Tivoli® Netcool® Service Quality Manager V4.1.4, Managing alarms in the thick client and the database.

Objectives

After you complete this module, you can perform these tasks:

- Manage alarms in both the thick client and the database
- View and manage alarms from the front-end and back-end perspective
- Investigate and solve issues such as discrepancies on the alarm counts

Managing alarms in the thick client and the database

After you complete this module, you can perform several tasks. You can manage alarms in both the thick client and the database. You can identify the relationships on how alarms work and synchronize between the thick client and the database. You can manage alarms from the front-end and back-end perspective by performing required administrative tasks that must be carried out for alarm management. You can investigate and solve issues such as discrepancies on the alarm counts. The module reviews a case study that shares the techniques and steps to troubleshoot an issue.

Agenda

- Overview of Alarm Monitor
- Opening and closing the Alarm Monitor application
- Alarm actions in the thick client
- Alarm in the sadb database
- Case study: Alarm counts mismatched between the thick client and the database
- Summary

Managing alarms in the thick client and the database

The agenda:

- Overview of Alarm Monitor

- Opening and closing Alarm Monitor application

- Alarm actions in the thick client

- Alarm in the sadb database

- Case study: Alarm counts mismatched between the thick client and the database

- Summary

Overview of Alarm Monitor

- Alarm Monitor is one of the monitoring modules of Tivoli Netcool Service Quality Manager. Other education modules that are offered are Service Level Agreement (SLA) Monitor, Key Quality Indicator (KQI) Analyzer, and so on.
- The Alarm Monitor application enables you to retrieve more information about alarms that affect monitored contracts.
- Alarm Monitor displays alarms that affect monitored service level agreements (SLAs). If service performance drops below the set warning and violation thresholds, alarms are generated.
- The alarm attributes displayed are based on the ITU X.733 standard.
- Alarm Monitor is automatically updated as Tivoli Netcool Service Quality Manager receives new alarms. Alarms are color-coded to indicate their severity:
  - Yellow indicates an alarm with the severity type warning
  - Red indicates an alarm with the severity type critical

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This overview slide shows what the Alarm Monitor actually does.

Alarm Monitor is one of the monitoring modules of the Tivoli Netcool Service Quality Manager. There are other modules offered, such as SLA Monitor, KQI Analyzer, and so on. The Alarm Monitor application allows you to retrieve more information about alarms that affect monitored contracts. Alarm Monitor displays alarms that affect monitored service level agreements (SLA). If service performance drops below the set warning and violation thresholds, the software generates alarms.

The alarm attributes displayed are based upon the ITU X.733 standard, which includes these details:

- Time the alarm was generated by the system

- Perceived severity of the alarm

-- Warning on crossing the warning threshold

-- Critical on crossing the violation threshold

- Alarm type

- Source object

- Alarm count

- Object class

You can acknowledge alarms and terminate alarms through the Alarm Monitor, which is shown later in this lesson. You can sort the alarms with the criteria **severity, count**, **instance**, and **status**.

This slide shows steps to open and close the Alarm Monitor application. You must start the Tivoli Netcool Service Quality Manager thick client first to see and open the Alarm Monitor.

1.   To start the installed application, click **Start > All Programs > IBM Tivoli Netcool > Service Quality Manager > Application Discoverer**.

2.   From the menu, click the thick client.

3.   When prompted, enter the user name and password.

4.   After the thick client completes loading, to open the Alarm Monitor application, click the **ALARM MONITOR** icon on the **MONITORING** shortcut bar.

       Depending upon the application that is open, the menu bar and toolbar options in the Tivoli Netcool Service Quality Manager client vary.

5.To close the Alarm Monitor application, click **Close** on the title bar.

Alarm actions in the thick client (1 of 3)

You can process three main actions on alarm in the thick client. You can view the properties, acknowledging alarms, and terminate alarms.

First, how to view alarm properties. To display the attributes of an alarm, complete these steps:

1. Select the alarm whose properties you want to display.

2. Right-click and select **PROPERTIES**.

The **ALARM PROPERTIES** view displays the properties shown in the image. The properties are the Alarm ID, Event Source, System ID Class, System ID, Event Type, Status, Severity, Probable Cause, Specific Problem, Addition Text, Additional Info, Alarm Count, First Occurrence time, Last Updated time, and User Identity.

Alarm actions in the thick client (2 of 3)

To acknowledge Tivoli Netcool Service Quality Manager alarms, complete these steps:
1. Select the alarm that you want to acknowledge in the **ALARM MONITOR** view
2. Right-click and select **Acknowledge**
The status column updates to show **Acknowledged**

The next item is acknowledging the alarms. The slide shows of the menu that displays when you right-click an alarm.

To acknowledge Tivoli Netcool Service Quality Manager alarms, complete these steps:

1. Select the alarm you want to acknowledge in the **ALARM MONITOR** view.

2. Right-click and select **Acknowledge**.

The status column updates to show **Acknowledged**.

You can select multiple of alarms and acknowledge them from one menu. Depending on the machine specifications and the number of alarms selected, the action can take from a few seconds to several hours to complete.

Alarm actions in the thick client (3 of 3)

To terminate a Tivoli Netcool Service Quality Manager alarm, complete these steps:
1. Select the alarm that you want to terminate in the **ALARM MONITOR** view; the alarm must be acknowledged before it can be terminated
2. Right-click and select **Terminate**; the software removes the alarm from the **Alarms** list

The last action is to terminate alarms. The menu is the same as shown previously, but for this step click **terminate** instead of **acknowledge**.

To terminate a Tivoli Netcool Service Quality Manager alarm, complete these steps:

1. Select the alarm you want to terminate in the **ALARM MONITOR** view. The alarm must be acknowledged before it can be terminated.

2. Right-click and select **Terminate**. The software removes the alarm from the **Alarms** list.

The **Terminate** action functions are similar to the **Acknowledge** action. You can select multiple alarms and terminate all of them together. How long the software takes to complete the action, depends on the number of alarms and on the machine specification. It can take a few seconds to several hours to complete the action.

Alarm in the sadb database

It is possible for you to query the alarm details in the database and you can do so by querying the alm_alm table in the sadb database

To see the table structure, perform these steps:
1. Export the required ORACLE SID
   export ORACLE_SID=sadb
2. Start **sqlplus** from the command line. Alternatively, you can use any other RDBMS client such as Oracle SQL Developer (ensure that you configured the client properly to connect to sadb)
   saserver:> sqlplus /nolog
   SQL> *conn saserver/Saserver01*
   Connected.
3. Run the query ***desc alm_alm;***
4. Run the ***select * from alm_alm*** query to see all of the alarm details

This slide shows where you can look for alarms details in the database.

It is possible for you to query the alarm details in the database by querying the **alm_alm** table in the **sadb** database. There are a few other alarm tables, but this is the main table where all of the information is stored.

To run the querying, ensure that the **ORACLE_SID** value is set to **sadb**, otherwise you cannot proceed. The example shown uses **sqlplus**, but alternatively you can use any other relational database management system (RDBMS) client, such as Oracle SQL Developer. Ensure that you have configured the client correctly to connect successfully to the sadb database.

After you have successfully connected, and if you are interested in identifying the **alm_alm** table structure, run the ***desc alm_alm;*** query.

Next, you can run the ***select * from alm_alm*** query to see all of the details related to the alarms that are shown in the thick client.

Case study: Alarm counts are mismatched (1 of 3)

Presented is a case study where alarm counts mismatch between the thick client and the sadb database
- This scenario might occur after a manual cleanup on the alarm counts in the sadb database
- The changes were not picked up and thick client status is not reflected, so the mismatch values are visible

In the Alarm Monitor application, you can see the number of alarms at the lower right of the window:

Warning	1	Adapter Alarm	SQM Adapter	sqm_umts_voice_prb_l...	Missed Batch: [Sat Oct...	Unspecified			Oct 22, 16:00 MYT
Warning	1	Adapter Alarm	SQM Adapter	sqm_umts_voice_core...	Missed Batch: [Thu Se...	Unspecified			Sep 15, 16:09 MYT
Warning	1	Adapter Alarm	SQM Adapter	sms_ap_loader	Missed Batch : [Mon O...	Acknowledged			Nov 03, 14:04 MYT
Warning	1	Adapter Alarm	SQM Adapter	sqm_umts_voice_prb_l...	Missed Batch: [Mon Se...	Unspecified			Sep 26, 09:00 MYT
Warning	1	Adapter Alarm	SQM Adapter	sms_pm_late_loader	Missed Batch: [Fri Apr ...	Acknowledged			Nov 02, 16:31 MYT
Warning	1	Adapter Alarm	SQM Adapter	gprs_gb_pp_loader	Missed Batch: [Fri Apr ...	Acknowledged			Nov 02, 16:32 MYT
Warning	1	Adapter Alarm	SQM Adapter	sqm_hspa_sgsn_pm_lo...	Missed Batch : [Wed D...	Acknowledged			Nov 03, 14:05 MYT

Server (MYT) 223447

The number of alarms that are displayed is 223447

For this case study, the alarm counts displayed on the thick client and from a **sadb** database query are mismatched. This type of mismatch might occur after someone performs a manual cleanup of the alarm counts in the **sadb** database. Sometimes the changes are not picked up by the by the thick client, so its alarm count value is mismatched. For this case study, you can see that the number of alarms in the lower right of the Alarm Monitor application window is **223447**.

Case study: Alarm counts are mismatched (2 of 3)

- However, querying the alm_alm table in the sadb database yields a different count

```
SQL> select count(*) from alm_alm;

   COUNT(*)
----------
    199263
```

- To synchronize the data between the database and the thick client, you must restart the alarmom process

However, you can verify the actual number of alarms in the **sadb** database by querying the **alm_alm** table. The example shows that the number of alarms is **199263**. Because **223447** does not equal **199263**, there is a mismatch.

A mismatch between the count values of the back end (database) and the front end (thick client) might confuse you. To synchronize the data between the database and the thick client, you must restart the **alarmom** process.

Case study: Alarm counts are mismatched (3 of 3)

- Close the thick client
- Log in as the user **saserver** and run these two commands
  ```
  sap stop alarmom
  sap start alarmom
  ```
- View or tail the **alarmom-server.log** file in **/appl/sa/logs/alarmom** to display any errors
- Start the thick client and you can see that the number of alarms matches the number from the database

Warning	1	Adapter Alarm	SQM Adapter	cem_bes_log_loader	Missed Batch: [Fri...	Unspecified		Oct 06, 12:53 MYT
Warning	1	Adapter Alarm	SQM Adapter	sqm_hspa_sgsn_...	Missed Batch: [W...	Unspecified		Oct 12, 15:09 MYT
Warning	1	Adapter Alarm	SQM Adapter	sqm_umts_voice_,...	Missed Batch: [Sa...	Unspecified		Oct 22, 16:00 MYT
Warning	1	Adapter Alarm	SQM Adapter	sms_ap_loader	Missed Batch : [M...	Acknowledged		Nov 03, 14:04 MYT
Warning	1	Adapter Alarm	SQM Adapter	sqm_umts_voice_,...	Missed Batch: [M...	Unspecified		Sep 26, 09:00 MYT
Warning	1	Adapter Alarm	SQM Adapter	sms_pm_late_loader	Missed Batch: [Fri...	Acknowledged		Nov 02, 16:31 MYT
Warning	1	Adapter Alarm	SQM Adapter	gprs_gb_pp_loader	Missed Batch: [Fri...	Acknowledged		Nov 02, 16:32 MYT

Server (MYT)   199263

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Close the thick client so that it can read the alarm counts from the database when it starts after you restart the **alarmom** process. Log in as the user **saserver** and run these two commands:

1. **sap stop alarmom**
2. **sap start alarmom**

You can then view or tail the **alarmom-server.log** file in the **/appl/sa/logs/alarmom** directory to determine if it contains errors.

The final step is to start the thick client. You can see that the updated number of alarms shown in the screen capture are correct and synchronized with the **199263** value in the **sadb** database. The mismatch alarm count issue is resolved.

Summary

Now that you have complete this module, you can perform these tasks:

- Manage alarms in both the thick client and the database
- View and manage alarms from the front-end and back-end perspective
- Investigate and solve issues such as discrepancies on the alarm counts

Now that you have completed this module, you can perform several tasks. You can manage alarms in both the thick client and the database. You can identify the relationships on how alarms work and synchronize between the thick client and the database. You can manage alarms from the front-end and back-end perspective by performing required administrative tasks that must be carried out for alarm management. You can investigate and solve issues such as discrepancies on the alarm counts. The module reviews a case study that shares the techniques and steps to troubleshoot an issue.

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