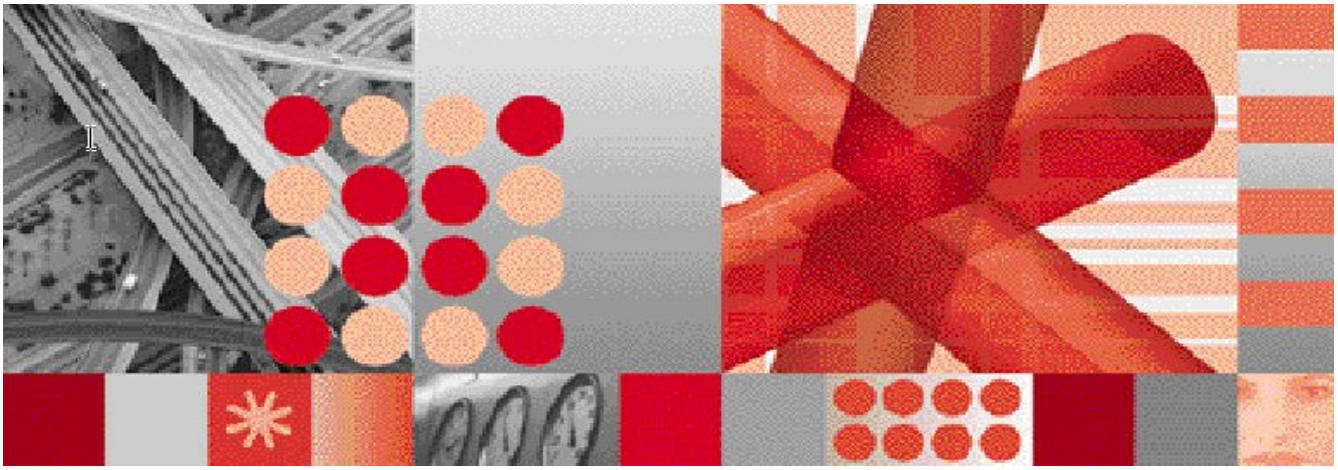
Tivoli. Netcool Service Quality Manager

IBM

Version 4.1.4



Upgrade Guide

SC23-9842-02

TIVOLI® NETCOOL® SERVICE QUALITY UPGRADE GUIDE

Note: Before using this information and the product it supports, read the information in Notices.

This edition applies to version 4, release 1, modification 4 of IBM Tivoli Netcool Service Quality Manager (product Number 5724-V48) and to all subsequent releases and modifications until otherwise indicated in new editions.

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1 About this documentation

The *IBM Tivoli Netcool Service Quality Manager Upgrade Guide* details the steps required to upgrade a Tivoli® Netcool® Service Quality Manager system on version 4.1.3.80 (Fix Pack FP0002) to a Service Quality Manager version 4.1.4 system.

1.1 Audience

This guide is intended for IBM® Tivoli® Netcool® Service Quality Manager customers.

IMPORTANT: Before attempting to upgrade Tivoli Netcool Service Quality Manager you are strongly advised to read the release notes distributed with your Tivoli Netcool Service Quality Manager software. Release notes can contain information specific to your installation not contained in this guide. Failure to consult release notes can result in a corrupt, incomplete, or failed installation.

1.2 Required skills and knowledge

This guide assumes you are familiar with the following topics:

- General IT (Information Technology) principles
- IP (Internet Protocol) networking
- UNIX® operating systems
- IBM AIX® 5L
- IBM AIX® 6.1L

1.3 Guide conventions

The following command prompts can be seen throughout this guide where the user has to enter commands at the command line:

- # (hash): This prompt is displayed you log in as the root user.
- $ (dollar): This prompt is displayed if you log in as either the `saserver` or `oracle` user.

NOTE: These prompts are not part of commands. All commands must be entered after these prompts.

This guide uses the typographical conventions shown in the following table:

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Table 1: General guide conventions

Format	*Examples*	*Description*
ALL UPPERCASE	GPS NULL MYWEBSERVER	Acronyms, device names, logical operators, registry keys, and some data structures.
Link	See www.ibm.com	For links within a document or to the Internet
Bold	**Note**: The busy hour determiner is...	Heading text for Notes, Tips, and Warnings.
SMALL CAPS	The STORED SQL dialog box... ...click VIEW... In the main GUI window, select the FILE menu, point to NEW, and then select TRAFFIC TEMPLATE.	Any text that appears on the GUI.
Italic	A *busy hour* is... A web server *must* be installed... See the *User Guide*	New terms, emphasis, and book titles.

`Monospace`	`./wminstall`
	`$ cd /cdrom/cdrom0/xml/dict`
	`addmsc.sh`
	`core.spec`
	`Type OK to continue.`
		Code text, command line text, paths, scripts, and file names.
		Text written in the body of a paragraph that the user is expected to enter.

`Monospace Bold`	**`[root] # pkginfo | grep -i perl`** system Perl5 On-Line Manual Pages system Perl 5.005_03 (POD Documentation) system Perl 5.005_03	For contrast in a code example to show lines the user is expected to enter.
`<Monospace italics>`	# cd *`<oracle_setup>`*	Used in code examples: command-line variables that you replace with a real name or value. These are always marked with arrow brackets.
[square bracket]	log-archiver.sh [-i][-w][-t]	Used in code examples: indicates options.

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1.4 User publications

These user publications are provided with the Tivoli Netcool Service Quality Manager 4.1.4 software as Adobe® PDFs. Online Help is available in HTML format.

Table 2: Tivoli Netcool Service Quality Manager User Documentation

Guide title	*Description*
Release Notes	Provides information on the Tivoli Netcool Service Quality Manager release contents, platform requirements, installation and upgrade procedures, and known issues.
Configuration Guide	Describes Service Level Agreement (SLA) provisioning (parties, SLAs, and SLA templates applications) and Tivoli Netcool Service Quality Manager provisioning, Services Resources, Key Quality Indicators (KQI) models, and service models applications in Tivoli Netcool Service Quality Manager.
Monitoring Guide	Describes monitoring (SLA monitor, KQI analyzer, alarm monitor, audit manager and SLA Web monitor applications) in Tivoli Netcool Service Quality Manager.
Customer Experience Manager Monitoring Guide	Describes how to use and monitor the Customer Experience Manager feature in Tivoli Netcool Service Quality Manager.
Customer Experience Manager Provisioning Guide	Reference guide containing information for provisioning the Customer Experience Manager system.
Solaris Server Installation Guide	Describes how to install the Tivoli Netcool Service Quality Manager server system on Solaris 10g.
Client Installation Guide	Describes how to install the Tivoli Netcool Service Quality Manager client.
AIX Installation Guide	Describes how to install the Tivoli Netcool Service Quality Manager server system on AIX 5.3L and AIX 6.1L.
AIX and Solaris System Administration Guide	Provides an overview of the Tivoli Netcool Service Quality Manager administrative tasks including instructions on how to complete these tasks: - Starting and stopping Tivoli Netcool Service Quality Manager. - Running batch processes such as archiving trace files and log files. - Backing up and restoring the system.

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Upgrade Guide	Details how to upgrade from one Tivoli Netcool Service Quality Manager version to another.
BusinessObjects Installation and Configuration Guide	Provides information on the steps required to install and configure the BusinessObjects (XI 3) server and client for use with Tivoli Netcool Service Quality Manager.
Tivoli Netcool Service Quality Manager Core Online Help	Provides information and procedures for using Tivoli Netcool Service Quality Manager client applications.
Customer Experience Manager Online Help	Describes how to use and monitor the Customer Experience Manager feature in the Tivoli Netcool Service Quality Manager.
SLA Webview Online Help	Describes how to use and monitor the SLA Webview feature in the Tivoli Netcool Service Quality Manager.
IBM Tivoli Netcool Service Quality Management Center Integration Guide	Describes the Tivoli Netcool Service Quality Management Center solution. Provides information about how to integrate the IBM Tivoli Business Service Manager, Tivoli Netcool Service Quality Manager, and Tivoli Netcool Customer Experience Manager products in a common dashboard layer.

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IBM Tivoli Netcool Service Quality Manager Provisioning Service SI Guide	Reference guide containing information for provisioning the Tivoli Netcool Service Quality Manager system.

1.4.1 Viewing the Tivoli Netcool Service Quality Manager online help

You can view Tivoli Netcool Service Quality Manager online help by taking the DOCUMENTATION option from the HELP menu in the Tivoli Netcool Service Quality Manager Client. This tab is accessible from all Tivoli Netcool Service Quality Manager applications on the Tivoli Netcool Service Quality Manager Client.

1.4.2 Accessing publications online

You can view the Tivoli Network Management documentation on the Web by accessing the Tivoli Software Information Center at: http://publib.boulder.ibm.com/infocenter/tivihelp/v8r1/index.jsp.

To view the books of the Tivoli Netcool Service Quality Manager library, click TIVOLI NETCOOL SERVICE QUALITY MANAGER PRODUCTS.

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2 Installing Tivoli Netcool Service Quality Manager version 4.1.4 upgrade

2.1 Pre-Upgrade Checklist

Before installing the Tivoli Netcool Service Quality Manager software, the following checklist summarizes various items which should be checked:

- Verify that the `idsinst` operating system user may be used to remotely login to the system on the Application server or Consolidated server.
- Verify on all servers that the `java` executable is available in the `PATH` of the `saserver` operating system user.
- Verify that the `UMASK` setting is `022` for the system and for operating system users `saserver` (all servers), `oracle` (database server), `idsinst` and `idsldap` (application server).
- Verify on all servers that the `/tmp` filesystem or directory is globally readable and globally writeable.
- Verify that the `ODMDIR` shell environment variable is set to `/etc/objrepos` on the Application server or Consolidated server for the `root` user.
- Verify on all servers that the system hostname resolves to the correct IP address – check the `/etc/hosts` file.
- Verify that sufficient storage space is available (either on the database server or on a suitable backup host) to accommodate a full filesystem-level backup of the TNSQM core database.
- The passwords for the following user accounts will be required during the upgrade:
  - LDAP Directory Manager TNSQM LDAP instance administrator account
  - swvadm TNSQM LDAP user account
  - useradm TNSQM LDAP user account
  - saserver` TNSQM LDAP user account
  - idsinst TNSQM DB2 instance Unix account
  - oracle TNSQM Oracle Unix account
  - root Admin Unix account on each server

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2.2 Tivoli Netcool Service Quality Manager upgrade prerequisites

The IBM® Tivoli® Netcool® Service Quality Manager upgrade to version 4.1.4 can be performed on a Tivoli Netcool Service Quality Manager server on version 4.1.3.60 with patch 4.1.3.80. Patches 4.1.3.90 and 4.1.3.100 may also be installed.

Table 3: Prerequisites

Version	*Type*
SQM4.1.3.60	Tivoli Netcool Service Quality Manager baseline version
SQM4.1.3.80	Tivoli Netcool Service Quality Manager/Customer Experience Manager patch version
SQM4.1.3.90 (Optional for upgrade)	Tivoli Netcool Service Quality Manager/Customer Experience Manager patch version
SQM4.1.3.100 (Optional for upgrade)	Tivoli Netcool Service Quality Manager/Customer Experience Manager patch version
Oracle® 11g version 11.2.0.2 with OPatch #6880880 and PSU #10248523	Oracle Relational Database Management System (RDBMS) software version. This must be installed on the Database server or Consolidated server.
Business Objects® Enterprise XI 3.1	SAP Business Objects® XI 3.1software. This must be installed on the Application server or Consolidated server.
WebSphere Application Server version 6.1.0.27, with 6.1.0.33 Fix pack.	WebSphere Application Server version. This must be installed on the Application server or Consolidated server.
TNSQM 4.1.4 Upgrade Patch package, Platform package and Core Report packages.	Software artifacts necessary to perform an upgrade of TNSQM to version 4.1.4.

To find out the baseline and patch levels currently installed, execute the following command as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated server:

```
$ sap version
```

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NOTE: Before an upgrade of the Tivoli Netcool Service Quality Manager system, for example from Tivoli Netcool Service Quality Manager 4.1.3 to Tivoli Netcool Service Quality Manager 4.1.4, as user `saserver` on the application server or consolidated server, the custom customer relationship manager (CRM) module JAR files deployed under `$WAS_HOME/lib` must be backed up in a `<CEM_CRM_BACKUP>` directory where `<CEM_CRM_BACKUP>` is an arbitrary directory. This directory must not be located in the `$WAS_HOME` directory or any of its sub-directories.
For further information on the module JAR files to be backed up, please refer to the *IBM Tivoli Netcool Customer Experience Manager Customer Relationship Management Development Guide*, SC23-9857-01.

NOTE: Before an upgrade it is first necessary to upgrade Business Objects XI R 2 to Business Objects XI 3.1. To perform this upgrade follow the steps outlined in the Business Objects Enterprise Upgrade Guide (version number XI 3.1). Business Objects documentation can be accessed at the following link:

http://help.sap.com/businessobject/product_guides/

2.3 The platform package

The IBM platform package is provided with your software distribution, and must be installed on all Tivoli Netcool Service Quality Manager servers. This package consists of a number of files:

- `ibm-tn-plat-install.install`
- `ibm-tn-plat-install.license`
- `ibm-tn-plat-install.remove`
- `ibm-tn-plat-install.sw`

To install the platform package, complete the following as user `root`:

1. Place the platform package in the `/appl` directory or the directory where you intend to install the Tivoli Netcool Service Quality Manager software.

2. Uncompress the package by running the command:

```
# gunzip ibm-tn-plat-install-PLAT1.0.0.XX.tar.gz
```

3. Untar the package by running the command:

```
# tar -xvf ibm-tn-plat-install-PLAT1.0.0.XX.tar
```

4. Execute the installation script by running the command:

```
# ./ibm-tn-plat-install.install now

# chown -R saserver:sa <target directory>/sa

# rm -f <target directory>/patch.*
```

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where *<target directory>* is the directory in which you are installing the Tivoli Netcool Service Quality Manager software.

The platform package is now installed in the /var/install directory.

2.4 IBM WebSphere Application Server

IBM WebSphere Application Server version 6.1.0.33 is required for Tivoli Netcool Service Quality Manager version 4.1.4.

Note : xlC Runtime Environment version 10.2.0.2 or higher, BOS en_US language fileset 5.3.0.0 or higher, and the RSCT components: rsct.core.rmc, rsct.basic.rte, rsct.compat.clients.rte and rsct.opt.storagerm, must be installed before upgrading WebSphere Application Server. Check for xlC run time using the lslpp -l | grep xlC command as a root user and check for the other filesets using lslpp -l | grep *<fileset>* command as a root user.

To upgrade the IBM WebSphere Application Server installation on the Tivoli Netcool Service Quality Manager system to this new version, execute the following commands on the Application server:

1. Stop the Tivoli Netcool Service Quality Manager processes by running the following commands on the applicable server as user saserver:

   ```
   $ sap stop –f
   ```

2. Ensure all Tivoli Netcool Service Quality Manager core processes are stopped before proceeding. Use the sap disp command to check this. Stop the WebSphere instances using the following commands as user root:

   ```
   # /etc/rc.d/init.d/wpsa stop
   # /etc/rc.d/init.d/wmbsa stop
   ```

3. Uninstall the IBM WebSphere Application Server as user root:

   ```
   # <WebSphere Home>/uninstall/uninstall –silent
   ```

   Where *<WebSphere Home>* is the WebSphere 6.1 installation location as set in the $WAS_HOME environment variable for the saserver user.

4. Check for zero return code:

   ```
   # echo $?
   ```

5. Verify that the IBM WebSphere Application Server is uninstalled properly: If the return code is non-zero, the uninstall probably failed because WebSphere processes were running. Ensure that all Web-

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Sphere processes are stopped by re-running from Step 1 above, and re-run the WebSphere uninstall command.

As user `root`:

```
# lslpp -l | grep WSBAA
```

No output should be returned.

6. Remove the WebSphere Application Server directory by executing this command as user `root`:

```
# rm -r <target directory>/IBM/WebSphere/
```

7. To install the new version of IBM WebSphere Application Server, complete the following steps:

8. Place the IBM WebSphere Application Server software in *<target directory>*, where *<target directory>* is the directory in which you are installing the Tivoli Netcool Service Quality Manager software. This software package is bundled with the Tivoli Netcool Service Quality Manager 4.1.4 core software.

9. Run the following command as user root:

```
# /var/install/sbin/was_install -base <target directory>
```

It is recommended to use the `/appl` directory as the *<target directory>* value. The installation log file will be in `/var/install/logs/was_install_<PID>.log`

10. The installer prompts you to enter the location of the IBM WebSphere Application Server package as follows:

```
Enter the full pathname of the WAS package: /appl/<filename>.gz
```

where *<file name>* is the name of the IBM WebSphere Application Server package gzipped file provided with the Tivoli Netcool Service Quality Manager distribution.

```
# /var/install/sbin/was_install -base /appl
Checking for unzip... found it.
Enter the full pathname of the WAS package: /appl/WAS_61027_AIX-PPC_CIP.tar.gz
Unpacking WAS package...
/....done
Installing WAS base...
|...done
Unpacking Update Installer...
/....done
Installing UpdateInstaller...
\...done.
```

11. Examine the log file for errors. Execute the following commands as user `root` to check the deployed version:

```
# <target directory>/IBM/WebSphere/AppServer/bin/versionInfo.sh

WVER0010I: Copyright (c) IBM Corporation 2002, 2005; All rights reserved.
WVER0012I: VersionInfo reporter version 1.15.4.3, dated 11/12/08
```

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```
--------------------------------------------------------------------------
IBM WebSphere Application Server Product Installation Status Report
--------------------------------------------------------------------------
Report at date and time November 11, 2009 2:23:18 AM PST
Installation
--------------------------------------------------------------------------
Product Directory   /appl/IBM/WebSphere/AppServer
Version Directory   /appl/IBM/WebSphere/AppServer/properties/version
DTD Directory       /appl/IBM/WebSphere/AppServer/properties/version/dtd
Log Directory       /appl/IBM/WebSphere/AppServer/logs
Backup Directory    /appl/IBM/WebSphere/AppServer/properties/version/nif/backup
TMP Directory       /tmp
Product List
--------------------------------------------------------------------------------
BASE                installed
Installed Product
--------------------------------------------------------------------------------
Name                IBM WebSphere Application Server
Version             6.1.0.27
ID                  BASE
Build Level         cf270937.16
Build Date          9/16/09
--------------------------------------------------------------------------
End Installation Status Report
--------------------------------------------------------------------------
```

2.5 Oracle RDBMS software

The Tivoli Netcool Service Quality Manager databases must be shut down before the Oracle 11gR2 installation is performed.

1. Execute the following commands on the database server:

   As user `oracle`:

   ```
   $ ORACLE_SID=<Oracle SID> emctl stop dbconsole
   ```

   As user `root`:

   ```
   # /etc/rc.d/init.d/dborasa stop
   ```

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Note: Before proceeding, perform a full backup of the Tivoli Netcool Service Quality Manager Oracle *databases*. Note that in order to ensure a reliable and consistent rollback, a ***full filesystem-level*** backup of all the database datafiles (including control files and redo logs) should be performed.

The following filesystems, directories and/or artifacts must be backed up:

```
/oradata01/<ORACLE_SID>
/oradata02/<ORACLE_SID>
/oradata03/<ORACLE_SID>
/oradata04/<ORACLE_SID>
/oralogs1/<ORACLE_SID>
/oralogs2/<ORACLE_SID>
/oratemp/<ORACLE_SID>
/<ORACLE_HOME>/dbs/
/<ORACLE_HOME>/network/admin/
/<Oracle base>/admin/<ORACLE_SID>
```

2. Complete the following steps to install Oracle 11g Release 2:

   Execute the following commands as a root user:

   ```
   # /var/install/sbin/oracle11gR2_install -upgrade
   ```

   The installation conducts a number of checks:

   ```
   Check Oracle User exists...
   .... Done
   Check oinstall group exists...
   .... Done
   Check dba group exists...
   .... Done
   ------------------------------------------------------------------
   Please select the Type of Install you wish to execute by entering the number as-
   sociated with the Install Type:
      Full install (Oracle 11.2.0.1 + 11.2.0.x patch set) (1)
      Oracle 11.2.0.x Client only (2)
      11.2.0.x patch set (3)
      Oracle 11.2.0.x one-off patches (4)
      Oracle 11.2.0.1 Companion CD Products (5)
   ------------------------------------------------------------------
   [ 1/ 2/ 3/ 4/ 5] :
   ```

3. You are prompted to accept the type of installation required. Select option 1.
4. You are prompted to specify the location of the Oracle software and the location where the Oracle software is installed. Enter the paths to the Oracle software distribution, as requested.

   ```
   Please enter the location of the Oracle 11.2.0.2 Software [/cdrom/cdrom0/RDBMS]
   ```

5. Enter the destinations for the Oracle software. The defaults are acceptable, in most cases.

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```
Please enter the install location of the Oracle Base [/appl/oracle]:
Please enter the value of ORACLE_HOME [/appl/oracle/product/11.2.0/db_1]:
Please enter the value of ORACLE_HOME_NAME [OraDBHome11R2]:
```

Note: If Oracle is previously installed on this server, you might have to respond to questions regarding this. Default values are displayed. Overwrite the files, if the files exist.

Note: In the event of problems, you can remove the *<ORACLE_HOME>* directory and the contents of *<Oracle base>*/oracle/product/oraInventory/ContentsXML/ and restart the Oracle 11g installation.

---

6. The Oracle installation will ask for the locations of the OPatch patch and the PSU patchset. Enter both, and enter **none** for the one-off patches:

```
Please enter the location of the Oracle 11.2.0.x compressed OPatch patch zip
[/cdrom/cdrom0/patches/opatch]:
Please enter the location of the Oracle 11.2.0.x.x PSU uncompressed patches
('none' for none) [/cdrom/cdrom0/patches/psu]:
Please enter the location of the Oracle 11.2.0.2 uncompressed one-off patches
('none' for none) [/cdrom/cdrom0/patches/oneoff]: none
```

The Oracle patch installation takes approximately 20 minutes. The Oracle installation log output can be found in the following location:

```
/var/install/logs/oracle11gR2_install_<PID>.log
```

where <PID> is the UNIX process ID of the Oracle installer program.

Note: The following error may appear during the OPatch installation but can be safely ignored : "*OPatch failed with error code 73*"

---

7. The Tivoli Netcool Service Quality Manager databases must be restarted after the Oracle 10g patch installation is performed. Execute the following commands as user root on the operating systems below where applicable:

As user root:

```
# /etc/rc.d/init.d/dborasa start
```

Check the $ORACLE_HOME/startup.log file for any error messages.

2.6 Installing Tivoli Directory Server

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If a rollback is ***NOT*** being performed, the LDAP instance data must be backed up. To do this, execute the following command as user saserver on the Application server or Consolidated server:

```
$ $IDS_LDAP_HOME/sbin/db2ldif -I idsinst -o < target directory >/ldap_schema.ldif
-s dc=comnitel,dc=com
```

The file <*target directory*>/ldap_schema.ldif must be edited and the first stanza removed, i.e. this one:

```
dn: cn=crypto,cn=localhost
cn: crypto
objectclass: ibm-cryptoConfig
objectclass: ibm-slapdConfigEntry
objectclass: top
ibm-slapdCryptoSync: aiaSWf4GqTD2SmWp
ibm-slapdCryptoSalt: j]*G`_LmStcq
ibm-entryuuid: c3f68840-fe30-102f-8527-892efe777407
```

To uninstall the Tivoli Directory Server products, execute the following command as a root user on the Application server or Consolidated server:

```
# ODMDIR=/etc/objrepos

# export ODMDIR

# /var/install/sbin/tds_install -base <target directory> -product serviceassure -
remove
```

Notes:

1. If the `idsinst` user account becomes unavailable, for example, because of a changed or expired password, the Tivoli Directory Server cannot authenticate access to DB2 and the LDAP server becomes inoperative. To prevent this scenario, see the following technote for information on updating the Tivoli Directory Server password for the DB2 instance:

http://www-01.ibm.com/support/docview.wss?uid=swg21297067

2. Complete these steps on a consolidated or application server only.

Before installing the Tivoli Netcool Service Quality Manager software, you must install the Tivoli Directory Server and DB2 products. These products can be downloaded from http://www-01.ibm.com/software/tivoli.

1. Place these packages in the `/var/install/packages/` directory.
2. Execute the following command as a root user:

```
# ODMDIR=/etc/objrepos

# export ODMDIR

# /var/install/sbin/tds_install -base <target directory> -product serviceassure -
version 6.2
```

NOTE: Use "-version 6.1" when performing a TNSQM rollback.

Use the `/appl` directory as the *<target directory>* value, unless `/appl` is a symbolic link to another directory. If this is the case, use that directory as the *<target directory>* value.

3. Respond to the questions, including the requests for the locations of the Tivoli Directory Server and DB2 packages and file names. No Tivoli Directory Server patch is currently available.

```
# /var/install/sbin/tds_install -base <target directory> -product serviceas-
sure -version 6.2
```

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```
Enter the full pathname of the DS package: /var/install/packages/tds62-aix-
ppc64-base.tar
Enter the full pathname of the DS DB2 package: /var/install/packages/tds62-
aix-ppc64-db2.tar
Enter the full pathname of the GSK package: /var/install/packages/tds62-aix-
ppc64-gskit.tar
Enter the full pathname of the TDS patch package, if required:
Enter the full pathname of the DB2 patch package, if required:
...performing pre-install steps for Tivoli Directory Server
DOMAIN set to cork.ie.ibm.com from /etc/resolv.conf
Please, enter the DB2 Administrator (idsinst user) password: []
---->
Please, enter the DB2 Administrator (idsinst user) password a second time:
[]
---->
Please, Enter the LDAP instance location: [/appl/ldap]
---->
Instance location set to /appl/ldap
Please, Enter the encryption seed (12 digits): [260022361622]
---->
Encryption seed set to 260022361622
Please, Enter the LDAP Administrator DN: [cn=Directory Manager]
---->
Administrator DN set to cn=Directory Manager
Please, Enter the LDAP Administrator password: [Dirmgr01]
---->
Administrator password set to Dirmgr01
Please, Enter the LDAP port number: [1389]
---->
Port number set to 1389
Please, Enter the LDAP secure port number: [1636]
---->
Secure port number set to 1636
Please, Enter the DB2 database name: [idsdb]
---->
DB name set to idsdb
.... Unpacking IBM Tivoli Directory Server.The installation log file is located in
/var/install/logs/tds_install_<PID>.log.
```

4. Check the file `/appl/ldap/idsslapd-idsinst/logs/ibmslapd.log`. An installation that is running correctly displays information like the following:

```
01/21/11 10:21:40 GLPSRV009I 6.2.0.0    server started.
01/21/11 10:21:40 GLPRPL136I Replication conflict resolution mode is set to
true.

01/21/11 10:21:40 GLPSRV048I Started 15 worker threads to handle client re-
quests.
```

5. Check the Tivoli Directory Server version by executing the following command as user `idsinst`:

```
$ /opt/IBM/ldap/V6.2/bin/idsversion
32-bit TDS client version:6.2.0.0
64-bit TDS client version:6.2.0.0
32-bit TDS max_crypto client version:6.2.0.0
64-bit TDS max_crypto client version:6.2.0.0
TDS base client version:6.2.0.0
TDS java client version:6.2.0.0
64-bit TDS server version:6.2.0.0
TDS base server version:6.2.0.0
64-bit TDS proxy server version:6.2.0.0
TDS Web-admin  server version:6.2.0.0
TDS max_crypto  web admin  server version:6.2.0.0
```

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6. Check the DB2 version by executing the following command as user `idsinst`:

```
$ /opt/IBM/tdsdb2V9.5/bin/db2level
DB21085I  Instance "idsinst" uses "64" bits and DB2 code release "SQL09050"
with level identifier "03010107".
Informational tokens are "DB2 v9.5.0.0", "s071001", "AIX6495", and Fix Pack
"0".
Product is installed at "/opt/IBM/tdsdb2V9.5".
```

2.7 BusinessObjects XI common libraries (optional)

Note: Complete these steps on a consolidated or application server.

To support BusinessObjects XI functionality, a subset of the BusinessObjects common libraries must be made available to the Tivoli Netcool Service Quality Manager server during installation. These libraries are installed on the BusinessObjects server in the directory *<BO install directory>*\common. The default value for *<BO install directory>* is C:\Program Files\Business Objects. A recommended value for the *<BO install directory>* directory is *<target directory>*\bo_xi_r3. Before beginning the Tivoli Netcool Service Quality Manager installation, the common directory must be copied to a location on the Tivoli Netcool Service Quality Manager server. This location is required during the Tivoli Netcool Service Quality Manager installation.

The content of the common directory is as follows:

```
common/4.0/java/lib:

CRDBJDBCServer.jar
CRDBJavaServer.jar
CRDBJavaServerCommon.jar
CRDBJavabeansServer.jar
CRDBSForceServer.jar
CRDBWicServer.jar
CRDBXMLServer.jar
CrystalCommon2.jar
EnableSIAServers.jar
IJobProcessingSubsystem.jar
InitSmartServers.jar
InitSmartServers_en.jar
InstallEntSdkWrapper.jar
JobServerChild.jar
MetafileRenderer.jar
PostMigrator.jar
REDynamicRecipients.jar
ReportPrinter.jar
ReportViewer.jar
SIA.jar
SIA_en.jar
SL_plugins.jar
URIUtil.jar
UpdateXMLSampleReports.jar
XcelsiusSLPlugins.jar
XcelsiusServer.jar
XcelsiusServerSDK.jar
biarengine.jar
biplugins.jar
boconfig.jar
businessgraphics.jar
cafinstall.jar
cecore.jar
celib.jar
ceplugins_client.jar
```

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```
ceplugins_core.jar
ceplugins_cr.jar
cereports.jar
cesdk.jar
cesearch.jar
cesession.jar
ceutils.jar
clientplugins.jar
commons_driver.jar
corbaidl.jar
crdataprovider.jar
crdataprovider_en.jar
credential.jar
crlov.jar
crlovexternal.jar
crlovmanifest.jar
cvom.jar
cvom_chart_lib.jar
cvom_chart_lib_en.jar
cvom_en.jar
data-native.jar
data.jar
data_en.jar
diagnosticTool.jar
dsws-bicatalog.jar
dsws-biplatform.jar
dsws-common.jar
dsws-federator.jar
dsws-publish.jar
dsws-queryservice.jar
dsws-reportengine.jar
dsws-session.jar
ebus405.jar
federation_en.jar
fedmaster.jar
fedslave.jar
flash.jar
fmtlib_bridge.jar
i18n4j.jar
itext-1.4.5.jar
jtools.jar
jxlib.jar
keycodeDecoder.jar
logging.jar
pdfcollation.jar
pluginhelper.jar
postprocessing_oca2service.jar
procJavaAdapter.jar
procPublishing.jar
procReplication.jar
procWebiPublishing.jar
pub_common.jar
pub_common_en.jar
pub_processing.jar
publishing_oca2service.jar
ras21core.jar
ras21proc.jar
rasapp.jar
rascore.jar
rebean.common.jar
rebean.fc.jar
rebean.jar
rebean.wi.jar
```

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```
repo_proxy.jar
reporttemplate.jar
rpoifs.jar
serialization.jar
serializedEditor.jar
setupConfiguration.jar
sit.jar
ugv_services.jar
updatefrs.jar
verifyrights.jar
webreporting-jsf.jar
webreporting.jar
wi_srvadmin.jar
wilog.jar
wstk_java.jar
xcelsius.jar
```

2.8 Oracle JDBC Library Files

You will be prompted for the location of the Oracle Java Database Connectivity (JDBC) library files. These files must be made available locally on the application and adapter servers. The installation does not proceed until the correct location of these files is provided. Transfer the following files from the Oracle 11g installation on the database server to *<target directory>* on the application server or adapter server(s):

```
<Oracle home>/jdbc/lib/ojdbc5.jar
<Oracle home>/jlib/orai18n.jar
```

…where <target directory> is the directory where you are installing the Tivoli Netcool Service Quality Manager software.

2.9 Tivoli Netcool Service Quality Manager upgrade installation - core software patch

Note (for distributed installations): Perform the procedures in this section on the application, database and adapter servers only

Note: As part of a Tivoli Netcool Service Quality Manager 4.1.4 upgrade the custom provisioning files stored under the following directories on Application, Adapter and Consolidated servers are backed up under *<target directory>*/4.1.4_Upgrade_backup/ and their content removed:

$WMCROOT/admin/provision/install/mediation/

$WMCROOT/admin/provision/install/customer/

$WMCROOT/admin/provision/install/service/

$WMCROOT/admin/provision/install/technology/

2.9.1 Preinstallation

Note: Upgrade installation and rollback requires available minimum free disk space as follows :

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- Root file system 5GB
- *<target directory>* partition (for example: `/appl) 20GB`
- `/tmp 5GB`
- `/oradata01, /oradata02, /oradata03, /oradata04 10GB each`

Failure to meet these minimum requirements might result in failure or possible corruption of parts of the Tivoli Netcool Service Quality Manager system during the upgrade process.

Note also that in the case of a distributed system, the Database server should be upgraded first, followed by the Application server, and finally the Adapter server(s).

Complete the following as user `saserver` on the Tivoli Netcool Service Quality Manager consolidated or application and adapter servers:

- Stop all Tivoli Netcool Service Quality Manager processes if they are running by executing the following commands on the consolidated server or application server as user `saserver`:

```
$ sap stop –f

$ sapmgr stop

$ sapmon stop –f
```

- Stop all Tivoli Netcool Service Quality Manager processes if they are running by executing the following commands on the adapter servers as user `saserver`:

```
$ sapmon stop –f
```

2.9.2 Deployment

Complete the following as user `saserver` on the Tivoli Netcool Service Quality Manager consolidated or application, database and adapter servers:

1. Remove the old TNSQM 4.1.3 software artifacts from *<target directory>*.

2. Place the Tivoli Netcool Service Quality Manager version 4.1.4 upgrade package in *<target directory>*, for example, `/appl` on the server. Also place the Business Objects core reporting package in the same directory – this will be called `core-reports-SQM4.1.4.XX-bo_`*XI*`.zip`, and is distributed as one of the Tivoli Netcool Service Quality Manager core packages.

3. Deploy the upgrade patch package:
   ```
   $ $WMCROOT/admin/common/install/scripts/deploy-patch –wmcr $WMCROOT –version
   SQM4.1.4.XX –mode install
   ```

The Tivoli Netcool Service Quality Manager patch installation can be broken down into the following sections.

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2.9.2.1 User checks

The installation ensures that the relevant users exist before commencing the Tivoli Netcool Service Quality Manager software installation.

```
Checking user saserver exists prior to install

.... Done
```

2.9.2.2 Tivoli Netcool Service Quality Manager upgrade patch deployment

The installation automatically backs up files to be patched and installs the patched files:

```
Creating Backup directory for Patch Files

.... Done

Backing up patched files to /appl/CEM4.1.3.60 directory

.... backed up
```

The following error messages can be ignored:

```
tar: can't create sa/admin/core-conf/install/scripts/configure_nsbound: Permission
denied
tar: can't create sa/admin/core-conf/install/scripts/configure_nsbound.bat: Permis-
sion denied
```

2.9.2.3 Installation

Complete the following as user `saserver` on the Tivoli Netcool Service Quality Manager consolidated or application, database and adapter servers:

1. Execute the following commands as user `saserver`:

```
$ $WMCROOT/admin/common/install/scripts/upgrade_to_414.ksh -wmcr $WMCROOT -mode in-
stall
```

On an application server or consolidated server, the BusinessObjects version, CMS username, CMS user password and library location will be required:

```
Performing installation task BO_CONFIGURE...

Please enter the installed Business Objects version (XI_R2/XI_R3/none): []
---->XI_R3
Copying...
Please enter the CMS username for BO XI: [Administrator]
---->
Please enter the password for the CMS user: []
---->
Replacing...
Enter the location of the Business Objects common libraries: [/appl/bo_xi_r3]
---->
Copying server files...
...
```

The installation asks for the location of the Oracle JDBC library files:

```
Enter the location of the database JDBC libraries: [/appl]

---->/appl

Copying database JDBC library files...
```

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The library files must be made available locally on the application server or adapter server. The installation does not proceed until the correct location of these files is provided. Transfer the following files from the Oracle 11g installation on the database server to `<target directory>` on the application server or adapter server:

```
<Oracle 11gR2 home>/jdbc/lib/ojdbc5.jar
<Oracle 11gR2 home>/jlib/orai18n.jar
```

…where `<Oracle 11gR2 home>` is location where the Oracle 11g Release 2 software was installed.

2. On the application or consolidated server, the core server configuration is displayed. Enter Y to accept the defaults, enter `N` to make modifications:

```
The following is a list of the default Tivoli Netcool Service Quality Manager
Variables:

1. BODBHOST=<BO database server hostname>
2. BODBSID=repos
3. OPERATOR=Company1
4. ORACLEPORT=1521
5. SADBHOST=<database server hostname>
6. SADBSID=sadb
7. SAGWHOST=<adapter server hostname>
8. SAHOST=<application server hostname>
9. SALOGDIR=/<target directory>/sa/logs/
10. SAVARDIR=/<target directory>/sa/var/
11. SAPROVDIR=/<target directory>/sa/var/provision
12. WMCROOT=/<target directory>/sa
13. SALOCATION=Cork
14. WSHOST=<application server hostname>
15. WSPORT=9043
16. WEBI_HOST=<BO server hostname>
17. BODB_USERNAME=repuser
18. BODB_PASSWORD=Repuser01
19. SADB_USERNAME=saserver
20. SADB_PASSWORD=Saserver01
21. SAPMONPORT=9009
22. MAIL_USERNAME=saserver
23. MAIL_PASSWORD=Saserver01
24. MAILHOST=<application server hostname>
25. LDAPHOST=<application server hostname>
26. LDAPPORT=1389
27. LDAPSPORT=1636
28. LDAPROOT=dc=comnitel,dc=com
29. LDAP_PASSWORD=Saserver01
30. BROKER1HOST=<application server hostname>
31. BROKER1PORT=7681
32. BROKER2HOST=<application server hostname>
33. BROKER2PORT=7680
34. OMPORT=9008
35. SERVER_IP_ADDRESS=<application server IP address>
36. SHORT_IP_ADDRESS=<first three octets of application server IP address>
37. BOUMGTHOST=<BO  server hostname>
38. BOUMGTPORT=8090
39. BOUMGTSYNC=false
40. BIRT_HOST=<application server hostname>
41. BIRT_PORT=9443
42. BO_CMS_HOST=<BO server hostname>
43. BO_CMS_PORT=6400
44. BO_CMS_AUTHMETHOD=secEnterprise
45. TOMCAT_SERVER_PORT=8093
```

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```
46. HTTP_PORT=8092
47. HTTPS_PORT=8094
48. WASPROFILE=wmb
49. WASSERVER=server1
50. WASADMINHOST=<application server hostname>
51. WASMESSAGINGHOST=<application server hostname>
52. WASBOOTSTRAPPORT=2810

To accept these values enter 'Y' else enter 'N' to modify the values (Y/N)
Y
Commencing configure of /appl/sa/conf files ...

..
..

....done
```

3. In the Directory Server configuration phase, the LDAP Directory Manager password will be required, as well as passwords for two new system users:

```
Performing installation task LDAP_CONFIGURE...
...
Please enter the password for 'cn=Directory Manager', the Directory Server User
[Dirmgr01]:

Please enter the password for 'useradm', the Directory Server User [Useradm01]:

Directory Server "useradm" user password set to "Useradm01"

Please enter the password for 'swvadm', the Directory Server User [Swvadm01]:

Directory Server "swvadm" user password set to "Swvadm01"


.........................................
..Directory Server Configuration...
.........................................

Configuring directory server schema...
...
```

The password for the `idsinst` Unix user account will be required during this phase:

```
Restarting ITDS instance...
Performing tasks as user idsinst...
Please enter idsinst's Password:
GLPSRV176I Terminated directory server instance 'idsinst' normally.
..
```

4. On the application server or consolidated server, the password for the swvadm LDAP user must be entered at this point:

```
Please enter the LDAP swvadm password: [Swvadm01]

Stopping WebSphere Application Server service...
...done
Checking server status...
Copying SLA Webview libraries
```

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```
...done
Unpacking Web Archives


    ..
    ..
```

5. On the Application server or Consolidated server, the passwords for the `swvadm` LDAP user and the LDAP Directory Manager user must be entered at this point:

```
Please enter the LDAP swvadm password: [Swvadm01]

Please enter the LDAP Directory Manager password: [Dirmgr01]

Deleting existing modules...
...done
Copying CEM/SLO libraries

..
..

...done
CEM configuration completed
```

6. The LDAP instance data backup will now be imported. The LDAP Directory Manager user must be entered at this point, and the LDAP data file name supplied:

```
Importing LDAP backup...
Please enter the password for cn=Directory Manager:

Please enter the name of the LDAP data backup file[/appl/ldap_schema.ldif]:
```

7. On the database or consolidated server, the passwords for the `sys` and `saserver` Oracle database users must be entered at this point:

```
Please enter the sys database user password: []
---->
Please enter the saserver database user password: []
---->
```

8. The TNSQM databases will now be upgraded. the password for the `oracle` UNIX user must be entered, and then the ADDM license type, database SID, and Oracle 10g and 11g home directories must be supplied:

```
Performing tasks as user oracle...
Please enter oracle's Password:
Please enter the Database SID: [sadb]
---->
Database SID set to "sadb"
Please enter your ADDM license type [NONE | DIAGNOSTIC | DIAGNOSTIC+TUNING ]:
[NONE]
---->NONE
ADDM license type is set to "NONE"
Please enter the Oracle 10G Home: [/appl/oracle/product/10.2.0/db_1]
---->
Oracle 10G Home is set to "/appl/oracle/product/10.2.0/db_1"
```

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```
Please enter the Oracle 11G Home: [/appl/oracle/product/11.2.0/db_1]
---->
Oracle 11G Home is set to "/appl/oracle/product/11.2.0/db_1"
ORACLE_HOME is set correctly to Oracle 10G Home
Please enter the Database sys user password: [Sysdb01]
---->
Database user sys password set to "Sysdb01"
Please enter the Database system user password: [Sysdb01]
---->
Database user system password is set to "Sysdb01"

Upgrading Oracle Database from Oracle 10g to Oracle 11g

Running the Database Upgrade
INFO: Upgrading database SID sadb...
Waiting for DB listener for sadb
Listener is up. Continuing...
Running Pre-Install Checks
... recompiling invalid objects
... gather dictionary statistics
Running the Database Upgrade
INFO: Upgrading database SID sadb...
```

Please note this step may take some time to complete. Check the log file <x> to monitor progress.

9. If the upgrade determines that the Oracle listener needs to be restarted, the password for the `oracle` UNIX user must be entered:

```
Please enter oracle's Password:
..
..

Tasks ran successfully as user oracle.
install_414_patch.ksh [1380482]: INFO: Upgrading schema for database SID sadb...
Performing tasks as user oracle...
```

10. In order to suspend Oracle jobs, the password for the `oracle` UNIX user must be entered:

```
Please enter oracle's Password:

SQL*Plus: Release 11.2.0.2.0 Production on Thu Apr 7 10:39:04 2011
..
..
```

11. In order to resume Oracle jobs, the password for the `oracle` UNIX user must be entered:

```
Please enter oracle's Password:

SQL*Plus: Release 11.2.0.2.0 Production on Thu Apr 7 10:39:04 2011
..
..

TBD
```

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Note: If the following error is displayed in the core database upgrade log which is located at `$WMCROOT/admin/oracle/schema/core/upgrade/rel4.1.3_to_rel4.1.4/log/upgrade_database_<timestamp>.log`:

```
ORA-04021: timeout occurred while waiting to lock object SASERVER.PART_MAINT
```

…execute the following commands as user `saserver`:

```
$ cd $WMCROOT/admin/oracle/schema/core/gen_admin/packages
$ sqlplus saserver/<saserver DB password>@sadb
SQL> @part_maint_pks.sql;
SQL> @part_maint_pkb.sql;
SQL> exit
```

12. The final part of the Tivoli Netcool Service Quality Manager upgrade must be executed with root privileges. If you currently have access to the root password on the server, you can complete this section now. If you do not have access to the server's root password, or if for example sudo or PowerBroker is being used to regulate root access, you may answer no and complete this section at a later time.

    To complete this section later, run the following script as user `root`:

    `<target directory>/sa/admin/common/install/scripts/sqm_rootjobs.ksh`

Note: The Tivoli Netcool Service Quality Manager system does not function until the root privileges task is executed properly.

```
The SQM installer needs to run some administrative tasks
as the root user. If you know the root password, you can
run this now. If not, or something like Sudo or Powerbroker
is being used, it can be run later. Note however that this
MUST be run before the Tivoli Netcool Service Quality Manager system can be used.

Would you like to run /appl/sa/admin/common/install/scripts/sqm_rootjobs.ksh now?
[yes/no] [] >yes
Performing tasks as user root...
Please enter root's Password:
Configuring core cronjobs.......
```

13. The cronjob setup task asks what kind of Tivoli Netcool Service Quality Manager system is being installed. Enter the number of your choice.

```
What Type of Tivoli Netcool Service Quality Manager System Are you Installing u
-------------------------------------------------------------------------
Please select the type of Tivoli Netcool Service Quality Manager System you are in-
stalling by
entering the number associate with the system type :
All Inclusive (1)
Application (2)
```

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```
Database (3)
Adapter (4)
--------------------------------------------------------------------------
[ 1 / 2 / 3 / 4 ] :
1
```

14. It is necessary to apply the 6.1.0.33 fix pack to the WebSphere Application Server installation at this point.

Note: Complete these procedures only on the Application server or Consolidated server.

Execute the following command as user `saserver`:

```
$ sap stop cem
```

Execute the following commands as user `root`:

```
# /etc/rc.d/init.d/wpsa stop
# /etc/rc.d/init.d/wmbsa stop

# /var/install/sbin/was_install -base <target directory> -update
Checking for unzip... found it.
Enter the full pathname of the WAS Update package: /appl/WAS_FP/6.1.0-WS-WAS-
AixPPC64-FP0000033.pak
Enter the full pathname of the WAS SDK Update package: /appl/WAS_FP/6.1.0-WS-
WASSDK-AixPPC64-FP0000033.pak
Copying maintenance files...
|Installing maintenance update for WebSphere Application Server...
..
..
..

# /etc/rc.d/init.d/wmbsa start
# /etc/rc.d/init.d/wpsa start
```

Check the log file at `/var/install/logs/was_install_<PID>.log` for errors. Execute the following commands as a `root` user to check the deployed version:

```
# <target directory>/IBM/WebSphere/AppServer/bin/versionInfo.sh
WVER0010I: Copyright (c) IBM Corporation 2002, 2005; All rights reserved.
WVER0012I: VersionInfo reporter version 1.15.4.3, dated 11/12/08
--------------------------------------------------------------------------
IBM WebSphere Application Server Product Installation Status Report
--------------------------------------------------------------------------
Report at date and time January 26, 2011 2:23:18 AM PST
Installation
--------------------------------------------------------------------------
Product Directory  /appl/IBM/WebSphere/AppServer
Version Directory  /appl/IBM/WebSphere/AppServer/properties/version
DTD Directory      /appl/IBM/WebSphere/AppServer/properties/version/dtd
Log Directory      /appl/IBM/WebSphere/AppServer/logs
```

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```
Backup Directory  /appl/IBM/WebSphere/AppServer/properties/version/nif/backup
TMP Directory     /tmp
Product List
--------------------------------------------------------------------------------
BASE              installed
Installed Product
--------------------------------------------------------------------------------
Name              IBM WebSphere Application Server
Version           6.1.0.33
ID                BASE
Build Level       cf331032.09
Build Date        8/14/10
--------------------------------------------------------------------------------
End Installation Status Report
--------------------------------------------------------------------------------
```

15. Execute the following commands as user `oracle on the` Tivoli Netcool Service Quality Manager database server:

```
$ export ORACLE_SID=sadb
$ sqlplus /nolog
SQL> connect / as sysdba
SQL> ALTER SYSTEM SET remote_login_passwordfile=NONE SCOPE=SPFILE;
SQL> exit
$ $ORACLE_HOME/bin/dbshut $ORACLE_HOME
$ $ORACLE_HOME/bin/dbstart $ORACLE_HOME
```

Check the `$ORACLE_HOME/startup.log` file for any error messages.

16. Check the Oracle version installed by executing the following command as user `oracle`:

```
$ $ORACLE_HOME/OPatch/opatch lsinventory

Invoking OPatch 11.2.0.1.5

Oracle Interim Patch Installer version 11.2.0.1.5
Copyright (c) 2010, Oracle Corporation.  All rights reserved.


Oracle Home       : /appl/oracle/product/11.2.0/db_1
Central Inventory : /appl/oracle/product/oraInventory
   from           : /etc/oraInst.loc
OPatch version    : 11.2.0.1.5
OUI version       : 11.2.0.2.0
OUI location      : /appl/oracle/product/11.2.0/db_1/oui
Log file location :
/appl/oracle/product/11.2.0/db_1/cfgtoollogs/opatch/opatch2011-06-22_16-02-
32PM.log

Patch history file:
/appl/oracle/product/11.2.0/db_1/cfgtoollogs/opatch/opatch_history.txt

Lsinventory Output file location :
/appl/oracle/product/11.2.0/db_1/cfgtoollogs/opatch/lsinv/lsinventory2011-06-
22_16-02-32PM.txt
```

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```
--------------------------------------------------------------------------------
Installed Top-level Products (1):

Oracle Database 11g                                                  11.2.0.2.0
There are 1 products installed in this Oracle Home.

There are no Interim patches installed in this Oracle Home.

--------------------------------------------------------------------------------
OPatch succeeded.
```

17. Post upgrade checks for 4.1.3 modules:

    After an upgrade of the Tivoli Netcool Service Quality Manager system for example, from Tivoli Netcool Service Quality Manager 4.1.3 to Tivoli Netcool Service Quality Manager 4.1.4, the status of any customer relationship management (CRM) deployed modules that are based on Tivoli Netcool Service Quality Manager 4.1.3, must be checked. The Tivoli Netcool Service Quality Manager 4.1.3 CRM Plugin Development Guide must be used as the reference when doing the following:

    a) On the application server or consolidated server, as user `saserver`, if any JARs were deployed for a specific module in the `$WAS_HOME/lib` directory, check that these JARs are still present and correct. If the module JARs are missing, restore them.

    b) On the application server or consolidated server, as user `saserver`, check that the reference to the module JAR in the `$WMCROOT/bin/crmproxy.env` file is still there. If the reference to the module JAR is missing then add it. Note that there is a backup copy of the `crmproxy.env` file in *<target directory>*`/SQM`*<previous 4.1.3 version>*`/sa/bin/.`

18. During the installation procedure, some configuration files are overwritten. If modifications have been made to any of the configuration files under the `/appl/sa/conf/` directory prior to this upgrade, you might have to reapply these modifications to the versions of the files installed during the upgrade. The pre-upgrade version of each configuration file can be found in the `/appl/SQM4.1.3.XX/sa/conf/` backup directory.

    The configuration files that should be checked, on the Application server, are listed below:

```
/appl/sa/conf/connector/bo_xi.properties
/appl/sa/conf/connector/bo_xi.properties.user
/appl/sa/conf/help/default.properties
/appl/sa/conf/logging/common/adapter.properties
/appl/sa/conf/logging/common/odadriverkqihistory.properties
/appl/sa/conf/logging/common/util.properties
/appl/sa/conf/logging/server/kmom.properties
/appl/sa/conf/mib/cem.mib
/appl/sa/conf/mib/sa.mib
/appl/sa/conf/service/cem/analysis/analysis.properties
/appl/sa/conf/service/cem/customer/customer.properties
/appl/sa/conf/service/cem/dsengine/dsengine.properties
/appl/sa/conf/service/cem/repository/cellular-repository.xml
/appl/sa/conf/service/cem/slo/engine.properties
/appl/sa/conf/service/cem/summary/summary.properties
/appl/sa/conf/service/cem/workflow/decision_tree_aliases.xml
```

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```
/appl/sa/conf/service/dom/inventory_admin.properties
/appl/sa/conf/service/dom/oss.properties
/appl/sa/conf/service/dom/slam.properties
/appl/sa/conf/service/dom/sqmslo.properties
```

Note: This list of files is also presented on-screen during the installation procedure.

Note: Of the files listed there are expected changes in the following as a result of 4.1.4 software updates:

a)

$WMCROOT/conf/service/cem/summary/summary.properties

the following attributes are expected to be modified:

cem.summary.direct.insertion

b)

$WMCROOT /conf/service/dom/oss.properties

the following attributes are expected to be modified:

describe.oss.snmp.percentile.scale
oss.snmp.percentile.scale

the following attributes are expected to be added

describe.oss.heartbeat.frequency
oss.heartbeat.frequency

c)

$WMCROOT /conf/mib/sa.mib

the following lines are expected to be added

adapterData TRAP-TYPE
  ENTERPRISE sa
  VARIABLES {
    adapterName,
   startTime,
   endTime,
    alarmTime,
    additionalText

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```
  }
  DESCRIPTION
    "Adapter information trap: send when next portion of data is processed"
  ::= 807
>
```

If modifications had been made to any of the `*.env` scripts in the `/appl/sa/bin/` directory prior to this upgrade, these modifications might need to be reapplied to the new versions deployed during the installation. The pre-upgrade version of each script can be found in the `/appl/SQM4.1.3.XX/sa/bin/` backup directory.

19. Edit the file $WMCROOT/tomcat/jnlp/list.xml on the TNSQM application server and ensure the following entry is set:

    <web-page url="http://servername:portnumber:InfoViewApp" title="WebI Portal"/>

    Where servername is set to the value defined by the variable WEBI_HOST in $WMCROOT/conf/environment/default.properties on the application server.

    Where portnumber is set to the value defined by the variable WEBI_PORT in $WMCROOT/conf/environment/default.properties on the application server.

20. Execute the following commands as user `saserver on the` Tivoli Netcool Service Quality Manager application or consolidated servers:

Note: The following directories must exist on the application server, adapter server or consolidated server before proceeding:

```
$WMCROOT/admin/inventory
$WMCROOT/admin/inventory/config
$WMCROOT/admin/inventory/input
$WMCROOT/var/inventory/
$WMCROOT/var/inventory/export
```

If any of these directories are missing, create them as user `saserver` with the command `mkdir -p <directory name>`

```
$ sapmgr stop

$ sapmon stop -f

$ sapmon start

$ sapmgr start

$ sap start domain
```

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```
$ sap start monitoring
```
(if adapters are installed)

```
$ sap start cem
```

```
$ sap start client
```

21. Execute the following commands as user `saserver on the` Tivoli Netcool Service Quality Manager application or adapter servers:

    ```
    $ sapmon start
    ```

22. Execute the following command as user saserver on the Tivoli Netcool Service Quality Manager application or consolidated servers:

    Note: If performing the TBSM Integration upgrade as described in section 2.10, postpone executing this command until after performing all steps in section 2.10.

    ```
    $ sap start adapters
    ```
    (if adapters are installed).

23. If Pass-Through Authentication had been configured for the TNSQM 4.1.3 TDS LDAP instance, this will need to be re-enabled. See Section 6.7.1 of the Tivoli Netcool Service Quality Manager version 4.1.4 AIX and Solaris System Administration Guide.

24. All users should uninstall the Tivoli Netcool Service Quality Manager 4.1.3 client and install the Tivoli Netcool Service Quality Manager 4.1.4 client. Enter the following URL in a Web browser:

    `http://<SQM application server>:8092/webstart/`

    …where `<SQM appserver>` is the name of the Tivoli Netcool Service Quality Manager application server or consolidated server. You can enter the IP Address or the name of the Tivoli Netcool Service Quality Manager server here.

    Note that the client cache should be cleared after installing the new version of the client. Refer to the ***Cleaning up the cache browser*** section of the TNSQM 4.1.4 Client Install Guide for details.

25. A DBA should be consulted with regard to disabling and removing Oracle 10g.

2.10 TBSM Integration Upgrade

This section only applies in a deployment where an existing TNSQM/TBSM integration exists. If such an integration does not exist this section should be skipped.

2.10.1 TBSM Dashboard

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Note: The following steps should be performed on the TBSM dashboard server

1. Transfer the contents and all subdirectories of the directory <*target_directory*>/sa/admin/tbsm from the TNSQM application server to a known location <*target_location*> (e.g. ~/tnsqm_414_upgrade) on the TBSM dashboard server. Copy the contents of <*target_directory*>/<arch> to <target_location>, where arch is aix64-ppc or solaris64-sparc, depending on the TNSQM server architecture.

2. Backup the ODA driver, in case a rollback will be performed at a later time:

```
$ mkdir <backup_location>

$ cp $TIP_HOME/systemApps/isclite.ear/TIPChartPortlet.war/WEB-
INF/platform/plugins/com.ibm.tnsqm.reports.kqihistory.odadriver.jar
<backup_location>
```

3. Determine if the TNSQM Resource Viewer application has been installed:

```
$ $TIP_HOME/bin/wsadmin.sh -profileName TIPProfile -username <username>   -password
<password>

wsadmin>$AdminApp listModules isclite
wsadmin>exit
```

If the following row is listed then the TNSQM Resource Viewer application is installed.

```
isclite#resource_viewer.war+WEB-INF/web.xml
```

If the TNSQM Resource Viewer application is deployed back it up with the following commands:

```
$ cd $TIP_HOME/systemApps/isclite.ear/resource_viewer.war

$ jar -cf <backup_location>/resource_viewer.war .
```

4. Backup the TNSQM Report Launcher application with the following commands

```
$ cd $TIP_HOME/systemApps/isclite.ear/report_launcher.war

$ jar -cf <backup_location>/report_launcher.war .
```

5. Edit the <target_location>/configure_nsbound script, substituting meaningful values for the following variables, which are by default set to dummy values:

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Note: If you are unsure of which values should be used. you should contact the TNSQM system administrator.

Note: The --SQMLDAP_PASSWD— variable which is the encrypted saserver LDAP password can be obtained by running the following command as saserver on the Tivoli Netcool Service Quality Manager application or consolidated server:

```
$ grep credentials ${WMCROOT}/conf/ldap/default.properties
```

```
SA_USER=--SA_USER--
SQM_HOST=--SQM_HOST--
LDAPHOST=--LDAPHOST--
WASHOST=--WASHOST--
LDAPSPORT=--LDAPSPORT--
LDAPROOT="--LDAPROOT--"
SQMLDAP_PASSWD=--SQMLDAP_PASSWD--
ISC_PORT=--ISC_PORT—
```

6. If the 4.1.3 TNSQM Resource Viewer application is listed remove it:

```
$ cd <target_location>

$ chmod +x configure_nsbound

$ ./configure_nsbound -remove_resource_viewer
```

7. Uninstall the 4.1.3 TNSQM Report Launcher application:

```
$ ./configure_nsbound -remove
```

When prompted to remove KQI History charts, decline as follows:

```
Remove KQI History charts? (Y/N) N
```

8. Install the 4.1.4 TNSQM Report Launcher application:

```
$ ./configure_nsbound
```

Various prompts will be presented:

```
Install KQI History charts? (Y/N) N
```

Enter ‘N’

```
Enter ODA driver jar and report launcher war file location
(/export/home/saserver/tnsqm_414_upgrade/tbsm):
```

Press enter to select the default value

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```
Enter BusinessObjects Date Format (dd/MM/yyyy HH:mm:ss):
```
Enter the Java date format expected by BusinessObjects, or accept the default value.

9. Install the 4.1.4 TNSQM Resource Viewer application:

```
$ ./configure_nsbound -install_resource_viewer
```

Various prompts will be presented:

```
Reconfigure Resource_Viewer Web Application (Y/N):
```
Enter Y

```
Enter resource viewer war file location:
```
Accept the default

```
Enter SLA KQI History Chart Page Unique Name:
```
Enter the Page Unique name of the SLA KQI History Chart

```
Enter SLO KQI History Chart Page Unique Name:
```
Enter the Page Unique name of the SLO KQI History Chart

Note: The Page Unique names for the charts mentioned above can be found by carrying out the following. Log into the TBSM server as a user with administrative access. Select settings, page management to display the Page Management UI. In the Page Management UI extend settings and then click on the page for which the details are required.

```
Enter Report Launcher context root:
```
Accept the default value.

```
Enter Report Launcher target URL:
```
Accept the default value.

```
Enter AEL Alarm Date Format EEE MMM d HH:mm:ss z yyyy:
```
Enter the Java date format used by date fields in the WebTop Active Event List, or accept the default value.

```
Enter BusinessObjects Date Format dd/MM/yyyy HH:mm:ss:
```
Enter the Java date format expected by BusinessObjects, or accept the default value.
Note that the value entered here should be the same as that entered in step 8 above.

10. Restart the server:

```
$ cd $TIP_HOME/bin

$ $TIP_HOME/bin/stopServer.sh server1 -username <username> -password <password> -
profileName TIPProfile
```

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```
$ $TIP_HOME/bin/startServer.sh server1 -username <username> -password <password> -
profileName TIPProfile
```

11. Remove the security certificates imported from the TNSQM system
    - Log onto the TBSM instance and navigate to the **Key Stores and Certificates** management page as described in section 7.1.1 of the TNSQMc Integration Guide.
    - Open the configuration page for **NodeDefaultTrustStore** as described in the document.
    - Open the **Signer Certificates** page as described.
    - Select the certificates previously imported.
    - Click **Delete** to remove the certificates.

12. Follow the steps outlined in sections 2.3.4, 2.3.5 and 2.3.6 of the TNSQMc Integration Guide to configure Single Sign On to TNSQM

13. Re-import security certificates from TNSQM system
    - Repeat steps 1-10 of section 7.1.1 of the TNSQMc Integration Guide to re-import the certificates.

14. Update the Resource Viewer and KQI History launch actions defined in sections 7.2 and 8.3 of the TNSQMc Integration Guide.

    - Note the inclusion of the include_kqi_data parameter in the `canvasDynamicSubMenuActions.xml` file described in section 7.2.1 step 3.
    - Note the inclusion of the rollup_level and period in the targetURL portion of KQI History Launch actions described in section 7.2.2.
    - Note the inclusion of the include_kqi_data parameter in section 8.3

15. Update the KQI History Launch actions as defined below
    For each launch action defined in the "Administration/Event Management Tools/Tool Creation". The rollup level parameter needs to be extracted and added to the target URL created.

```
var rollup_level= "{@TNSQM_RollupLevel}";

var l1 = encodeURIComponent(rollup_level);

var period = "60";

var targetURL =
"https://jenneau.cork.ie.ibm.com:16316/ibm/report_launcher/TNSQMReportServ
let?model_name=" + m1 + "&resource_name=" + r1 + "&rollup_level=" + l1 +
"&period=" + period;
```

16. Update the BO Launch actions as defined below

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For each launch action defined in the "Administration/Event Management Tools/Tool Creation". The format of the start and end times needs to include the seconds. (Note the format should match that as selected during the installation of the Report Launcher performed at step 6 above). Also the start time and end time variables need to be included in the dialogArgs created.

```
var rollup_level = "{@TNSQM_RollupLevel}";

var start = dojo.string.pad(startDate.getDate(), 2) + "/" +
dojo.string.pad((startDate.getMonth() + 1), 2) + "/" + start-
Date.getFullYear() + " " + dojo.string.pad(startDate.getHours(), 2) + ":"
+ dojo.string.pad(startDate.getMinutes(), 2) + ":" +
dojo.string.pad(startDate.getSeconds(), 2);
var end = dojo.string.pad(endDate.getDate(), 2) + "/" +
dojo.string.pad((endDate.getMonth() + 1), 2) + "/" + endDate.getFullYear()
+ " " + dojo.string.pad(endDate.getHours(), 2) + ":" +
dojo.string.pad(endDate.getMinutes(), 2) + ":" +
dojo.string.pad(endDate.getSeconds(), 2);

var dialogArgs = { dialogWidth: '400',dialogHeight:
'400',model_name:model_name,resource_name:resource_name,rollup_level:rollu
p_level,start:start,end:end,frameSrc:'/ibm/report_launcher/boreports/boRep
orts.jsp',autoHeight:16,elementsToHide:[elementHideId]};
```

17. Edit the file canvasOpenURLActions.xml file to include start time and end time details

Section 4.1.4 of the TNSQMc Integration Guide details how this file can be located. The action *ShowServiceReport* needs to be updated to include a start time and end time parameter in the dialog arguments as shown below

```
var dialogArgs = { dialogWidth: '400',dialogHeight: '450',model_name:
'__model_name__',resource_name: '__resource_name__',rollup_level:
'__rollup_level__',start: '__start__',end: '__end__',
frameSrc:'/ibm/report_launcher/boreports/boReports.jsp',autoHeight:10};
```

2.10.2 OMNIbus

Note: The following steps should be performed on the OMNIbus server

1. Transfer the contents of the directory *<target_directory>*/sa/admin/tbsm from the TNSQM application server to a known location *<target_location>* (e.g. ~/tnsqm_414_upgrade) on the OMNIbus server.

2. The existing NcKL files should be preserved in case a patch rollback would be required:

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```
$ mkdir <backup_location>
```

For NcKL library version 3 or 2 execute the following command:

```
$ cp -f $NC_RULES_HOME/include-snmptrap/ibm/*TNSQM* <backup_location>
```

For NcKL library version 1 execute the following command:

```
$ cp -f $NC_RULES_HOME/include-snmptrap/*TNSQM* <backup_location>
```

3. Deploy the updated NcKL files:

For NcKL library version 3 execute the following command:

```
$ cp <target_location>/omnibus/tnsqm/nckl3/rules/* $NC_RULES_HOME/include-
snmptrap/ibm
```

For NcKL library version 2 execute the following command:

```
$ cp <target_location>/omnibus/tnsqm/nckl2/rules/* $NC_RULES_HOME/include-
snmptrap/ibm
```

For NcKL library version 1 execute the following command:

```
$ cp <target_location>/omnibus/tnsqm/nckl1/rules/* $NC_RULES_HOME/include-
snmptrap
```

4. The SNMP probe should be restarted now.

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3 Rolling back the Tivoli Netcool Service Quality Manager version 4.1.4 upgrade

3.1 TNSQM Rollback

Note (for distributed Installations): Perform the procedures in this section on the Application, Database and Adapter server.

Note also that in the case of a distributed system, the Database server should be rolled back first, followed by the Application server, and finally the Adapter server(s).

Note: As part of a IBM® Tivoli® Netcool® Service Quality Manager 4.1.4 rollback the custom provisioning files stored under the following directories are backed up under `<target directory>/4.1.4_Upgrade_backup/` and their content removed:

```
$WMCROOT/admin/provision/install/mediation/
$WMCROOT/admin/provision/install/customer/
$WMCROOT/admin/provision/install/service/
$WMCROOT/admin/provision/install/technology/
```

Note: **Prior to rollback all SQM SLOs created on TNSQM 4.1.4 must be removed.**
Prior to rollback all Time Aggregated KQI Models must be removed.

Note: In order for an upgraded system to be successfully and properly rolled back to version 4.1.3, the following conditions MUST be true:

No additional COTS models have been installed on the 4.1.4 system after the upgrade.

No additional Tivoli Netcool Service Quality Manager system users have been created on the 4.1.4 system after the upgrade – If users have been created they must be removed before rolling back to version 4.1.3.

No additional SQM SLOs have been provisioned since the upgrade. If SQM SLOs have been provisioned then must be removed before rolling back to version 4.1.3. See the TNSQM Provisioning Guide for details on deleting SQM SLOs.

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Note: To ensure that the old 4.1.3 core database remains properly in-sync with the file system, new adapter datafiles created after the upgrade must be removed as part of rollback. Therefore, these files must be backed up and removed from the appropriate directories on the consolidated server or the adapter server. These directories are `<SQM var directory>/adapter/<adapter name>/upload/`

`<SQM var directory>` is found using the following command as user `saserver`:

```
conf_read environment default comnitel.env.SAVARDIR
```

1. Complete the following steps on the Tivoli Netcool Service Quality Manager application or consolidated servers:

Stop all Tivoli Netcool Service Quality Manager processes, if they are running, by executing the following command as user `saserver`:

```
$ sap stop –f

$ sapmgr stop

$ sapmon stop –f
```

2 Complete the following steps on the Tivoli Netcool Service Quality Manager adapter servers:

Stop all Tivoli Netcool Service Quality Manager processes, if they are running, by executing the following command as user `saserver`:

```
$ sapmon stop –f
```

3. Complete the following on the Tivoli Netcool Service Quality Manager Database server:

Shut down the TNSQM database(s) using the following command as user `root`:

```
$ /etc/rc.d/init.d/dborasa stop
```

Execute the following command as user `oracle`:

```
$ lsnrctl stop
```

The `ORACLE_HOME` variable setting in the `oracle` user `.profile` must now be reset to the original 10.2.0.4 location. Restore the original profile by executing the following commands as user `oracle`:

```
$ cd

$ mv .profile_upgrade_backup .profile
```

Logout of the `oracle` account and log back in again, in order to update the environment.

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The database root (`$ORACLE_HOME` location) in the `/etc/oratab` file must be reset to the original 10.2.0.4 location. Edit this file as user `oracle` and change as follows:

```
sadb:/appl/oracle/product/10.2.0/db_1:Y
```

```
repos:/appl/oracle/product/10.2.0/db_1:Y
```
(If the `repos` database is present)

Restore the backup of the Tivoli Netcool Service Quality Manager Oracle databases taken at the beginning of the upgrade. It is essential that ***all datafiles*** be restored from backup, including control files and redo logs.

Start the TNSQM database(s) using the following command as user `root`:

```
/etc/rc.d/init.d/dborasa start
```

Ensure that the Tivoli Netcool Service Quality Manager databases are running afterwards using the following command as user `oracle`:

```
$ ps –ef | grep sadb
  oracle  385036       1   0 14:03:54      -  0:00 ora_psp0_sadb
  oracle  389308       1   0 14:03:54      -  0:00 ora_ckpt_sadb
  oracle  409720       1   0 14:03:54      -  0:00 ora_mmnl_sadb
  oracle  987314       1   0 14:03:54      -  0:00 ora_mmon_sadb
  oracle 1003536       1   0 14:03:54      -  0:00 ora_pmon_sadb
  oracle 1011874  827532   0 14:04:26  pts/0  0:00 grep sadb
  oracle 1028348       1   0 14:03:54      -  0:00 ora_reco_sadb
  oracle 1040584       1   0 14:03:54      -  0:00 ora_mman_sadb
  oracle 1048634       1   0 14:03:54      -  0:00 ora_smon_sadb
  oracle 1106090       1   0 14:03:54      -  0:00 ora_cjq0_sadb
  oracle 1118332       1   0 14:03:54      -  0:00 ora_lgwr_sadb
  oracle 1306778       1   0 14:03:54      -  0:03 ora_dbw0_sadb
```

Stop and restart the Oracle listener using the following commands as user `oracle`:

```
$ lsnrctl stop
```

```
$ lsnrctl start
```

Remove the Oracle 11gR2 software by executing the following commands as user `oracle`:

```
$ rm –rf <Oracle base>/oracle/product/11.2.0
```

```
$ rm –rf <Oracle base>/oracle/product/oraInventory/ContentsXML/*
```

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4. Reinstall the IBM WebSphere version 6.1.0.27 bundle from Tivoli Netcool Service Quality Manager version 4.1.3. Note that the current installation must be uninstalled first. See section 2.4 of this guide for details.

Note: Any previously installed WebSphere Application Server patches will also need to be reinstalled.

5. Reinstall IBM Tivoli Directory Server version 6.1 for Tivoli Netcool Service Quality Manager version 4.1.3.

Note: that the current installation must be uninstalled first. See section 2.6 of this guide for details.

6. Complete the following on the Tivoli Netcool Service Quality Manager consolidated or application, database and adapter servers:

To remove the Tivoli Netcool Service Quality Manager patch package, execute the following command as user `saserver`:

```
$ $WMCROOT/admin/common/install/scripts/upgrade_to_414.ksh –wmcr <target direc-
tory>/sa –mode remove
```

This part of the Tivoli Netcool Service Quality Manager rollback must be executed with root privileges. If you currently have access to the root password on the server, complete this section now. If you do not have access to the server's root password, or if for example sudo or PowerBroker is being used to regulate root access, answer no and complete this section at a later time.

To complete this section later, run the following script as user `root`:

```
<target directory>/sa/admin/common/install/scripts/sqm_rootjobs.ksh
```

Note: The Tivoli Netcool Service Quality Manager system does not function until the root privileges task is executed properly.

Note: Ensure that the value of the `ORACLE_HOME` environment variable as set in the `.profile` file for the `saserver` user is set to the correct value for the Oracle 10g database(s) before proceeding further. Edit this file if necessary, then log out of the saserver account, and log back in again.

```
Would you like to run /appl/sa/admin/common/install/scripts/sqm_rootjobs.ksh now?
[yes/no] [] >yes
```

Execute the following command as user `saserver`:

```
$ $WMCROOT/admin/common/install/scripts/deploy-patch –wmcr <target directory>/sa –
version SQM4.1.4.XX –mode remove
```

7. Log out of the `saserver` account, and log back in again.

8. The password for the `saserver` LDAP TNSQM system user must be decrypted and stored. Decrypt the password using the following command as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated servers:

```
$ conf_read ldap default java.naming.security.credentials
```

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Edit the file `$WMCROOT/conf/ldap/default.properties`, and change the value of the `java.naming.security.credentials` attribute to the string just decoded.

Execute the following commands as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated servers:

```
$ $WMCROOT/admin/tds/install/scripts/post_install –wmcr $WMCROOT
```

Enter `yes` to install the Directory Server Configuration:

```
...
Please enter the password for 'cn=Directory Manager', the Directory Server User
[Dirmgr01]:

Please enter the password for 'useradm', the Directory Server User [Useradm01]:

Directory Server "useradm" user password set to "Useradm01"

Please enter the password for 'swvadm', the Directory Server User [Swvadm01]:

Directory Server "swvadm" user password set to "Swvadm01"


.........................................
..Directory Server Configuration...
.........................................

Configuring directory server schema...
...
```

The password for the `idsinst` Unix user account will be required during this phase:

```
Restarting ITDS instance...
Performing tasks as user idsinst...
Please enter idsinst's Password:
GLPSRV176I Terminated directory server instance 'idsinst' normally.
..
```

Restore the backed up LDAP instance data from the TNSQM 4.1.3 system. To do this, execute the following command as user `saserver` on the Application server or Consolidated server:

```
$ ${IDS_LDAP_HOME}/bin/idsldapmodify -c -a -D "cn=Directory Manager" –w <Directory
Manager password> -k -p <LDAP port> -h $(hostname) -i <target directory>/ldap_schema.ldif
Operation 0 adding new entry DC=COMNITEL,DC=COM
ldap_add: Already exists

Operation 1 adding new entry ou=Groups,dc=comnitel,dc=com
ldap_add: Already exists

Operation 2 adding new entry ou=People,dc=comnitel,dc=com
ldap_add: Already exists

...

...
```

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9. Execute the following commands as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated servers:

```
$ cp -pr $WMCROOT/aix64-ppc/isc $WMCROOT

$ export ROOTSCRIPT=/dev/null

$ $WMCROOT/admin/swv/install/scripts/was_configure -wmcr $WMCROOT
```

Enter the passwords for the `swvadm` and `saserver` LDAP users when asked.

10. Execute the following command as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated servers:

```
$ export INSTALL_TYPE=app

$ export ROOTSCRIPT=/dev/null

$ $WMCROOT/admin/cem/install/scripts/post_install -wmcr $WMCROOT
```

Enter the passwords for the `Directory Manager` and `swvadm` LDAP users when asked.

11. At the application server remove the TNSQM 4.1.4 Business Objects core reporting package from *<target directory>*, and replace it with the Business Objects core reporting package from version 4.1.3 – this will be called `core-reports-SQM4.1.3.XX-bo_XI.zip`, and is distributed as one of the Tivoli Netcool Service Quality Manager core packages.

Note: Before executing the next command a subset of the BusinessObjects common libraries libraries must be made available to the Tivoli Netcool Service Quality Manager server. These libraries were used during the 4.1.3 install and are located on the BusinessObjects server in the directory <BO install directory>\common.

The default value for <BO install directory> is C:\Program Files\Business Objects. The location of these libraries is required during the commands execution.

Execute the following command as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated servers:

```
$ rm -r $WMCROOT/lib/ext/desktop/* $WMCROOT/lib/ext/server/*

$ $WMCROOT/admin/core-conf/install/scripts/bo_configure -wmcr $WMCROOT
```

The BusinessObjects version, CMS username, CMS user password and library location will be required:

```
Performing installation task BO_CONFIGURE...

Please enter the installed Business Objects version (XI/none): []
---->XI
Copying...
Please enter the CMS username for BO XI: [Administrator]
---->
Please enter the password for the CMS user: []
```

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```
---->
Replacing...
Enter the location of the Business Objects common libraries: [/appl/bo_xi_r3]
---->
Copying server files...
...
```

12. If the Oracle 11g files ojdbc5.jar and orai18n.jar exist in the *<target directory>* they must be removed. Carry out the following steps as on the application server and adapter server(s):

$ *rm <target directory>/* ojdbc5.jar

$ *rm <target directory>/* orai18n.jar

Transfer the following files from the Oracle 10g installation on the database server to *<target directory>* on the application server and adapter server(s):

<Oracle home>/jdbc/lib/ojdbc14.jar

<Oracle home>/jlib/orai18n.jar

…where <target directory> is the directory where the Tivoli Netcool Service Quality Manager software is installed.

Execute the following command as user saserver on the Tivoli Netcool Service Quality Manager application or consolidated servers:

```
$ $WMCROOT/admin/core-conf/install/scripts/copy_jdbc_libs –wmcr $WMCROOT
```

Execute the following command as user saserver on the Tivoli Netcool Service Quality Manager adapter servers:

```
$ $WMCROOT/admin/gw-conf/install/scripts/copy_jdbc_libs –wmcr $WMCROOT
```

On a distributed installation, you will be prompted for the location of the Oracle Java Database Connectivity (JDBC) library files. These files must be made available locally on the application and adapter servers. The installation does not proceed until the correct location of these files is provided.

13. Execute the following command as user saserver on the Tivoli Netcool Service Quality Manager application, adapter or consolidated servers:

```
$ $WMCROOT/admin/common/install/scripts/encode_passwd –wmcr $WMCROOT
```

14. Edit the file businessobjects.properties on the Application Server as user saserver

```
$  vi $WMCROOT/conf/connector/businessobjects.properties
```

Update the property com.comnitel.reporttool.bo.password with the value of the password for the Business Objects server user.

15 Execute the following commands as user root on the Tivoli Netcool Service Quality Manager application or consolidated server:

```
# /etc/rc.d/init.d/wmbsa start
```

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```
# /etc/rc.d/init.d/wpsa stop

# /etc/rc.d/init.d/wpsa start
```

16. Start all Tivoli Netcool Service Quality Manager processes, by executing the following commands, as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated server:

```
$ sapmgr stop

$ sapmon stop -f

$ sapmon start

$ sapmgr start

$ sap start domain

$ sap start monitoring (if adapters are installed)

$ sap start cem

$ sap start client
```

Start all Tivoli Netcool Service Quality Manager processes, by executing the following commands, as user `saserver` on the Tivoli Netcool Service Quality Manager adapter servers:

```
$ sapmon stop -f

$ sapmon start
```

Start all Tivoli Netcool Service Quality Manager adapter processes, by executing the following commands, as user `saserver` on the Tivoli Netcool Service Quality Manager adapter or consolidated servers:

Note: If performing the TBSM Integration rollback as described in section 3.2, postpone executing this command until after performing all steps in section 3.2

```
.$ sap start adapters (if adapters are installed)
```

Note: If report association for service level agreement (SLA) Web, service level objective (SLO) and SLO monitoring was not completed prior to the upgrade (in other words, no reports defined in the report view of the SLA, SLO and SLO monitor applications), execute the following as user `saserver` on the Tivoli Netcool Service Quality Manager application or consolidated servers. The following directories must exist on the application server or consolidated server before proceeding:

```
$WMCROOT/admin/provision/install/mediation/
$WMCROOT/admin/provision/install/customer/
$WMCROOT/admin/provision/install/service/
```

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```
$WMCROOT/admin/provision/install/technology/
```

If any of these directories are missing, create them as user `saserver` with the command `mkdir -p <directory name>`

```
$ cd $WMCROOT/admin/provision/install/customer
$ touch slaweb_reports_package.xml
$ touch slo_manager_report_package.xml
$ touch slo_monitor_report_package.xml
$ provision -s
```

17. If Pass-Through Authentication had been configured for the TNSQM 4.1.3 TDS LDAP instance, this will need to be re-enabled. See Section 6.6.1 of the Tivoli Netcool Service Quality Manager AIX and Solaris System Administration Guide.

18. Uninstall the Tivoli Netcool Service Quality Manager 4.1.4 client. Refer to the ***Uninstalling the Tivoli Netcool Service Quality Manager client*** section of the TNSQM 4.1.4 Client Install Guide for details. Reinstall the Tivoli Netcool Service Quality Manager 4.1.3 client. Enter the following URL in a Web browser:

```
http://<SQM appserver>:8092/webstart/
```

…where *<SQM appserver>* is the name of the Tivoli Netcool Service Quality Manager application server or consolidated server. You can enter the IP Address or the name of the Tivoli Netcool Service Quality Manager server here.

Note: that the client cache should be cleared after installing the new version of the client. Refer to the ***Cleaning up the cache browser*** section of the TNSQM 4.1.3 Client Install Guide for details.

3.2 TBSM Integration Rollback

Please ensure that the Tivoli Integrated Portal (TIP) is running by executing the following command as the TIP user:

```
$TIP_HOME/profiles/TIPProfile/bin/serverStatus.sh server1 -username <username> -
password <password> -profileName TIPProfile
```

3.2.1 TBSM Dashboard

1. Uninstall the 4.1.4 TNSQM Resource Viewer application:

```
$ cd <target_location>
$ ./configure_nsbound -remove_resource_viewer
```

2. Uninstall the 4.1.4 TNSQM Report Launcher application:

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```
$ ./configure_nsbound -remove
```

Note: When prompted if you wish to uninstall the History Charts enter 'n'

3. Re-install the 4.1.3 TNSQM Report Launcher application:

```
$ cp <target_directory>/configure_nsbound <backup_location>
$ cd <backup_location>
$ ./configure_nsbound
```

Various prompts will be presented:

```
Enter TBSM Home (/opt/IBM/tivoli/tbsm):
```
Enter the location of the TBSM installation or select the default value.

```
Enter TIP Home (/opt/IBM/tivoli/tip):
```
Enter the location of the TIP installation or select the default value

```
Enter TIP Administrator user name (<admin_user>):
```
Enter the username of the TIP Administrator or select the default value

```
Please, enter the TIP Administrator user '<admin_user>' password:
```
Enter the password of the previously entered TIP Administrator

```
Please, enter the TIP Administrator user 'tipadmin' password a second
time:
```
Re-enter the same password for the TIP Administrator

```
Install KQI History charts? (Y/N)
```
Enter N

```
Enter ODA driver jar and report launcher war file location
```
Enter the location to which the ODA Driver jar was backed up in section 2.10.1 step 2.

.

4. Re-install the 4.1.3 TNSQM Resource Viewer application:

If the `resource_viewer.war` file exists in the *<backup_location>* directory it should be reinstalled with the following command:

```
$ ./configure_nsbound –install_resource_viewer

When prompted, provide input to the script as described in section 2.10.1
step 9.
```

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5. Remove the security certificates imported from the TNSQM system
   - Log onto the TBSM instance and navigate to the **Key Stores and Certificates** management page as described in section 7.1.1 of the TNSQMc Integration Guide.
   - Open the configuration page for **NodeDefaultTrustStore** as described in the document.
   - Open the **Signer Certificates** page as described.
   - Select the certificates previously imported.
   - Click **Delete** to remove the certificates.

6. Follow the steps outlined in sections 2.3.4, 2.3.5 and 2.3.6 of the TNSQMc Integration Guide to configure Single Sign On to TNSQM

7. Re-import security certificates from TNSQM system
   - Repeat steps 1-10 in section 7.1.1 of the TNSQMc Integration Guide to re-import the certificates.
8. Restart the server:

```
$ cd $TIP_HOME/bin

$ $TIP_HOME/bin/stopServer.sh server1 -username <username> -password <pass-
word> -profileName TIPProfile

$ $TIP_HOME/bin/startServer.sh server1 -username <username> -password <pass-
word> -profileName TIPProfile
```

3.2.2 OMNIbus

---

1. The updated NcKL files backed up in upgrade section of this document should be restored:

   For NcKL library version 3 or 2 execute the following command:

   ```
   $ cp -f <backup_location>/*TNSQM* $NC_RULES_HOME/include-snmptrap/ibm
   ```

   For NcKL library version 1 execute the following command:

   ```
   $ cp -f <backup_location>/*TNSQM* $NC_RULES_HOME/include-snmptrap/
   ```

2. The SNMP probe must be restarted now.

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