME/etc` directory or `%IMPACT_HOME%\etc` on Windows.
2. Add the property **`impact.sla.maxesdapolicytimesecs`**.

   Without this property, the default is `120` seconds.
3. For the value of the property enter `600`.
4. Save and close the `TBSM_sla.props` file.
5. Stop and start the Data server. To restart the Data server refer to “Restarting the Data server” on page 37.

Services do not display in Services tree

This section describes issues related to the Services tree and circular dependencies.

Symptoms
A service instance disappears from the root of the Service tree or a template disappears from the root of the template tree. The service or template was not deleted by any console user.

Cause
Service instances or templates are removed from the root of the corresponding tree when a circular dependency is created, and the circular dependency includes the root service or template. For example, a service model has a service called S1 that depends on services called S2 and S3. If either of services S2 or S3 is edited and S1 is added as a dependent on the **Dependents** tab, then the branch starting at S1 is removed from the tree.

Note: The circular dependency for services can be created by other means for populating service models, including auto-population rules, ESDA rules, discovery books, or RAD shell scripts.

Similarly, for the template tree, this behavior occurs in many of the same cases when a circular dependency is created. A circular dependency occurs when an aggregation rule is created that specifies a template that is already depending on one of the templates in the current template's parent hierarchy.

Resolution

For service instances, do the following:

1. From the **Service Administration** page, use the **Find** button to search for one of the services in the circular dependency.
2. Edit the service and click the **Dependents** tab.
3. Remove the dependent instance that is causing the circular dependency.

   The tree should be updated to show all the affected services. Modify the service model to ensure that a root service does not appear again in its dependency hierarchy.

For templates, do the following:

1. If a service is tagged with one of the templates in the circular dependency, then right click the service and select **Edit Template** and choose the template from the submenu.
2. Remove the aggregation rule (or change its dependent template if incorrect) that is causing the circular dependency.
3. Modify the template model to ensure that a root template does not appear again in its dependency hierarchy.

Note: If no services have been tagged with any of the templates, you might have to delete one of the templates using the **Delete Templates** page in the TBSM console. You may want to export using RAD shell to back up the template data for restoring after the template hierarchy is corrected. For more information about RAD shell functions, see the *Administrator's Guide*.

Chapter 17. Language issues

This section describes how to resolve issues related to national language text and settings.

Logs for scripts, utilities and language translation

The logs generated by scripts such as RAD shell and migration scripts are not UTF-8 encoded and may contain corrupted characters.

Chinese and Korean font package display issues

This section describes how to resolve issues related to Chinese and Korean font packages in Internet Explorer.

Symptoms
Korean, traditional Chinese, and simplified Chinese characters are truncated. The top of the characters are not displayed in TBSM pages. For example, the names of the data sources in the navigation tree appear truncated.

Cause
Some Internet Explorer 7 and Internet Explorer 8 font packages do not display properly in TBSM. If you use the Firefox Web browser, this issue does not occur.

Resolution
Install fonts that display correctly. To change the font dynamically, complete the following steps:

1. In the Internet Explorer toolbar, click **Tools** > **Internet Options** > **Fonts**.
2. Choose the appropriate Language script that you are working with: **Korean**, **Chinese Traditional**, or **Chinese Simplified**.
3. Highlight Microsoft Sans Serif or Tahoma as the Web page font.
4. Click **OK** to close the Fonts windows.
5. Then click **OK** to close the Internet Options windows.
6. In some instances, the top of text is still truncated in Internet Explorer 8. To solve this problem, change the browser magnification from **100%** to **125%**.

Font size is difficult to read
If the fonts are difficult to read, you can change the font size as follows:

1. Select **Tools** > **Internet Options** > **Accessibility**.
2. Enable **Ignore font sizes specified on Web pages** and click the **OK** button to close the windows.

   Note: When you start a browser session with another application (or log off TBSM), you must reset the Accessibility check option to its previous state (it is not checked by default).
3. Select **View** > **Text Size**.
4. Choose the size (Largest, Larger, Medium, Smaller, Smallest) that works best for your display. The best selection is dependent on the resolution of your monitor.

Screen elements truncated in translated console

This section describes issues that cause TBSM console elements to be truncated in non-English versions.

Symptoms
The Service Viewer toolbar or other screen elements are truncated in non-English versions of the TBSM console.

Cause
The default display resolution on the client host is too low to properly display the non-English versions of the TBSM console.

Resolution
To resolve this issue, set the display resolution to 1280x1024 or higher for non-English languages.

Event list field lists not translated

This section explains why some field lists items are not translated in TBSM.

Symptoms
TBSM has several places in the console where database column names appear as data in selection lists. For example, when you build an incoming status rule for ObjectServer events, the fields for matching instances names and for filtering events are column names taken directly from the ObjectServer database schema.

Cause
The Netcool/OMNIbus ObjectServer column names are not localized and this limitation is current for TBSM.

Data does not render in Arabic

This section addresses issues where data does not render when the browser language is set to Arabic.

Symptoms

Data may not render correctly when the browser language is Arabic. Examples of this include:

1. A custom canvas can be created, but the name is not displayed in the Service Navigator portlet.
2. The date and time on the Time Window Analyzer windows are corrupted.
3. The position of Arabic characters is incorrect on the Service Viewer.
4. Punctuation marks might be displayed in the wrong position in messages.

Cause

No additional support was added for bidirectional languages.

Resolution

No workarounds are available for TBSM.

Extended characters issue with RAD Shell commands

The RAD Shell function does not accept extended characters, that is to say, characters that are not available on an English keyboard.

Symptoms
When extended characters are included in RAD Shell command parameters, RAD Shell terminates with no error message.

Cause
The RAD Shell function does not support extended characters in command parameters.

Resolution
If you are invoking a RAD Shell function such as `addServiceInstance()` and want to insert extended characters in a parameter, insert the function into a file and call that file when running the `rad_radshell` command. For more information, see the *IBM Tivoli Business Service Manager Administrator's Guide*.

Characters corrupted in UTF-8 font packages

This section describes how to resolve a problem with corrupted characters when you save file names into the Version Control System (on the Netcool/Impact server host machine).

Symptoms
If the locale for the TBSM or Netcool/Impact server is set to a non-UTF character set such as Latin-1, and a user enters Chinese or other UTF-8 character in the file name, the Version Control system does not save the file.

Cause
The character sets are not compatible.

Resolution
Set the locale for the server to UTF-8.

- If the Host OS of the Impact server is Linux/Unix: set the locale to UTF-8.

  Setting the locale to UTF-8 in Linux/UNIX by setting the following environment variables:

  - **`export LANG=en_US`**
  - **`export LC_ALL = en_US.UTF-8`**
  - **`export LC_CTYPE=UTF-8`**

  Stop and start the servers. Now, you can use any UTF-8 characters in the file name for data type/source file name.
- If the Host OS of the Impact server is Windows: Synchronize the locale of the Impact server's host and the characters set encoding used in the file name. For example, either set the locale of server's host to Chinese or use file names which contains only characters from Latin-1 encoding set.

  Changes the encoding as follows:

  1. Select **ControlPanel->Regional&Languages Options->AdvancedTab**
  2. Select the appropriate language (Locale).
  3. Stop and start Windows. The selection changes the default encoding (or code page) in Windows registry, and you need to restart Windows to enable the setting.

Now, you can input UTF-8 character from the both Latin-1 and UTF-8 character sets , but not a mixture of languages such as Chinese and Korean and Japanese in the same file name.

Chapter 18. Events and incoming status rules

This section describes issues related to events and incoming status rules.

Non-clear events or data and status rules
It is suggested that you delete only clear events. Before you delete events or rows, you should always make sure the events or other data that affect a service's status are set to clear. Events that are deleted from the IBM Tivoli Netcool/OMNIbus ObjectServer take a few minutes to display in TBSM. TBSM periodically checks the ObjectServer for deleted events and processes them. However, the deletion of non-clear events or rows can cause other problems on the TBSM server.

Do not change or delete an incoming status rule if a non-clear event exists for the rule. Clear and delete events before you change or delete an incoming status rule.

Date, time, and time zone change

This section describes how to resolve issues that relate to changes in date, time, or time zone on the TBSM or Netcool/OMNIbus host.

Symptoms
Netcool/OMNIbus alerts are not received by the TBSM server.

Cause
The time zone of the TBSM or Netcool/OMNIbus ObjectServer host was changed. TBSM reads ObjectServer alerts based on the time when the state of the alert last changed. When you change the time zone, it can cause the two servers to become unsynchronized.

Resolution
To resolve this issue, stop and start the TBSM server. The server start-up process resynchronizes TBSM with the ObjectServer.

Note: SLA tracking is time sensitive. Therefore, it is necessary that you synchronize the host system clocks when you run TBSM and the Netcool/OMNIbus ObjectServer on different hosts. For more information, refer to the section on setting SLA timing for multiple hosts in the *Administrator's Guide*.

TBSM status events missing for a service

This section describes an issue with TBSM status events not showing for a given service.

Symptoms
TBSM does not receive status events for a given service after the status of the service changes.

Causes
The service name is too long for the Node column in the Netcool/OMNIbus `alerts.status` table. The Node column is limited to 64 characters in Netcool/OMNIbus.

Also if your service name is the same as one of your identification fields, and you change the service name, the status events no longer match, since the identification field does not change when you change the service name.

Resolution

If you use the Node column in Netcool/OMNIBus to create or match your service name: The node column is limited to 64 characters. If the service name is greater than 64 characters, it will be truncated and TBSM will not receive any events for the service.

You can either change the incoming status rule to use different service instance naming fields, or you can change the identification fields for a service with a long name. The identification field or fields can be different than the service naming field or fields. For example, if you have a service name that uses the Node column for its name, and the name is longer than 64 characters, the service will not receive events. To fix this, you can specify another field, such as a field that contains the IP address as the Identification field for the service.

If you changed your service name and the service name is used in one of your identification fields, you need to change the identification field to match the new service name.

Event summary and discriminator errors

This section describes errors you receive when the Netcool/OMNIbus ObjectServer monitored by TBSM shuts down.

Symptoms
The ObjectServer monitored by TBSM stops with two symptoms:

1. The Event Summary frame shows an "HTTP Error 500".
2. If you are creating an incoming status rule for a service template, you see messages such as:

```
Exception getting Descriminators list: null
Could not connect to ObjectServer: Please check the server log for more details.
```

Cause
The ObjectServer can exit when an unanchored regular expression comparison accesses memory that has not been initialized.

Resolution
For version OMNIbus 7.1.x the issue can be worked around by switching to another regular expression library. To specify another expression library, run the ObjectServer with the `regexplib` command-line option. For example:

```
nco_objserv -regexplib TRE
```

The fix for this Netcool/OMNIbus APAR was released in fix pack 7.1.0.2-TIV-NCOMNIbus-FP0002.

ObjectServer events not forwarded to TBSM

This section describes the issue where Netcool/OMNIbus ObjectServer events are not forwarded to TBSM.

Symptoms
When the status of an event changes on the ObjectServer, it may not be forwarded to the TBSM server. The events, lose the change of status and are never sent to the TBSM server or any other client console.

Cause
The event queue is not updated properly.

Resolution
To avoid this issue, you must set the maximum wait time for the event queue:

1. Change directory to:`$IMPACT_HOME/etc`.
2. Open the file `TBSM_sla.props` in a text editor.
3. Add the property:

```
Impact.sla.maxqueuewaitms=20
```

4. Save and close the file.
5. Stop and start the data server. To restart the data server, refer to "Restarting the Data server" on page 37.

Rule does not generate value

Symptoms
An incoming status rule based on a numeric value does not generate a value after processing an event.

Cause
None of the available filter fields are being used to filter events and an advanced filter is not configured.

Resolution
Configure the rule with one or more column filters from the list of available filter columns. You can also select the **Advanced Filter** option and specify an advanced filter.

Advanced filter for incoming status rules locks

Symptoms
When the user is editing an Incoming Status rule, selects the **Advanced Filter**, and saves the rule, the filter cannot be edited and the **Advanced Filter** option cannot be disabled.

Resolution
Delete and recreate the rule with the simple filter option.

Chapter 19. Failover issues

This section describes how to resolve issues related to failover.

Failover troubleshooting tips

This section describes additional failover troubleshooting topics and solutions.

Data servers do not start or do not become operational
If the TBSM Data servers do not become operational or shut down soon after startup, perform the following steps:

- Start the primary servers first, and then start the backup servers.
- Verify that the `fo_config` script has been run on all servers.
- Check the configuration items listed
- Review the system configuration items listed in the Preinstall Checklist of the TBSM *Installation Guide*.

TBSM user interface issues
If you are unable to log in to the TBSM user interface, check the Dashboard server. This issue is not likely to be related to Data server failover. If you can log in to the TBSM user interface, but the Service Navigation pane shows a message indicating it could not start the portlet, this might indicate that the Dashboard server is unable to connect to the Data server.

In a failover configuration, this issue could occur if:

- You did not run the **`fo_config`** command for the Dashboard server.
- A Data server failover occurs.

The `fo_config` script, when applied to a Dashboard server, configures the server to look for the backup Data server if the connection to the primary fails.

Lightweight Event List does not display

If the browser window is pointing to the load balancer, that is not the actual hostname or ip address of the dashboard server, the Lightweight Event List does not display.

To address this issue:

1. On the Dashboard server, open a command window and change to the directory:

   ```
   $JazzSMHome/profile/temp/JazzSMNode01/server1/isc/sla.war/etc
   ```

2. Make a backup copy of the `RAD_sla.props` file.
3. Open the `RAD_sla.props` file. in a text editor.
4. Add the property:

   ```
   impact.sla.usingloadbalancer=true
   ```

5. Save and close the file and restart the Dashboard server.

Authentication errors when the backup becomes primary
If failover to the backup server occurs but the backup server log files indicate authentication errors, events are not processed, or the data fetchers failed, verify that all the installation steps were followed.

ObjectServers are out of synch
If the Tivoli Netcool® OMNIbus primary and backup ObjectServers are out of synch, check the following items:

- The Bidirectional Gateway has to be kept running for the ObjectServers to be synchronized.
- Verify that the `NCO_GATE.map` file is consistent with the schema of the alerts.status table in the ObjectServers, and that the schema is the same in both ObjectServers. The ObjectServer can be out of synch, for example, if custom fields were added to the schema, but the `.map` file was not updated with this information. For additional information about the gateway configuration, the Bidirectional Gateway `NCO_GATE.map` file, and the bi-directional gateway `NCO_GATE.props` file, see the specific section in the *Administrator's Guide*.

Verifying the failover configuration

There are some key items that you can check to verify your failover configuration. The procedure described in this topic is not exhaustive. If you perform these checks and your configuration is still having problems, carefully review the configuration steps and sample files.

Procedure

1. Verify that the alerts.status table schema is identical for both the primary and backup ObjectServers:
   - The table contains the RAD_ and BSM_ columns for both the primary and backup.
   - The table column's order is same for both the primary and backup.

   To view the table schema:

   a) For the primary server, start the SQL interactive interface.

   UNIX Issue the command:

   ```
   install_directory/netcool/omnibus/bin/nco_sql -server NCOMS -U username
    -P password
   ```

   Windows Issue the command:

   ```
   install_directory\netcool\omnibus\bin\isql -S servername -U username
    -P password
   ```

   b) Click **Enter**, and then type `describe alerts.status`. Press **Enter**, type the keyword go and press **Enter** to process the command.

   c) For the backup server, start the SQL interactive interface using the same command as described for the primary server.

   d) Click **Enter**, and then type `describe alerts.status`. Press **Enter**, type the keyword go and press **Enter** to process the command.
2. Verify that the PRIMARYHOST and BACKUPHOST properties point to the correct ObjectServers:

   a) On the primary server, examine the `$IMPACT_HOME/etc/TBSM_ObjectServer_DS.ds` file.

   b) On the backup server, examine the `$IMPACT_HOME/etc/TBSM_B_ObjectServer_DS.ds` file.
3. Verify that TBSM Data servers are running.

   When the TBSM Data server is running, it periodically adds a database status entry to the `$IMPACT_HOME/wlp/usr/servers/TBSM/logs/messages.log` like the following:

   ```
   9/28/11 9:25:36:011 EDT] 00000027 impact 1 com.micromuse.sla.impact.RADService
    run NOTE println TBSM Datasource connection is available
   ```

   Both the primary and backup Data servers write this trace entry.

   To verify that the server is running, examine the log and confirm that entries like this are being added.
4. Verify that the ObjectServers are running.

You must verify that a nco_objserv process is running for each ObjectServer you have defined.

- For UNIX, an entry for the process should be displayed if you run the following command:

```
ps -ef | grep nco_objserv
```

- For Windows, do the following steps:
  a. Start the `taskmgr.exe` program.
  b. Select the **Processes** tab.
  c. Select **Show processes from all users**.

  The list displayed should include an entry for `nco_objserv.exe`.

Failover log files

Failover log files contain relevant information about the failover processing in the TBSM Data server and the Tivoli Netcool OMNIbus components.

The following files contain most of the failover processing information:

- The TBSM Data Server uses the `trace.log` file.
- The Impact logging in the TBSM server goes to `$IMPACT_HOME/logs/impactserver.log`.
- ObjectServer and Bidirectional Gateway use `NCOMS.log`, `NCOMS_BKUP.log`, and `NCO_GATE.log`.

Netcool/Impact logging

The most important logging for failover will come from Netcool/Impact logging and be written to `impactserver.log` file.

Fine logging for failover can be turned on by editing:

```
$IMPACT_HOME/etc/impactserver.log4j
```

To enable TRACE mode:

1. Change: `log4j.appender.NETCOOL.threshold=DEBUG` to

   `log4j.appender.NETCOOL.threshold=TRACE`
2. Add the following line to end of the same file:

   `log4j.category.com.micromuse.response.broker.cluster=TRACE`

Message indicates that tables or columns already exist

Symptoms
When running fo_config to configure the backup TBSM Data server for a failover environment, you might receive messages that indicate tables or columns already exist. See the following examples:

```
[exec] ERROR=Object exists on line 2 of statement
           'alter table alerts.status add column
[exec] BSM_SubIdentity VARCHAR(1024);...',
           at or near 'BSM_SubIdentity'

[exec] ERROR=Object exists on line 10 of statement
           'create table alerts.service_deps
[exec] persistent...', at or near 'service_deps'
```

Typically, the message states that an object exists:

```
alert table <tablename> add column ...

create table tablename ...
```

Resolution
The messages do not indicate an error condition. The script is trying to create tables that have already been created or add columns to tables that already have columns.

To verify that the TBSM schema was applied properly, do the following:

1. On your primary ObjectServer, run the following commands:

```
<install_dir>/netcool/omnibus/bin/nco_sql -server
            NCOMS -U <omnibusUserID> -P <omnibusPassword>
describe alerts.status
go
quit
```

2. On your backup ObjectServer, run the following commands:

```
<install_dir>/netcool/omnibus/bin/nco_sql -server
            NCOMS_BKUP -U <omnibusUserID> -P <omnibusPassword>
describe alerts.status
go
quit
```

3. Compare the output from both commands and make sure that they both contain the RAD_ and BSM_ columns.

Note: The above commands assume that the servers are on UNIX. If the servers are on Windows, use back slashes instead of forward slashes.

Chapter 20. IBM Tivoli Monitoring issues

These topics describe issues related to IBM Tivoli Monitoring.

IBM Tivoli Monitoring display names

This topic describes issues related to IBM Tivoli Monitoring display names.

The length of the name that IBM Tivoli Monitoring generates is limited to 32 characters, which may result in issues with service names in TBSM.

IBM Tivoli Monitoring might not be able to generate a unique name for monitoring components due to the truncation of names that the product automatically generates.

IBM Tivoli Monitoring automatically creates a name for each monitoring component by concatenating the subsystem name, host name, and product code separated by colons (`subsystem:hostname:NT`). By default the subsystem name is "Primary in Monitoring Agent for Windows OS".

Truncation can result in multiple components having the same 32-character name. If this problem occurs, shorten the host name portion of the name as described in the IBM Tivoli Monitoring *Problem Determination Guide*. Check the IBM Tivoli Monitoring *Problem Determination Guide* in the IBM Tivoli Monitoring Information Center for the resolution for further information.

HEAPDUMPs and JAVACore files are placed on the desktops when running Tivoli Enterprise Portal in browser mode

This section describes the issue where IBM Tivoli Enterprise Portal malfunctions in browser mode.

Symptoms
You see HEAPDUMPs and JAVACore files on the desktops when you run Tivoli Enterprise Portal in browser mode. This issue is known for Tivoli Enterprise Portal.

Resolution
Check the Tivoli Enterprise Portal section of IBM Tivoli Monitoring *Problem Determination Guide* in the IBM Tivoli Monitoring Information Center for the resolution.

Dashboard Up status has incorrect color in the Availability workspace

This section describes the issue where Availability workspace shows an incorrect color for the Dashboard sever status.

Symptoms
The color for the Dashboard status color is incorrect

Cause

The cause of this defect is a invalid workspace definition. The invalid workspace may or may not be present on a given Tivoli Monitoring server. Its possible that on a clean new ITM TEPS server install the TBSM Common Agent workspace is valid and the Availability view is correct.

The workspace definition contains two presentation views for the Availability workspace view. There is one marked for "SYSADMIN" and one marked for all other users. When a change is made to the workspace view, the change is not made to both presentation views. For example, if you change a

mapping the threshold status value of UP to `Green - Harmless` the change is saved to the SYSADMIN version of the view, but not the non-SYSADMIN version that is displayed on the workspace.

Resolution
To correct the problem: Edit the Availability workspace view and change the threshold definition for the Status value. For example, change the value of ==UP to `Harmless`.

Follow these basic steps to edit the Availability workspace view:

1. Set your user into administration mode:
   a. In the TEP, click **edit**, then **Administer Users**.
   b. Select the user you are logged in as, then under the **Permissions** tab select **Workspace Administration**.
   c. On the right, check the **Workspace Administration Mode** box. If you have correctly done this, you will see ***ADMIN MODE*** in the desktop title bar.
2. Update the **Do not allow modifications**:
   a. Select the workspace name in the Navigator.
   b. Select **Edit** from the main menu.
   c. Select **properties** to display the view's property page.
   d. Un-check **Do not allow modifications** and click **Ok**.
3. Edit the view
   a. Click anywhere on the view to give it focus.
   b. Right click on the view and select **Properties...**.
   c. Select the **Thresholds** tab.
   d. Click the cell to the left of the Status you want to change.
   e. Select the new status from the list presented.
   f. Save the workspace view changes.
4. Set the view back to **Read Only**.
   a. Select the workspace name in the Navigator.
   b. Select **Edit** from the main menu.
   c. Select **properties** to display the view's property page.
   d. Check **Do not allow modifications** and click **Ok**.
5. Exit the administration mode:
   a. In the TEP, click **edit**", then **Administer Users**.
   b. Select the user you are logged in as, then under the **Permissions** tab unselect **Workspace Administration**.

RC=3001 message when data is not returned to workspace

This section describes the issue where IBM Tivoli Enterprise Portal workspace returns a data not returned error.

Symptoms
In some cases, the Business Service Management Common Agent workspaces show the following error in IBM Tivoli Monitoring version 6.2.0:

```
SQL1_OPENREQUEST FAILED RC=3001 MESSAGE WHEN DATA IS NOT RETURNED
```

Resolution

For Tivoli Monitoring 6.2.0, the fix for this apar is contained in the package `6.2.0.2-TIV-ITM-IF0001`

For Tivoli Monitoring version 6.2.1 and above, this should not be a problem.

Chapter 21. Netcool/OMNIbus Web GUI issues

This section describes how to resolve issues related to the Netcool/OMNIbus Web GUI .

Active Event List does not display after upgrade or installation

This section describes an issue that occurs when you run TBSM 6.1.1 on a host with an old version of Netcool/OMNIbus WebGUI. This issue can occur if you upgrade without upgrading your WebGUI version, or if you install the full version of TBSM, but do not install the Netcool/OMNIbus version supplied with the installation package.

If you installed the Netcool/OMNIbus version supplied with the full TBSM 6.1.1 installer, you will not see this issue.

Symptoms
The Active Event List does not display after you install or upgrade to TBSM 6.1.1

Cause
Netcool/OMNIbus WebGUI must be upgraded to fix a known issue.

Resolution

Upgrade the Netcool/OMNIbus WebGUI to version 7.3 fix pack 5 or later.

To obtain the latest Netcool/OMNIbus WebGUI fix pack, see the Fix Central page at:http://www-933.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm~Tivoli&product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&release=7.3.1.4&platform=All&function=all

Active Event List CGI tools not loading

This section describes how to resolve the issue of disabled Active Event List (AEL) tools.

The PERL-based tools in the IBM Tivoli Netcool/Webtop AEL might not function in TBSM. To enable these tools, you must give the AEL tools access to the PERL interpreter on your system. By default, the tool configuration scripts specify the path `/usr/local/bin/perl` as the PERL home.

Symptoms
When you attempt to run one of the AEL tools, a command window displays the following message:

```
The system cannot find the path specified.
```

Causes
This issue has the following causes:

- There is no PERL interpreter on the TBSM host.
- On UNIX, the AEL tool configuration files specify a default PERL path of `/usr/local/bin/perl`. This default path does not match the PERL path on the TBSM host.

Resolution on UNIX

Before enabling the tools, make sure that you have a PERL interpreter on your TBSM server. Most UNIX systems have PERL by default. From a command prompt, run **`perl -version`** and ensure that the command is found. If PERL is not installed, download a PERL binary distribution package from the Internet.

To resolve this issue, determine the location of PERL on your TBSM host and create a symbolic link from your PERL home directory to `/usr/local/bin/perl`.

To determine the location of PERL on your host, enter the command: `which perl`.

Windows

The Windows version of Netcool/Webtop server does not fully support all the features of the AEL. However, the actions in this section might allow you to enable the AEL CGI tools.

Most Windows systems do not have PERL by default.

1. Download a PERL interpreter from the internet and install it on the TBSM host.
2. Associate the `.cgi` file type with **perl script file** or your PERL interpreter in Windows.

AEL CGI tool scripts

If you want to change the path in the configuration scripts for the tools, complete the following steps:

1. To determine the location of PERL on a UNIX host, enter the command: `which perl`.

   On a Windows host, find the location of PERL manually.
2. Change to the `%TBSM_INSTALL_HOME%\netcool\omnibus_webgui\etc\cgi-bin` directory. This directory contains the scripts described in Table 4 on page 96.

Table 4. AEL CGI tool scripts

Script file name	Description
nco_ping.cgi	Configures the ping tool on UNIX systems except Linux.
nco_ping_linux.cgi	Configures the ping tool on Linux systems.
nco_ping_nt.cgi	Configures the ping tool on Windows systems
launch_tbsm.cgi	Configures the tool that launches TBSM from Tivoli Enterprise Portal.
launch_tep.cgi	Configures the tool that launches Tivoli Enterprise Portal from TBSM.

3. Open the file you want to modify in a text editor.
4. The first line contains the path for the PERL files. The default is `usr/local/bin/perl`.
5. If necessary, change this line to the path to match the location of the PERL files on your TBSM host.
6. Save and close the file.

Active Event List local tools not loading on Windows

On a Windows host, the AEL local tools including Launch to TBSM from Tivoli Monitoring and launch Tivoli Enterprise Portal from TBSM do not work.

Symptoms

The Windows version of Netcool/Webtop server does not fully support all the features of the AEL. The **Local Tools** options may not function correctly when executed in the Active Event List when running with the IBM 1.5 Java Virtual Machine (JVM) plug-in.

No window is displayed when one of the Local Tools (ping, telnet, tracepath) is selected. The Java console might contain an error message similar to the following:

```
ERROR: [ EventSelectionListener.applyAccessCtrl() ] Unable to find tool: LocalPing
ERROR: com.micromuse.ncw.applet.tools.ToolCorruptException:
Unable to find Command Line tool for the local platform!
at com.micromuse.ncw.applet.tools.CmdLineToolConverter.convertTool
(CmdLineToolConverter.java:62)
at com.micromuse.ncw.applet.tools.ToolFormatConverter.convertTool
```

```
ToolFormatConverter.java:49)
...
```

Cause
The operating system name, taken from the JVM system properties, is not properly recognized.

Resolution
To resolve this problem, modify the JVM system property named **os.name** to `Windows 2003` on the affected client computer where the AEL is being accessed (again, only when the client computer is Windows 2003 Server).

1. Open the Windows Control Panel.
2. Double-click the **IBM Control Panel for Java** entry to open the **Java Control Panel** configuration user interface.
3. Select the **Java** tab.
4. Click the **View** button in the **Java Applet Runtime Settings** box.
5. The **Java Runtime Settings** window displays and contains a table with a single row with a Product Name of JRE and a Version of `1.5.0`. Click the table cell under the Java Runtime Parameters column of this row and add the text `-Dos.name=Windows 2003`.
6. Click **OK** in the **Java Runtime Settings**.
7. Click **OK** in the Java Control Panel.
8. Close all browsers and retry the function again.

Netcool/Webtop Error: No data sources currently available

This section describes an issue that occurs when you install the full version of Netcool/Webtop on the TBSM host.

Symptoms
After you install the full version of Netcool/Webtop, the following error message displays when you try to access the Active Event List (AEL) or other Netcool/Webtop pages:

```
Service Unavailable
Netcool/Webtop is currently unavailable.
No datasources currently available.
```

Cause
The most likely cause of this error is a failure by the installer to update the log in credentials for theNetcool/OMNIbus ObjectServer.

Resolution
To resolve this issue, you must manually update the log in credentials.

1. Change to the directory: `$IMPACT_HOME/etc/webtop/datasources/`.
2. In a text editor, open the file `ncwDataSourceDefinitions.xml`.
3. Refer to *IBM Tivoli Netcool/Webtop Installation and Deployment Guide* for instructions on setting the passwords.
4. Save and close the file.
5. Stop and start TBSM to enable the update.

Deprecation of Active Event List

This section describes the deprecation of the Active Event List (AEL) due to the industry moves of modern browsers and Oracle JDK/JRE in removing Java plug-in support.

Causes

The AEL (a Tivoli Netcool/OMNIbus WebGUI component) is an interactive Java applet that allow users to run tools or menu actions against events in an ObjectServer's alerts.status table. As an applet, the AEL requires the Java plug-in on browsers to run.

However, Oracle has announced plans to deprecate support for Java browser plug-in in JDK 9 onwards. As such, the AEL may no longer function once this technology is removed from future releases of Oracle JDK and JRE.

Resolution

The replacement for the AEL is the Event Viewer, an event list similar to AEL that is implemented in Javascript and does not require browser plugin to run. The Event Viewer is also a component of Tivoli Netcool/OMNIbus WebGUI and is available in WebGUI V7.4.0 onwards. However, the Event Viewer in this version of WebGUI is in read-only mode which does not allow users to interact with events shown from the ObjectServer.

The Event Viewer which allows for user interactivity in the same manner as the AEL can be found in Tivoli Netcool OMNIbus/WebGUI version 8.1.0 and later, which runs on the IBM Dashboard Application Services Hub (DASH).

For further information on how to obtain the Event Viewer on WebGUI V8.1.0 as an AEL replacement, please refer to the guide "TBSM: How to get the Event Viewer on WebGUI 8.1.0 for AEL Replacement" that can be found in the TBSM Wiki on Advanced Topics from the link below:

https://www.ibm.com/developerworks/community/wikis/home?lang=en#!/wiki/Tivoli+Business+Service+Manager1/page/Advanced+Topics

Chapter 22. IBM Tivoli Netcool/OMNIbus issues

This section describes how to resolve issues related to IBM Tivoli Netcool/OMNIbus.

Symptoms
If you are using a stand-alone Simple or Advanced TBSM installation where the TBSM installer has installed OMNIbus, the following issues may occur on UNIX Systems when you attempt to start OMNIbus using the **nco_objserv** command:

```
Using locale name "en_US.UTF-8" defined in environment variable LANG
Locale name "en_US.UTF-8" doesn't exist in your
/opt/IBM/Netcool/platform/linux2x86/locales/locales.dat file
```

Cause
The LANG variable is set to a value that is not valid for your Netcool/OMNIbus environment.

Resolution
In order to avoid this problem, do one of the following steps:

- Set the *LANG* variable to an acceptable locale listed in `locales.dat` and reissue the **nco_objserv** command.
- Update `locales.dat` to include the missing locale, and reissue **nco_objserv**.
- Use the **start_omni.sh** command to start Netcool/OMNIbus rather than the **nco_objserv** command.

For more information about globalization support, see the *Netcool/OMNIbus Installation and Deployment Guide*.

For information about errors related to Netcool/OMNIbus, see Chapter 18, “Events and incoming status rules,” on page 83.

Unable to launch Netcool/OMNIbus Tools

This section describes how to resolve issues related to Netcool OMNIbus tools.

Symptom 1
When launching the conductor tool `netcool/bin/nco` on Linux, you receive messages indicating that the system cannot find a shared library such as `libXm.so.3`.

Cause
To run Motif programs on Linux you need to install openmotif . See the Netcool/OMNIbus publications for details.

Resolution
In order to avoid this problem, install openmotif.

Symptom 2
When launching `netcool/bin/isql`, you receive messages about the context allocation routine failing.

Cause
`netcool/bin/isql` is being inappropriately called directly.

Resolution
Use `netcool/bin/nco_sql` instead of netcool/bin/isql

Chapter 23. Services or other objects not saving

This section describes issues related to saving services, templates, data fetchers, rules, data sources, maintenance schedules, and other objects.

Symptoms
The service, rule, template, or other object is not saved in the TBSM database. The **Save** button does not function. You receive a message indicating that the object was not saved. The message displayed depends on the object and whether messaging is enabled.

Cause

Note: The Name field for rules, data sources, maintenance schedules, view definitions and other objects must not contain these special characters:

```
" & < > \ / * ? | ( ) : ; $ ! %
```

Names must not contain spaces. Otherwise, these objects may not be saved properly in the TBSM database. If the object does not save, remove any special characters or spaces from the name field.

Services: TBSM checks the Service Name field for invalid characters. The Name field for services must not contain these special characters:

```
= < > * ? ; " \
```

TBSM will not create a service when the Name field contains any of these invalid characters. If the object does not save, remove any special characters from the name field.

Important: The Name field for templates must not contain these special characters:

```
$ !  % & " < > | : / * \ ?
```

Names must not contain spaces. Otherwise, these objects may not be saved properly in the TBSM database. If the template does not save, remove any special characters or spaces from the name field.

Important: The Name field for data fetchers must not contain these special characters:

```
$ ! % & " < > | : / * \ ?
```

Names must not contain spaces. Otherwise, these objects may not be saved properly in the TBSM database. If the data fetcher does not save, remove any special characters or spaces from the name field.

Resolution
To resolve this issue, remove any special characters from the **Name** field and save the object again.

Service names longer that 127 characters can cause display and performance issues.

Service names longer than 127 characters will be truncated in the Service Details portlet display. This does not affect the functioning of TBSM, but the truncated service name will be appear in the Service Details portlet.

If you use the Node column in Netcool/OMNIBus to create or match your service name: The node column is limited to 64 characters. If the service name is greater than 64 characters, it will be truncated and TBSM will not receive any events for the service.

You can either change the incoming status rule to use different service instance naming fields, or you can change the identification fields for a service with a long name. The identification field or fields can be different than the service naming field or fields. For example, if you have a service name that uses the Node column for its name, and the name is longer than 64 characters, the service will not receive events.

To fix this, you can specify another field, such as a field that contains the IP address as the Identification field for the service.

Policy changes are not saved

Symptoms
If additional tasks are performed in the Policy Editor, policy changes are not saved.

Resolution
In the Policy Editor, the user should save the policy before doing any other tasks.

Chapter 24. Launch to other applications

This section addresses issues encountered when launching to other applications.

Authentication issues when launching an application from TBSM

This section describes authentication issues with TBSM and another target application.

Symptoms

If the user launches from TBSM to another application (in an environment where Single Sign On is configured) and then logs out within the target application, the TBSM console may begin to display pop-up windows containing JSON errors. Further user activity within the TBSM console may end up returning the user to the login screen.

Cause

When the user logs out of a target application launched from TBSM (when Single Sign On is configured), the logout causes the LTPA token passed between the servers to become invalid. That is, logging out from the target application is essentially like logging out of the TBSM console as well.

Resolution

Log back in to the TBSM console. The user may have to refresh the browser upon logging back in.

Tivoli Application Dependency Discovery Manager does not launch

This section describes issues related to launching Tivoli Application Dependency Discovery Manager from the TBSM console.

Symptoms
The **Launch to..** options **Show Details (TADDM)** and **Show Change History (TADDM)** on the Integrations right-click menu fails.

Cause
The security settings in Internet Explorer block the URL for your Tivoli Application Dependency Discovery Manager server.

Resolution 1
Hold down the `Ctrl` key while selecting the option.

Resolution 2
To change the security settings in Internet Explorer:

1. Open **Tools** > **Internet Options**.
2. Select the **Security** tab.
3. Select **Local Intranet**.
4. Click **Sites**.
5. Click **Advanced**.
6. Add the address for your Tivoli Application Dependency Discovery Manager server to the list of local Web sites.
7. Click **OK** on the open **Internet Options** window to save the new address.

TADDM Change History launch error

This section describes issues related to the launch to Tivoli Application Dependency Discovery Manager **Change History**.

Symptoms

For an object, select TADDM Change History from the Launch-in-Context menu, the message,

```
CTJTC0010E Either the item is not found in the topology, or the application
 is not connected to the TADDM server.  The item cannot be found.
```

For the same object, select **TADDM Get Details** and the **TADDM details** panel is displayed.

Cause

The change history was not displayed because there are no change history records going back 180 days.

Resolution

The URL build for the **TADDM Change History** request specifies 180 days for `hoursbeen`. If a larger number is preferred, then edit `canvasOpenURLActions.xml` and increase the `hoursbeen` value.

Chapter 25. ESDA issues

This section describes issues encountered regarding ESDA.

ESDA Service Model does not contain expected services

This section describes issues with using ESDA rules to create a service model.

Symptoms
When an ESDA seed service is expanded, the model does not show the expected services, contains extra services, or reflects incorrect dependencies.

Causes
Possible causes include:

- The connection to data source is broken.
- The ESDA SQL query contains errors or is not retrieving the correct data.
- One or more of the services has not been invalidated.

Resolution
Depending on the problem, resolution includes one or more of the following steps:

1. Check the data source connection. There is a test connection button on the definition page for the data source.
2. Verify that the SQL query is defined correctly and the schema for the source database has not changed. Copy the query to a utility program for the DBMS and make sure that the query executes correctly.
3. The editor page for a service instance has an **Invalidate** function that you can use to invalidate a service.

   You can also open the primary template for the service, and change the default invalidation period, of 3600 seconds (60 minutes), to a lower value. The ESDA rules are re-executed only for "invalid" services.

Chapter 26. Time Window Analyzer

This section describes issues regarding the Time Window Analyzer.

No event details associated with Time Window Analyzer-generated Status Change Markers

This section addresses questions that occur when no event details are associated with Time Window Analyzer-generated Status Change Markers.

Symptoms

The user sees no event details associated with Time Window Analyzer-generated Status Change Markers.

Cause

No events are being received or are necessary to generate the status change markers for a service-status change. The service status change is being initiated or determined by an incoming status rule based on numeric KPI values defined by the service template.

Resolution

None. The product is functioning normally.

Maintenance results in performance and functionality problems

This topic addresses a problem that could affect customers who collect large numbers of metrics per day.

Symptoms

Resolution

Metric value appears to remain constant in graph

This section describes a problem where service metrics plotted in the Time Window Analyzer view appear as a constant value.

Symptoms

When you view service metrics plotted in the Time Window Analyzer view, you may see a portion of the line where the metric value remains constant for an extended period of time (as a straight line).

Causes

This may be completely accurate if the metric value has truly not changed for that period of time. The service metrics plotted in the Time Window Analyzer are those metrics returned by a data fetcher that have been configured for the TBSM Metric Collection feature and stored in the short term metric history datastore. The Time Window Analyzer plots those data points available for a service metric that occurred during the specified time window. There are two other cases related to data fetcher behavior that can also produce a graph where the metric value appears to remain constant for an extended period of time.

1. Currently the TBSM Metric Collection feature does not detect when a data fetcher is started, stopped, or goes off line. If a data fetcher is stopped for a period of time and then restarted, there will be a "gap" between the last metric value received and the first metric value received once the data fetcher is started again. If those two values on either end of the "gap" are the same, then the graph will connect them with a horizontal line as the only known data points over that time interval.
2. Metric values returned by a data fetcher include the current value and the previous value. If a data fetcher configured for metric history collection is started the first time (or after being stopped or offline for an extended period of time), the first metric value received may contain a value in the previous value field. If a previous value is specified in this first data value, the TBSM Metric History service propagates that value back in time across the time window specified in the Time Window Analyzer view. For example, if a data fetcher was just started an hour ago after being configured for metric history collection and the first metric value returned matches a previous value, then a Time Window Analyzer view configured to show the last six hours would show the metric values collected over the last hour and also a horizontal line extending back in time across the six hours representing the "previous" value.

Thus, when using the Time Window Analyzer view to investigate service behavior, be aware that a plotted metric value remain can be constant for an extended period of time for the reasons stated above. If it seems unreasonable for that metric value to remain constant for that long, contact your system administrator to find out if the data fetcher providing that metric value has been running during that entire time period.

Resolution

None. The product is functioning normally.

Chapter 27. Time Window Analyzer fails to establish a connection

This topic addresses a problem whereby the current build of TWA does not work out of the box. With TBSM 6.2.0 GA+ and Impact 7.1 FP14+, an error may occur when trying to use the TWA widget within TBSM.

Symptoms

The Time Window Analyzer fails to establish a connection and logs the following error:

```
CTGBH0014E
Could not retrieve information from the metric service. : : The service cannot be found for the
endpoint reference (EPR) <DataServerURL>:9080/ChartService/services/QueryService/
```

Resolution

To resolve the issue, perform the following steps:

1. Backup the following file on the Impact Server:

   `impact/lib3p/com.ibm.tivoli.tip.oda.ws.client.jar`
2. Remove the `.jar` file.
3. Restart both the Impact and the TBSM server.

Note: This fix will be included as part of Installer for FP2.

Chapter 28. TBSM reporting issues

This section describes issues encountered when TBSM reports are installed on the same host as TBSM.

Debugging reports

If your report execution results in an error or invalid data, follow these guidelines to debug the report.

- Ensure that all the prerequisites are met and the warehouse is collecting historical data.
- Check the SQL query the report runs.

DB2 driver manager library issue

IBM Cognos Analytics server fails when attempting to connect to the DB2 datasource.

Using 64bit IBM Cognos on 64-bit Linux, attempting to connect to the DB2 datasource results in the following error:

```
UDA-SQL-0569 Unable to load the driver manager library (libdb2.so)
```

See UDA-SQL-0569 Unable to load the driver manager library (libdb2.so) on the IBM Support site.

Reports fail to execute error

IBM Cognos Analytics fails to execute reports.

Symptom

Report fails to execute. The error message says the table or view KR9_TBSM_SERVICE_STATUS was not found.

Resolution

Verify you have configured the TDW datasource connection correctly. If the "test connection" option for the TDW datasource works correctly, verify the schema name for your Tivoli Data Warehouse is ITMUSER. For more information, see the Installation section *Configuring TBSM: post installation > Installing the Historical Reports > Specifying the schema* name.

TBSM reports icon issue

There is a known issue whereby icons in reports may not display properly.

You must put all images required into the Cognos V11.x resource directory, then icons in reports can display successfully.

For further details about this issue and how to obtain the required images, see IBM Tivoli Business Service Manager 620 reports icons do not display on Cognos Analytics V11.x on the IBM Support site.

Chapter 29. Troubleshooting Dashboard Application Service Hub

Consult these troubleshooting notes to help determine the cause of issues that relate to Dashboard Application Service Hub and to determine the correct course of action.

Login errors

Anything from an unassigned user role to a loss of connectivity with the user repository can cause a login error. Read the DASHProfile logs for help in diagnosing the cause.

Harmless authentication messages

Certain sign-on messages are routine and might not indicate that a problem has occurred.

For installations that have been configured to use the Dashboard Application Service Hub authentication service, it is possible that an authentication client receives CTGES1504E and CTGES1505E messages. These messages are generated when an unused single sign-on LTPA token is discarded, and might be insignificant.

An authentication client attempts to use all single sign-on tokens provided to it when authenticating to an authentication service. Some of these tokens might not apply to the configured authentication service, causing CTGES1504E and CTGES1505E messages to be generated on the client and CTGES1089E on the server. When not accompanied by other CTGES0008E authentication client errors, these messages indicate only that a particular single sign-on token was discarded.

Already logged in

Read this topic if you closed your work session and then tried to log in again, but received a message that the user ID was already logged in.

If you are logged in to the portal and close the browser window, you might not be logged out. Because you closed the browser, though, you need to log in again to start another work session. If, while logging in, you get a message that the user ID is already logged in and do you want to log out the other user, accept the request.

No user role assigned

Users should have the minimum required product level roles assigned or they might not see the contents of their default product pages after logging in.

Slow network response

Performance issues can cause an unresponsive script message to display after login.

If, immediately after logging in, you get a message about an unresponsive script and you are asked whether to continue or cancel opening the Web page, click **Continue**. After a short time, the welcome page for the console is displayed.

Such messages can indicate a slow network link between your computer and the application server. Ping the server computer to see the round trip response time. Use response times of 40 ms or better.

Try using a remote desktop connection to a computer that has a better response time with the application server and logging in from there.

Consider using a caching HTTP proxy to improve speed and reduce network traffic.

System in maintenance mode

A message about the system in maintenance mode in a load balancing configuration can indicate that the servers have not had trust enabled between them.

If you get a message in the portal, "The system is in maintenance mode. Please contact your administrator and try again later", it most likely means that the procedure for enabling trust between load balancing servers has not been completed.

Viewing logs for login errors

In the event of a login error, review the system outage and system error logs to help determine the cause.

About this task

Follow these steps to open the system outage and system error logs:

Procedure

1. At the command line, change to the */opt/IBM/JazzSM//*`profiles/logs/server1` directory.
2. Open `SystemOut.log` and `SystemErr.log` in a text editor.

   On Windows, for example, the command `notepad systemout.log` opens the log in Windows Notepad.
3. Review the errors.
4. If the cause and solution to your login error is not apparent, send the `SystemOut.log` and `SystemErr.log` from this directory and the `server1_exception.log` (and any other files that were modified within a few minutes of this one) from the sibling `ffdc` directory to your security administrator for further examination.

Installation fails with error code ADMR0104E in SystemOut.log

An installation will fail if a file is created in, or manually added to, a specific WebSphere Application Server configuration directory. An error with the code ADMR0104E is written to `SystemOut.log`, which provides details for file that caused the problem.

An installation will fail if a file was created in, or manually added to the following directory, and if the new file's access permissions differ to those of the other files in the directory:

```
$JazzSMHome/profile/config/cells/JazzSMNode01Cell/applications/isclite.ear/
deployments/isclite/isclite.war
```

In such cases, the following error is written to */opt/IBM/JazzSM//*`profiles/logs/server1/SystemOut.log`:

```
ADMR0104E: The system is unable to read document file path:
java.io.FileNotFoundException: file path (Permission denied)
```

To resolve this issue you must move the file indicated in the error message from the WebSphere Application Server configuration directory, or ensure that the file is granted file access permissions similar to those of the other files in the directory.

Once the file is removed or has had its file access permissions updated, you must restart the installation process.

Deleted portlet removed from all pages

You delete a portlet while it is being used be other pages.

Symptoms

When you delete a portlet in use on another page from the portlets page, this message displays:

```
Are you sure you want to delete the selected portlet?
```

The message does not indicate the portlet is already in use on a page and cannot be deleted. If you click Yes, the portlet is deleted, and you will get `Error 500` messages, on any page that included the portlet.

Cause
The system should not allow the deletion of portlets that are used on any page.

Resolution
Do not delete portlets that are displayed on a page.

Setting a trace

Enable a trace of the Dashboard Application Service Hub Server when you want to keep a record of activity.

Before you begin
The portal has a Troubleshooting Logs and Trace option for enabling a trace.

About this task
Follow these steps to set a trace that will record the Dashboard Application Service Hub Server actions in a log file: `$JazzSMHome/profile/logs/server1/trace.log`.

Procedure

1. Log in to the *Dashboard Application Service Hub*.
2. In the navigation pane, click **Settings** > **Websphere Admin Console** and click **Launch Websphere Admin Console**.
3. In the WebSphere Application Server administrative console, select **Troubleshooting** > **Logs and traces**.
4. Select the Dashboard Application Service Hub Server name (such as `server1`) in the Logging and Tracing portlet.
5. In the **Configuration** tab, click **Change Log Detail Levels**.
6. In the **Groups** list, expand **com.ibm.tivoli.*** and click **com.ibm.tivoli.tip.***.
7. Select a log level (such as **All Messages and Traces**) and click **OK** or **Apply**.
8. When prompted to save the configuration, click **Save**.
9. Stop and restart the Dashboard Application Service Hub Server:
   a) In the `/opt/IBM/JazzSM/profile/bin` directory, depending on your operating system, enter one of the following commands:
      - Windows `stopServer.bat server1`
      - Linux UNIX `stopServer.sh server1`

      Note: On UNIX and Linux systems, you are prompted to provide an administrator username and password.
   b) In the `/opt/IBM/JazzSM/profile/bin` directory, depending on your operating system, enter one of the following commands:
      - Windows `startServer.bat server1`
      - Linux UNIX `startServer.sh server1`

Results
After the server has been stopped and restarted, trace entries are saved to the `$JazzSMHome/profile/logs/server1/trace.log` file.

Considerations when changing a user ID

Changing a user ID in the console is equivalent to creating new user that is assigned only the default role of `iscusers`.

You can change a user ID in the **Manage Users** panel accessed through **Settings -> WebSphere Application Server Console -> Users and Groups** > **Manage Users**. If you change a user ID then it is equivalent to creating new user and the updated user ID is only assigned the default `iscusers` role. Additional roles for the updated user ID can be configured through **Users and Groups** > **User Roles**.

Important: If you change a user ID, any roles that were mapped for it, remain associated with the previous user ID. So if you intend to change or delete a user ID, you should first remove any role mappings that are associated with it. Once you have made you change, you can re-apply the role mapping to the new user ID.

Disabling Internet Explorer Enhanced Security Configuration

Internet Explorer Enhanced Security Configuration is an option that is provided in Windows Server 2003 operating systems and above. To use *Dashboard Application Service Hub* with Internet Explorer Version 7, you must disable Internet Explorer Enhanced Security Configuration.

About this task

When Internet Explorer Enhanced Security Configuration is enabled, it can create problems in viewing charts and some portlets. Follow these steps to disable Internet Explorer Enhanced Security Configuration:

Procedure

1. Close all instances of Internet Explorer.
2. Click **Start** > **Settings** > **Control Panel** and open **Add or Remove Programs**.
3. In the left panel of the **Add or Remove Programs** window, click **Add/Remove Windows Components**.
4. In the **Windows Components Wizard** dialog that is displayed, in the **Components** panel, select the **Internet Explorer Enhanced Security Configuration** entry and click **Details**.
5. In the **Internet Explorer Enhanced Security Configuration** dialog that is displayed, clear the check boxes for the listed user groups and click **OK**.
6. In the **Windows Components Wizard** dialog, click **Next** and once your settings have been applied, click **Finish**.

Results

Internet Explorer Enhanced Security Configuration is disabled.

ESSServerImportPlugin error message when using the tipcli import command

An error message is displayed with you run the `tipcli` import command.

Symptoms

When you run the export command using the **Export Wizard** in the Dashboard Application Service Hub Console and then run the `tipcli` import command, an error message is displayed:

```
$ ./tipcli.sh Import --importFile <filename> --username <tip_username> --password
<tip_password>

SEVERE: CTGWA2057E Plug-in "ESSServerImportPlugin" failed during migration,
performing roll back.
```

Cause
The **Export Wizard** does not export the ESS Server information.

Resolution
Run the `tipcli` import command with the following parameters:

```
$ ./tipcli.sh Import --importFile <filename> --username <tip_username> --password
<tip_password> --excludePlugins ESSServerImportPlugin
```

Chapter 30. Obtaining IBM Software Support

This section describes options for obtaining support for IBM software products.

Collect logs utility

The TBSM `collect_logs` utility helps you gather support information when you need to open a problem management record (PMR), which you can then use to track the problem.

The output of the utility is an archive file containing all the collected support information for the TBSM installation.

Start this utility from a command prompt as follows:

```
$TBSM_HOME/bin/collect_logs
```

Parameters

The utility takes the following optional parameters:

help
Display the usage help for the `collect_logs` utility.

-Dexport.rad.config=
Set to `true` if you want to include an export of the full TBSM configuration as part of the collection process. The default is `false`.

-Ddb.username=*username*
User ID for accessing the database

-Ddb.password=*password*
Password for accessing the database.

You need to enter both the user ID and password. If the database login details are not entered, no database support information will be in the logs.

Input prompts:

The command prompts you to specify directories for `ITM_HOME` and `DE_HOME`. if you leave these prompts blank, the command completes successfully. The command prompts you for the following information.

ITM_HOME directory path
If you leave this prompt blank, support information is not collected for this path.

DE_HOME directory path
If you leave this prompt blank, support information is not collected for the Deployment Engine.

Examples

```
collect_logs -Dexport.rad.config=true
collect_logs -Ddb.username=TBSMUser -Ddb.password=TBSMUserPassword
collect_logs -Ddb.username=TBSMUser -Ddb.password=TBSMUserPassword
 -Dexport.rad.config=true
collect_logs help
```

Obtaining fixes

A product fix might be available to resolve your problem. To determine what fixes are available for your IBM software product, follow these steps:

1. Go to the IBM Software Support Web site at http://www.ibm.com/software/support.

2. Click **Download** under the **Software support** section.
3. Select **I** from the alphabetic list, and choose **IBM Tivoli Business Service Manager**.
4. Optionally, select an operating system, or leave the default as `Any operating system`.
5. Type more search terms in the **Enter search terms** field if you want to refine your search.
6. You can refine your search by changing the categories in the **Limit and sort results** check boxes.
7. Click **Search**.
8. From the list of downloads returned by your search, click the name of a fix to read the description of the fix and to optionally download the fix.

For more information about the types of fixes that are available, see the *IBM Software Support Handbook* at http://techsupport.services.ibm.com/guides/handbook.html.

Receiving weekly support updates

To receive weekly email notifications about fixes and other software support news, follow these steps:

1. Go to the IBM Software Support Web site at http://www.ibm.com/software/support.
2. Click **My support** in the upper right corner of the page.
3. If you have already registered for **My support**, sign in and skip to the next step.

   If you have not registered, click **Register now**. Complete the registration form using your email address as your IBM ID and click **Submit**.
4. Click **Edit profile**.
5. In the Products list, select **Software**. A second list is displayed.
6. In the second list, select a product segment, for example, **`Application servers`**. A third list is displayed.
7. In the third list, select a product subsegment, for example, **`Distributed Application & Web Servers`**. A list of applicable products is displayed.
8. Select the products for which you want to receive updates, for example, **`IBM HTTP Server`** and **`WebSphere Application Server`**.
9. Click **Add products**.
10. After selecting all products that are of interest to you, click **Subscribe to email** on the **Edit profile** tab.
11. Select **Please send these documents by weekly email**.
12. Update your e-mail address as needed.
13. In the **Documents** list, select **Software**.
14. Select the types of documents about which you want to receive information.
15. Click **Update**.

If you experience problems with the **My support** feature, you can obtain help in one of the following ways:

- **Online**

  Send an e-mail message to erchelp@ca.ibm.com, describing your problem.
- **By phone**

  Call 1-800-IBM-4You (1-800-426-4968).

Contacting IBM Software Support

IBM Software Support provides assistance with product defects.

TBSM Tech Notes
Known problems are documented in the form of individual tech notes in the Support knowledge base on the TBSM support page. As problems are discovered and resolved, the IBM Support team updates the knowledge base. By searching the knowledge base, you can quickly find workarounds or solutions to problems.

The following link launches a customized query of the live Support knowledge base: View all known problems for TBSM .

Contacting IBM Software Support
Before contacting IBM Software Support, your company must have an active IBM software maintenance contract, and you must be authorized to submit problems to IBM. The type of software maintenance contract that you need depends on the type of product you have:

- For IBM distributed software products (including, but not limited to, Tivoli, Lotus®, and Rational® products, as well as DB2 and WebSphere products that run on Windows or UNIX operating systems), enroll in Passport Advantage® in one of the following ways:
  - **Online**

    Go to the Passport Advantage Web page at http://www-306.ibm.com/software/howtobuy/passportadvantage/pao_customers.htm.
  - **By phone**

    For the phone number to call in your country, go to the IBM Software Support Web site at https://www14.software.ibm.com/support/customercare/sas/f/handbook/home.html and click the name of your geographic region

    .
- For customers with Subscription and Support (S & S) contracts, go to the Software Service Request Web site at https://www-946.ibm.com/support/servicerequest/Home.action.
- For IBM eServer™ software products (including, but not limited to, DB2 and WebSphere products that run in zSeries, pSeries, and iSeries environments), you can purchase a software maintenance agreement by working directly with an IBM marketing representative or an IBM Business Partner. For more information about support for eServer software products, go to the IBM Technical Support Advantage Web site at http://www.ibm.com/servers/eserver/techsupport.html.

If you are not sure what type of software maintenance contract you need, call 1-800-IBMSERV (1-800-426-7378) in the United States. From other countries, go to the contacts page of the IBM Software Support Handbook on the Web at https://www14.software.ibm.com/support/customercare/sas/f/handbook/home.html and click the name of your geographic region for phone numbers of people who provide support for your location.

To contact IBM Software support, follow these steps:

1. Determining the business impact
2. Describing problems and gathering information
3. Submitting problems

Determining the business impact

When you report a problem to IBM, you are asked to supply a severity level. Therefore, you need to understand and assess the business impact of the problem that you are reporting.

Use the following criteria to assess the business impact of a problem:

Severity 1
The problem has a critical business impact. You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.

Severity 2
The problem has a significant business impact. The program is usable, but it is severely limited.

Severity 3
The problem has some business impact. The program is usable, but less significant features (not critical to operations) are unavailable.

Severity 4
The problem has minimal business impact. The problem causes little impact on operations, or a reasonable circumvention to the problem was implemented.

Describing problems and gathering information

When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Software Support specialists can help you solve the problem efficiently.

To save time, know the answers to these questions:

- What software versions were you running when the problem occurred?
- Do you have logs, traces, and messages that are related to the problem symptoms? IBM Software Support is likely to ask for this information.
- Can you recreate the problem? If so, what steps were performed to re-create the problem?
- Did you alter the system? For example, did you alter the hardware, operating system, networking software, and so on.
- Are you currently using a workaround for the problem? If so, be prepared to explain the workaround when you report the problem.

Submitting problems

Use this topic to learn how to submit a problem to IBM Software Support.

Submit your problem to IBM Software Support in one of two ways:

- **Online**

  Click **Submit and track problems** on the IBM Software Support site at http://www.ibm.com/software/support/probsub.html. Type your information into the appropriate problem submission form.

- **By phone**

  For the phone number to call in your country, go to the contacts page of the *IBM Software Support Handbook* at http://techsupport.services.ibm.com/guides/contacts.html and click the name of your geographic region.

If the problem you submit is for a software defect or for missing or inaccurate documentation, IBM Software Support creates an Authorized Program Analysis Report (APAR). The APAR describes the problem in detail. Whenever possible, IBM Software Support provides a workaround that you can implement until the APAR is resolved and a fix is delivered. IBM publishes resolved APARs on the Software Support Web site daily, so that other users who experience the same problem can benefit from the same resolution.

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