CMS CONFIGURATION MANAGEMENT Software

CMS – Configuration Management Software

CMS-USM-001

User Manual V1.4

NYX HEMERA Technologies Inc.

Intelligent Tunnel Lighting Control

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Chapter 1: Introduction

Purpose

This document provides a comprehensive description of the Configuration Management Software (CMS) system. It covers the installation, the interface description and the different instructions to perform maintenance operation on the Tunnel Lighting Addressable Control System (TLACS). However it does not cover all the configuration steps to create a TLACS installation.

Please note that features might be added or modified within the software without warning.

TLACS Overview

The Tunnel Lighting Addressable Control System (TLACS) is designed, supplied, installed, tested and commissioned for the purpose of automatic control and monitoring of multiple luminaires in road tunnels. It is designed specifically for tunnel lighting control. TLACS can switch the luminaire ON/OFF or DIM up or down based on a photometer signal or based on a pre-determined schedule. Remote monitoring of the TLACS is done through the NWC embedded web server or by using the Configuration Management Software (CMS). TLACS is mainly composed of Local Product Controllers (LPC), Luminance Photometer (LCAM), Illuminance Photometer (ILCAM) and Network Controllers (NWC). The LPCs are fitted within the luminaires. They switch ON/OFF or/and DIM up or down the luminaires and monitor current flow and other relevant electrical parameters. The LPCs receive commands from the NWCs and send status data back to the NWCs.

See the TLACS manuals for a comprehensive description of the complete system.

Product Overview

This section presents the conceptual overview of the CMS that is part of the TLACS. CMS allows TLACS engineers to perform configuration and management of TLACS via the CMS interface. The CMS software interacts with TLACS, including LPCs via the NWCs.

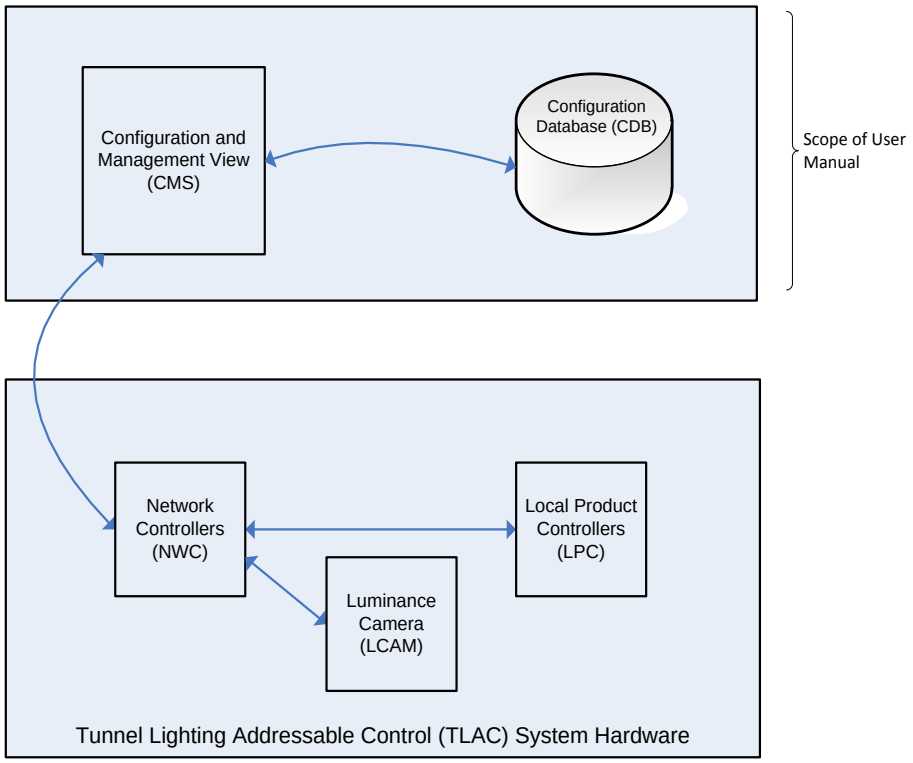


Figure 1: TLACS Software System Perspective

CMS is a Windows application that uses SQL server to store the configuration information and to save the communication and firmware status of the LPCs. The communication between CMS and the NWC is done over an Ethernet network.

Documents overview

This document includes the following major sections:

- **Installation**
  This section describes the procedure to install CMS.
- **CMS Network View**
  This section describes the main interface of CMS.
- **Operation**
  This section describe the procedure to perform maintenance operation on TLACS using CMS.
- **Other CMS Views**
  This section describe the procedure to perform maintenance operation on TLACS using CMS.
- **Database maintenance**
  This section describes the procedure to backup and restore the configuration database using Microsoft SQL Server Management Studio.

Chapter 2: Installation

CMS Installation

This procedure describes the procedure to install the TLACS Configuration Management Software (CMS)

1. If needed, uninstall the previous version of **TLACS CMS** in **Control Panel\Programs\Programs and Features**.
2. Launch the **CMSSetup.exe,** a self-extracting archive executable file.
3. Make sure all checkboxes are checked like the screenshot below. For a complete installation, then click **Install**

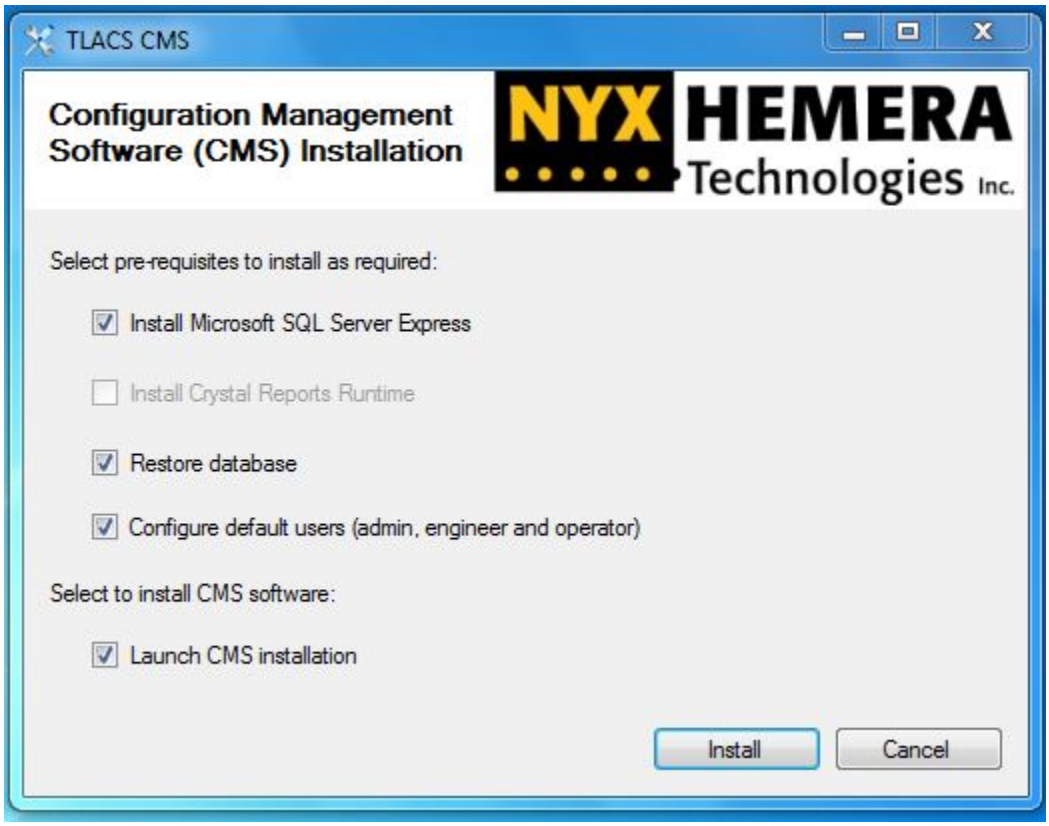


Figure 2: CMS installation wizard

4. The Setup program will Install a Microsoft SQL Server Express 2008 R2 instance named TLACS. Then, enable the mixed security mode. The currently logged-in user and the local Administrators group complete access to the database server instance. The SA user default password will be set to TLACSsaPassword1. Once the installation of CMS and SQL server is completed CMS will be prompted to start.

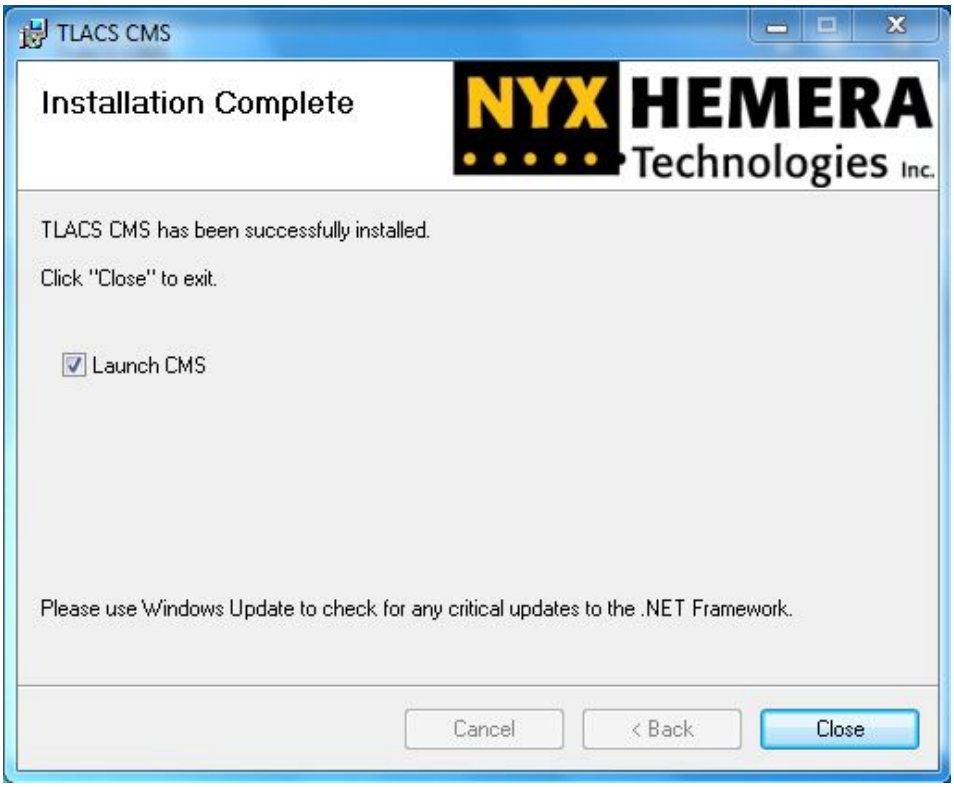


Figure 3: CMS installation complete

5. CMS is now available via Windows Start menu (All Programs | Nyx Hemera | TLACS | CMS).
6. CMS configuration information is stored in the following text file: *"C:\Program Files (x86)\Nyx Hemera\TLACS\TLACS CMS\TLACS.CMS.exe.config"*. To change the active configuration the "Initial Catalog" item within the <connectionstring> must be modified to reflect the required tunnel configuration database.
   Example: `Initial Catalog=tunnelDemo`
7. All other items should be left unchanged.

Logon

The operator can login to CMS with the following TLACS users:

Table 1: CMS users

User Name	Password	Usage
administrator	***administrator***	Generic system administration account.
engineer	***engineer***	Generic system engineering account. Have the same privileges of the administrator account.

Chapter 3: CMS Network View

The main interface of the CMS software is the Network view. The network view indicates the status of the LPCs and allows the management of the system components (NWC and LPC).

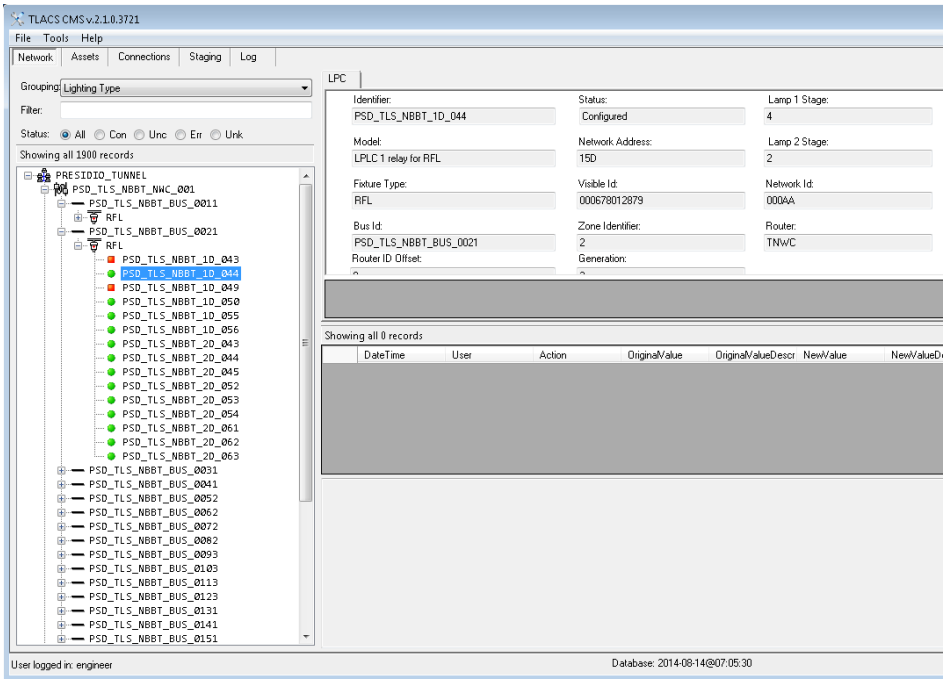


Figure 4: Network View

The main layout items of the network view are described in the following sections.

Tree View

The Network tree view is located in the left pane of the Network view. It contains the list of all LPCs. The LPC are shown using three different icons. The following table describes these icons:

Table 2: LPCs icon Description

Icon	Satus	Description
Green Circle	Configured	The LPC is healthy and configured
Yellow Triangle	Unconfigured	The LPCs is unconfigured
Red Square	Process Failed	An error occurs during the last action performed on this LPC.

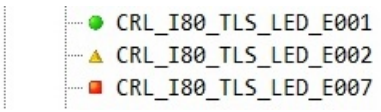


Figure 5: LPC Icons

Grouping

It is possible to change the way that LPCs are displayed with the **Grouping** combo box. The following table describes all Grouping options:

Table 3: Grouping options

Grouping	Description
None	All LPCs are listed without groupings.
Lighting Type	The LPCs are grouped by NWC, Bus and lighting type.
Network Topology	The LPCs are grouped by NWC, Port, Segment and Sub Segment according to the Network Id column in LPCs table.
NWCs and LPCs	The LPCs are grouped only by NWC.

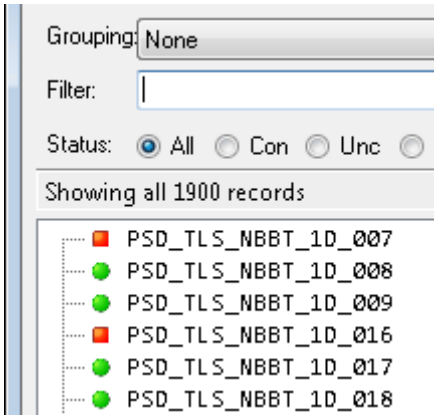


Figure 6: No Grouping

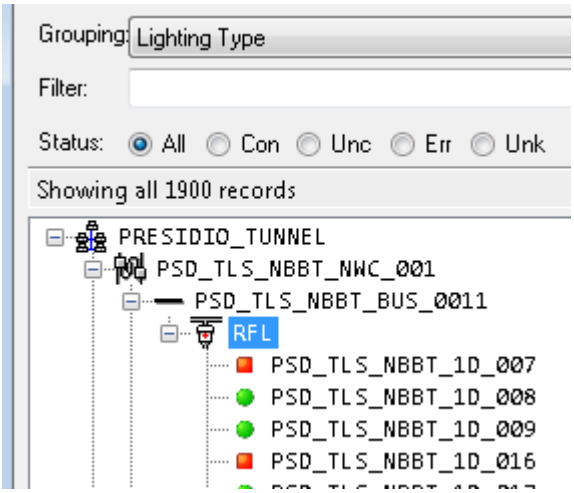


Figure 7: Lighting Type Grouping

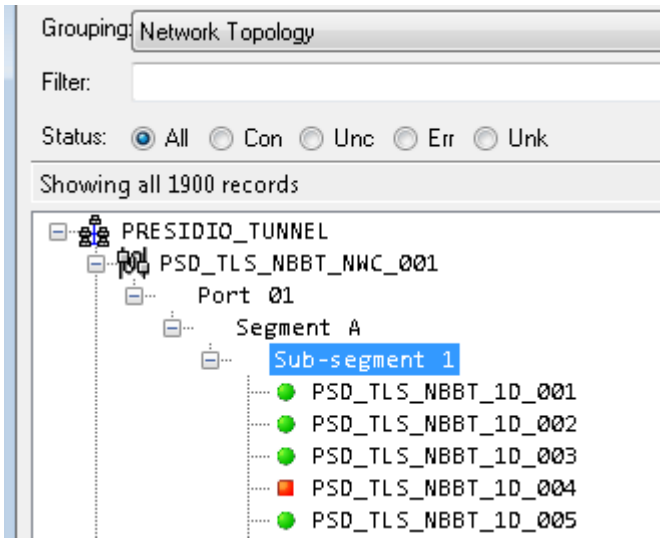


Figure 8: Network Topology Grouping

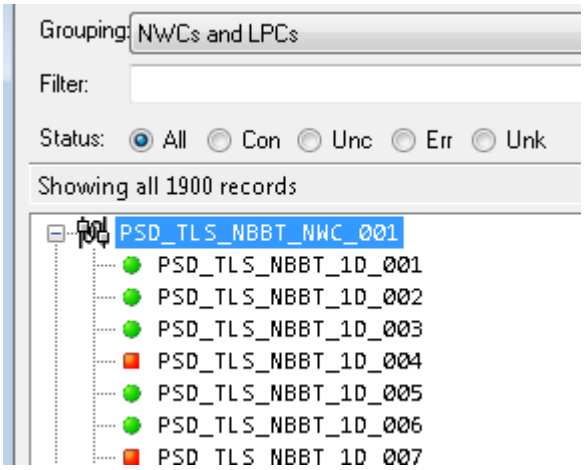


Figure 9: NWCs and LPCs Grouping

Filter

In tree view, if you want to include only LPCs that contain certain characters in their name, such as E00, type the characters in the **Filter** text box, and then press Enter.

Other filter options based on the LPC status:

- If you want to include only Configured LPCs, select **Con** radio button.
- If you want to include only Unconfigured LPCs, select **Unc** radio button.
- If you want to include only LPCs in Error, select **Err** radio button.
- If you want to include only the Unknown LPCs, select **Unk** radio button.

Tree View Context menu

This section describes all menus available in tree view when you right click on NWC, Filtered branch or LPC. The options are display in the images below.

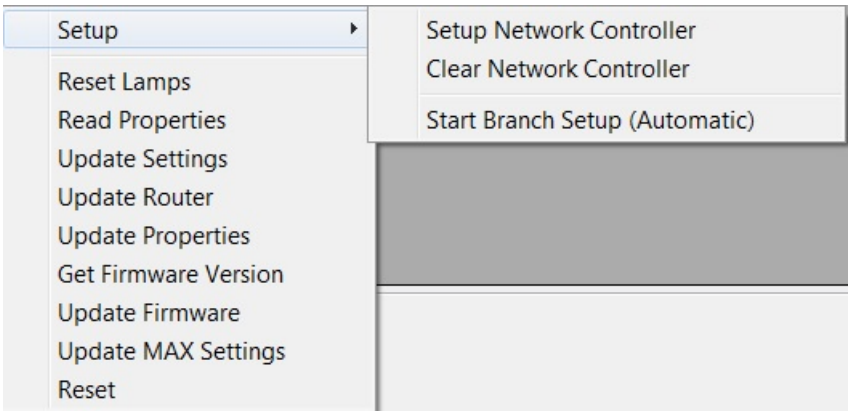


Figure 10: NWC Context menu

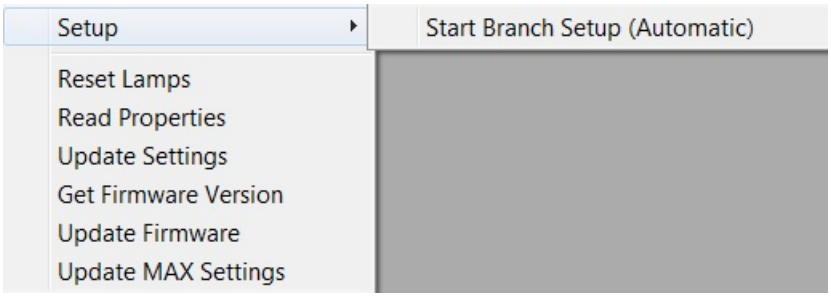


Figure 11: Bus, Lighting type, Port, Segment or Sub-segment Context menu

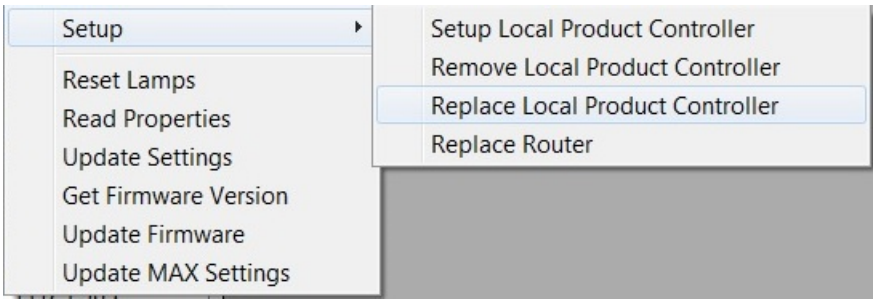


Figure 12: LPC Context menu

The following table describes all context menus available in TLACS CMS Network tree view:

Item	Menu	Description
NWC	**Setup | Setup Network Controller**	To configure NWC according to the CMS database.
NWC	**Setup | Clear Network Controller**	To unconfigure NWC by clearing the device list.
NWC, Branch	**Setup | Start Branch Setup (Automatic)**	To configure all LPCs in the selected NWC or in the selected branch.
NWC	**Log | Ping Process**	To enables or disables the logging of the Ping Process messages between the NWC and the LPCs to a local log file on the PC. The log files will be created in the folder: C:\Program Files (x86)\Nyx Hemera\TLACS\TLACS CMS\NwcLogs.
NWC	**Log | LPC Communication**	To enables or disables the logging of the LPC Communication messages to a local log file on the PC. This is a hexadecimal exchange log between the NWC and the LPCs. The log files will be created in the folder: C:\Program Files (x86)\Nyx Hemera\TLACS\TLACS CMS\NwcLogs.
NWC	**Log | NWC Main**	To enables or disables the logging of the NWC Main messages to a local log file on the PC. The log files will be created in the folder: C:\Program Files (x86)\Nyx Hemera\TLACS\TLACS CMS\NwcLogs.
NWC, Branch, LPC	**Update | Update Firmware**	To update the NWC firmware if NWC is selected. Otherwise, this action will update the LPC firmware of the selected LPC or all LPCs in the selected branch. Note that the firmware must be selected in **Tools | Options** form before to perform this action.
NWC, Branch, LPC	**Update | Update Settings**	To update the ST settings property of the selected LPC, for all LPCs in the selected NWC or for all LPCs in the selected branch.
NWC, Branch, LPC	**Update | Update MAX Settings**	To update the Maxim settings property of the selected LPC, all LPCs in the selected NWC or all LPCs in the selected branch.
NWC	**Update | Update Router**	To update Router table in the NWC according to the CMS database. Note that the router table is also updated when you perform Setup Network Controller.

Item	Menu	Description
NWC	**Update | Update Properties**	To update some properties in the NWC according to the CMS database. The following properties will be updated with this action: • Zone Config Status • Virtual Camera • Camera LSR table • Camera Name • Camera Address • Camera Type • Camera Hysteresis • Camera Wiper Configuration • Camera Washer Configuration • Camera Interval Between Washing Cycle • Illuminance Threshold Correction • Group Override Configuration • LPC App Mode • Sender Email • NWC logging • LPC logging • Camera logging • Input Alarm and Input Max LSR • Day vs Zone • Illuminance Configuration • Max Failure Per Zone before stop to ping • Max Failure Per Zone before generate zone alarm • Relay Alarm Filter • NWC Settings • Time out Settings Note that these properties are also updated when you perform Setup Network Controller.
NWC, Branch, LPC	**Reset Lamps**	To reset the lamp timer statistic of the selected LPC, all LPCs in the selected NWC or all LPCs in the selected branch.

Item	Menu	Description
NWC, Branch, LPC	**Read Properties**	To read some properties of the selected LPC, for all LPCs in the selected NWC or all LPCs in the selected branch. The following properties will be read with this action: • Relay Alarm • Relay Status • Burn Hour • Temperature • Voltage • Frequency • Relay Current • Relay Power Factor • Relay Threshold after characterization • Lighting Stage • Default Threshold
NWC, Branch, LPC	**Get Firmware Version**	To read the NWC firmware version if NWC is selected. Otherwise, this action will read the LPC firmware version of the selected LPC or all LPCs in the selected branch.
NWC	**Reset**	To reset the Network Controller.
NWC	**Update VisibleId**	To read the actual Visible Id list from the NWC and update the configuration database.
NWC, Branch, LPC	**Get MAX Settings**	To read the MAX settings of the selected LPC or all LPCs in the selected branch.
NWC	**Refresh LPC Status**	To forces the CMS software to read the latest information regarding the LPCs from the NWC and to update the tree view.
LPC	**Setup | Setup Local Product Controller**	To configure the selected LPC by sending the parameters to the LPC.
LPC	**Setup | Remove Local Product Controller**	To unconfigure a specific LPC by resetting the unit address to 0x00.
LPC	**Setup | Replace Local Product Controller**	To replace a specific LPC on the network. You must enter the new **Visible Id** when the **Replace Device** window appears.
LPC	**Setup | Replace Router**	To replace a router for a specific LPC on the network. You must enter a valid router (valid identifier in the LPC database) when the Replace Router window appears.
LPC	**Update | Select LPC for Update**	To select the LPC for the next firmware update. Useful only if the option Update All LPCs is unchecked in Tool Options.
LPC	**Update | Select Router for Update**	To select the LPC as router for the next firmware update. Useful only if the option **Update Router Only** is checked in **Tool Options**

Item	Menu	Description
LPC	**Test Lamp**	To switch the lamp OFF for a short period followed by switching the lamp ON. Afterwards the automatic control will continue

Information Panel

The device information panel is located at top right of the Network view. This panel shows LPC information when you select LPC in Tree view on the left.

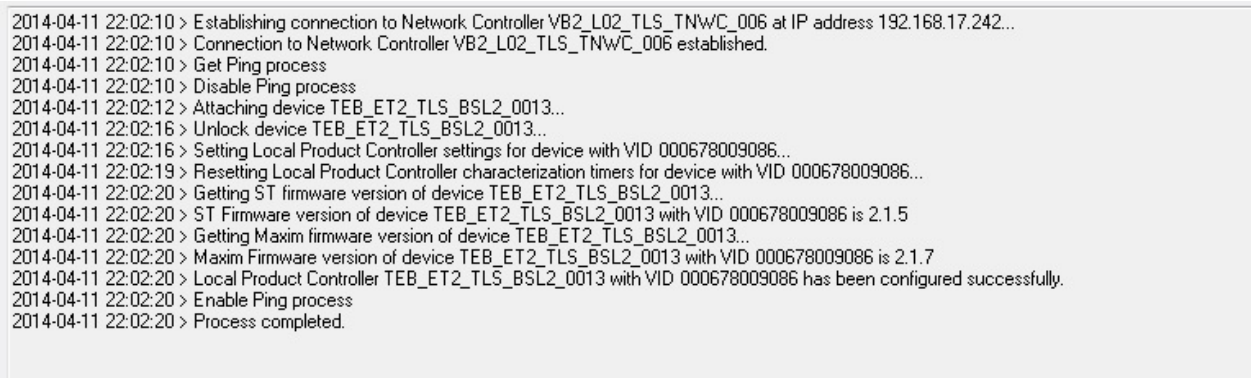


Figure 13: Log Messages

The log message pane is also used to display the READ properties and other information when applicable.

Menu bar

File

The following table describe the File menu:

Table 4: File menu

Menu	Description
Commit Configuration to Database	To save current change in the TLACS CMS database. This menu will be available only when the status bar is yellow.
Restore Database	To restore previous TLACS CMS database version. Select the database version and click OK in the Restore Configuration database window.
Backup Database	To backup TLACS CMS database in {server name}\\CMSCDB\\. Backup Successful window will appear if backup succeed.
Discard Current Change	To discard current change in the TLACS CMS database.
Exit	To close TLACS Configuration Management Software

Tools

The following table describe the Tools menu:

Table 5: Tools menu

Menu	Description
Options	To open the Options form, see **3.4.2.1**section below.
Generate Camera File	To Generate Camera configuration file for the system.
Clear Log	To clear all messages in the Log message window at the bottom right.
KPE	To connect to TSVR instead of NWC (For Singapore project only)
Abort Process	To abort the current process initiated by TLACS CMS. This is useful when you perform action on many LPCs and you want to abort it.

Options Window

The following table describes all items in the Options window:

Table 6: Options window

Items	Description
Skip Process Failed	Do not attempt to update / read the LPCs with the status Process Failed.
Skip Configured	Do not update / read the LPCs with the status Configured. Example, when checked the **Read Properties** option will not be executed for the configured LPCs.
Get Firmware Version	To read the LPC firmware version during LPC configuration (Setup Local Product Controller).
Get Local Product Controller Settings	To read and validate the ST settings during LPC configuration (Setup Local Product Controller).
Disable Ping	To disable the Ping between the NWC and the LPCs during maintenance operations.
Reset Lamp Timers	To reset the Lamp timers and burn hour count during LPC configuration (Setup Local Product Controller).
Multi phase	To enable the communication on multiphase. When checked, the NWC will try to communicate with the LPC on the three phases, one phase at a time. This is useful to validate the electrical phase connection of the LPC.
Retry Count	To configure the number of retries the CMS will use when communicating with the NWC or LPC.
NWC Firmware	Use … button to select firmware uploaded in NWC when you perform Update Firmware action on NWC.
LPC ST and Max Firmware	Use … button to select firmware uploaded in LPC when you perform Update Firmware action on LPC.
ST and Max Firmware Version	You must enter the firmware revision number here. If the LPC has the same version of this field, it will not be upgraded.
Attach Before PLUP	You can enable this option if you want to attach (configure) LPC before uploading new LPC firmware.
Update All LPCs	To update firmware of all LPCs in the selected branch.
Update Router only	To update firmware of LPCs configured with router only in the selected branch.
LPC inside NWC	To Update firmware of LPC inside NWC only.

Help

The About TLAC CMS window shows the software and library version and Copyright.

Chapter 4: Main Operations

The TLACS Configuration Management Software allows the System Engineer and Maintenance Team to interact visually with the TLACS network. The users can use the various user interface elements in CMS to do the following:

- Verification of system status.
- Verification of LPC status.
- Manage LPC replacement.
- Manage Lamp replacement.
- Manage NWC replacement.

Verification of TLACS status

To make sure CMS reflects the latest status information, the following steps must be performed:

1. Using CMS, click on the **Network** tab.
2. Right click on the NWC (or cluster).
3. Select **Refresh LPC Status**.
4. CMS will read the latest error status of the LPCs in the NWC and update the tree view. Details will be displayed in the Log Message Panel:

```
30/11/2015 4:55:58 AM > Getting Network Controller Mirror
30/11/2015 4:56:01 AM > Communication Failure for PSD_TLS_NBMPT_N1D_065
30/11/2015 4:56:02 AM > Communication Failure for PSD_TLS_NBMPT_N1D_068
```

Verification of LPC status

To read the actual status of a specific LPC, the following steps must be performed:

1. Using CMS, click on the **Network** tab.
2. Right click on the LPC to interrogate (luminaire asset name).
3. Select **Read Properties**.
4. The following information will be displayed in the Log Message Panel:

```
   01/12/2015 11:57:04 AM > Reading Local Product Controller properties
   for
   device PSD_TLS_NBMPT_N2D_016 with VID 000678012879...
  01/12/2015 11:57:10 AM > Relay Alarm: 00
   01/12/2015 11:57:10 AM > Relay 1 Status: 02
01/12/2015 11:57:11 AM > Lamp 1 Burn Hour: 0 %
   01/12/2015 11:57:11 AM > Temperature: 16.3
01/12/2015 11:57:12 AM > Voltage: 274.864
   01/12/2015 11:57:12 AM > Frequency: 59.89
   01/12/2015 11:57:12 AM > Relay 1 Current: 0000
   01/12/2015 11:57:12 AM > Relay 1 Power Factor: FF
```

```
   01/12/2015 11:57:13 AM > Relay 1 Threshold after characterization:
   12F7
01/12/2015 11:57:13 AM > Lighting Stage: 08
   01/12/2015 11:57:14 AM > Default Threshold: 1E
   01/12/2015 11:57:14 AM > Enable Ping process
   01/12/2015 11:57:14 AM > Process completed
```

- Detail on the returned values:
  - Alarm:
    - 00: no alarm
  - Relay 1 Status:
    - 02: relay open (lamp OFF)
    - 03: relay closed (lamp ON)
  - Relay 1 Current: raw value of actual current in hexadecimal value. To calculate the engineering value: Decimal2Hex(Raw Value) * 22 / 65535.
    `Relay 1 Current: 1298`
    Engineering value 4760* 22 / 65535 = 1.60 Arms.
  - Lighting Stage: actual LSR value of the system. In the example above the LPC has a Lamp 1 Stage settings of 12 (displayed in the Information Panel), so the relay is open (Relay 1 Status: 02).

LPC Replacement

To replace a LPC with CMS, the following steps must be performed:

1. Using CMS, click on the **Network** tab.
2. Right click on the replaced LPC (luminaire asset name).
3. Select **Setup | Replace Local Product Controller** in context menu.
4. Enter the VID of the replacing LPC and click OK.
5. The LPC configuration process starts.
6. Wait for message **Process completed** in Log Message window.
7. The message **Local Product Controller (asset name) with VID XXXXXXXXXXXX has been configured successfully** must appear in the Log Message Window.
8. Select **File | Commit Configuration to Database…** menu.
9. The LPC is now replaced.

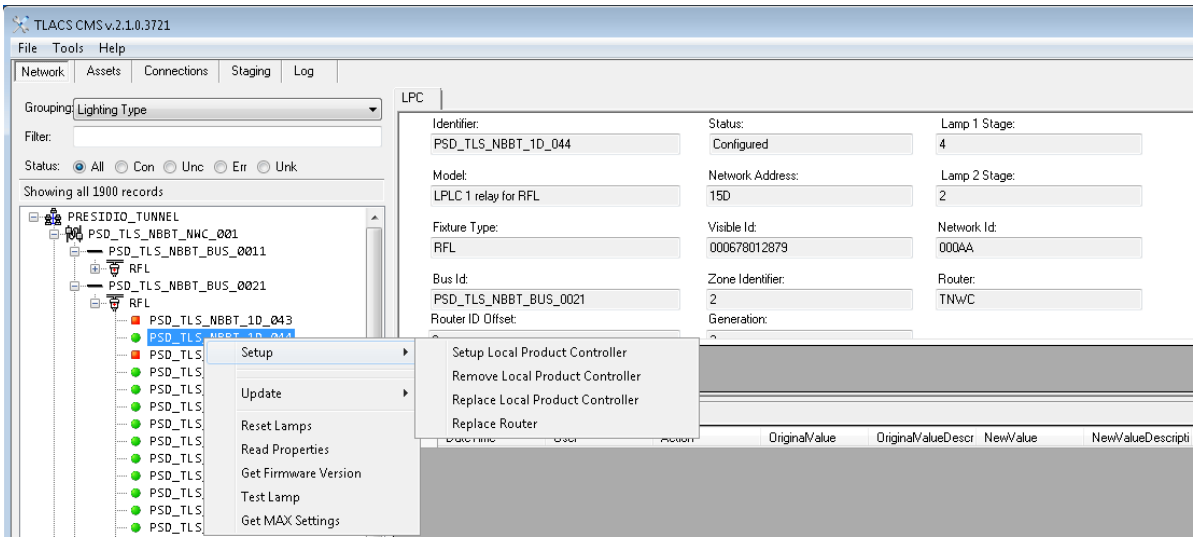


Figure 14: LPC Configuration

Lamp Replacement

To replace a lamp with CMS, the following steps must be performed:

1. Using CMS, click on the **Network** tab.
2. Right click on the LPC where you want to replace the lamp.
3. Select **Reset Lamps** in context menu.
4. Click **OK** on message dialog box **About to reset burn hour. Are you sure**?
5. The Lamp replacement process starts.
6. Wait for message **Process completed** in Log Message window.
7. The message **Lamp timers have been successfully reset for device** (asset name) must appear in the Log Message Window.

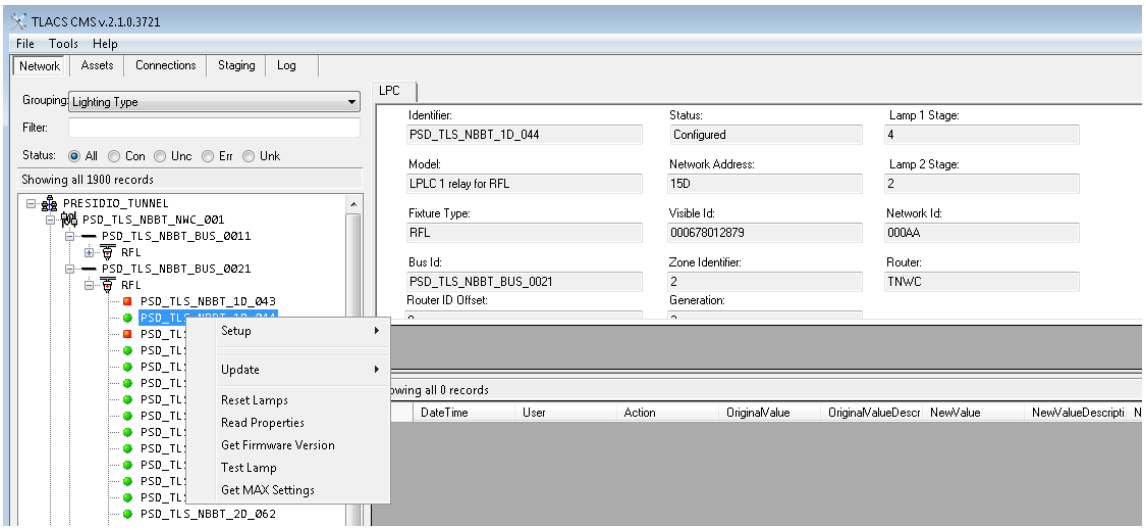


Figure 15: LPC Reset Lamp Timers

NWC Configuration Replacement

The NWC configuration is performed with the following steps:

1. Using CMS, click on the **Network** tab.
2. Right click on the replacement NWC.
3. Select **Setup | Setup Network Controller** in context menu.
4. The NWC configuration process starts.
5. Wait for message **Process completed** in Log Message window.
6. The **message Network Controller successfully configured** must appear in the Log Message Window.
7. The NWC is now replaced.

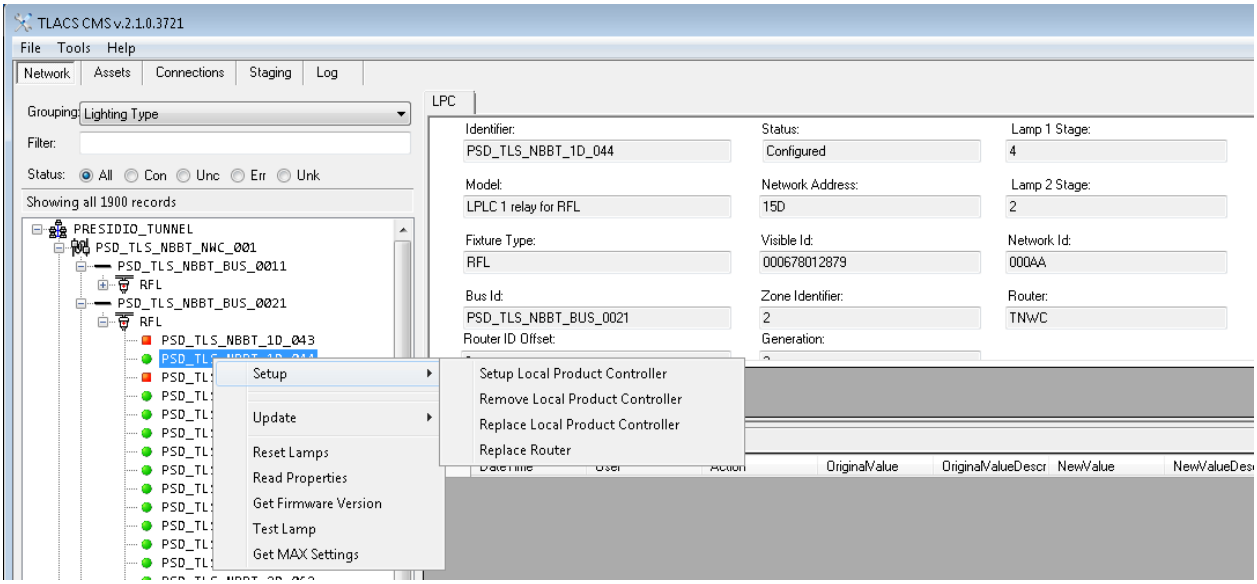


Figure 16: NWC Configuration

Chapter 5: CMS Views

This section describes the main other views and status bar of the TLACS Configuration Management Software. The different tables can be altered and committed to the database.

Assets

The Assets view shows the main configuration tables of the TLACS CMS database.

NWC

These views show and allow editing information for all Network Controllers of the TLACS . The first table lists all NWCs individually and the second table lists the Network Controller clusters.

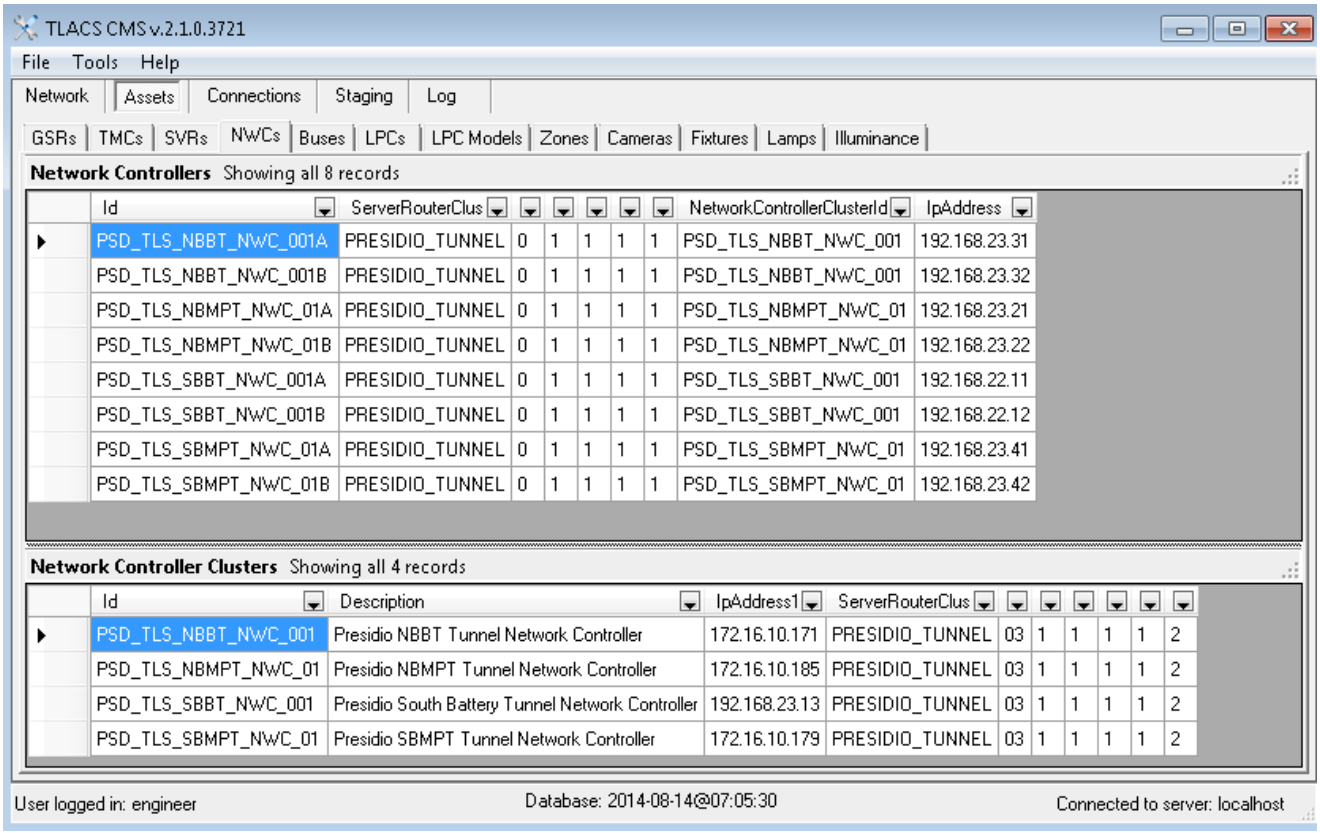


Figure 17: NWCs table

The following table describes the Network Controller Clusters columns:

Table 7: NWCs column description

Menu	Description
Id	Identifier of the Network Controller used by Buses table.
Description	Description of the Network Controller.
IpAddress1	IP address configured in the Network Controller.
ServerRouterClusterId	Server router identifier of the Network Controller.
CommunicationPort	Serial communication port of the server router where the Network Controller is connected.
BurnTimerMin	To configure the number of minutes of **burn-in** timer in the NWC. This timer is started each time the lighting stage is **increased**. While this timer is running, the lighting stage (LSR) for the zone cannot be **decreased.**
CoolDownTimerMin	To configure the number of minutes of **cool down** timer in the NWC. This timer is started each time the lighting stage (LSR) is **decreased**. While this timer is running, the lighting stage for the zone cannot be **increased.**
RampTimerMin	To configure the number of minutes of ramp timer in the NWC. This timer is started each time the lighting stage (LSR) is decreased. While this timer is running, the lighting stage for the zone cannot be decreased. This timer is used to avoid fast decreases of luminance in the tunnel.

Buses

This view shows and allows editing information for all Buses in the TLACS.

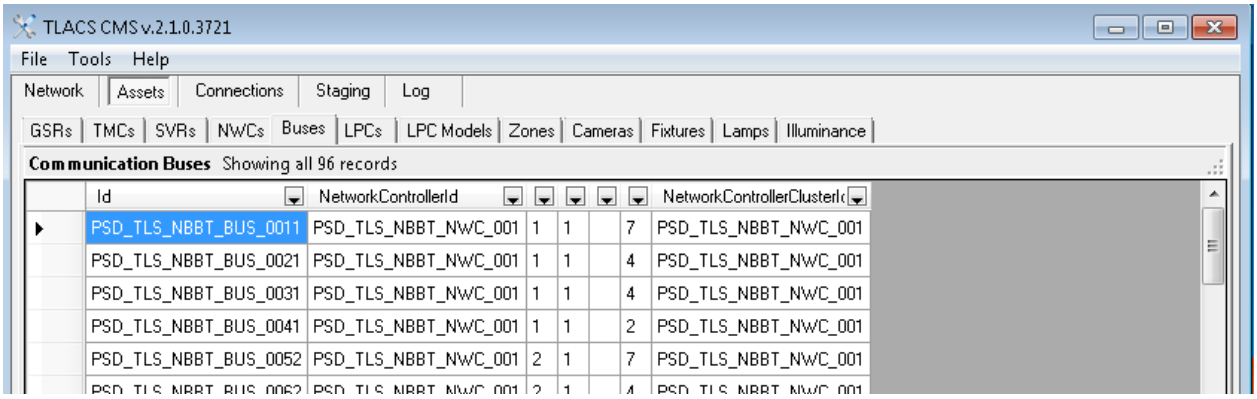


Figure 18: Buses table

Table 8: Bus column description

Menu	Description
Id	Identifier of the Bus in each Zone and LPCs table.
Address	To configure the distribution panel and phase of the bus.
MaxFailureAlarm	To configure the number of LPCs in failure on a bus before raising an alarm for this bus.
NetworkControllerClusterId	Identifier of the Network Controller that manage this bus.

LPC Models

This view shows and allows editing information for all LPC Models in the TLACS.

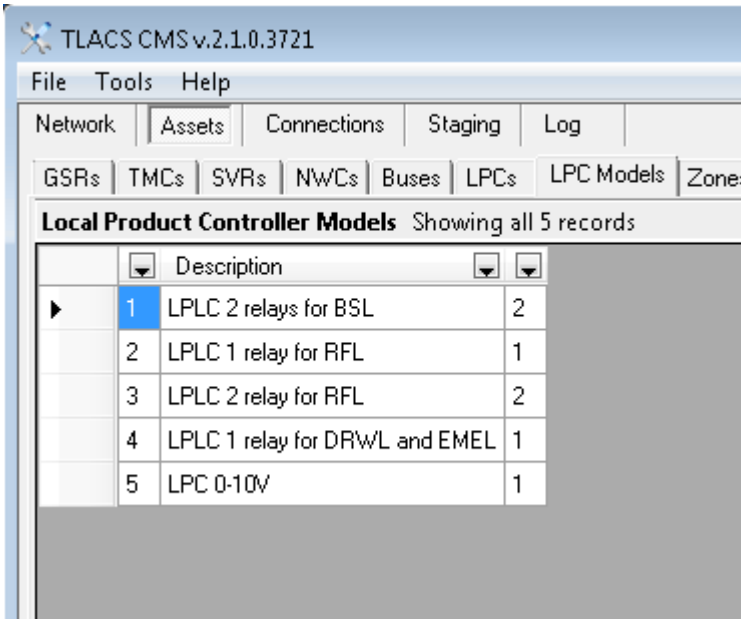


Figure 19: LPC Model

The following table describes the LPC Model columns:

Table 9: LPC Models column description

Menu	Description
Id	Identifier of the LPC Model in every LPCs table
Description	Description of the LPC Model.
Relay Count	To indicate the number of relays supported by this LPC model.

Zones

This view shows and allows editing information for all Zones in the TLACS.

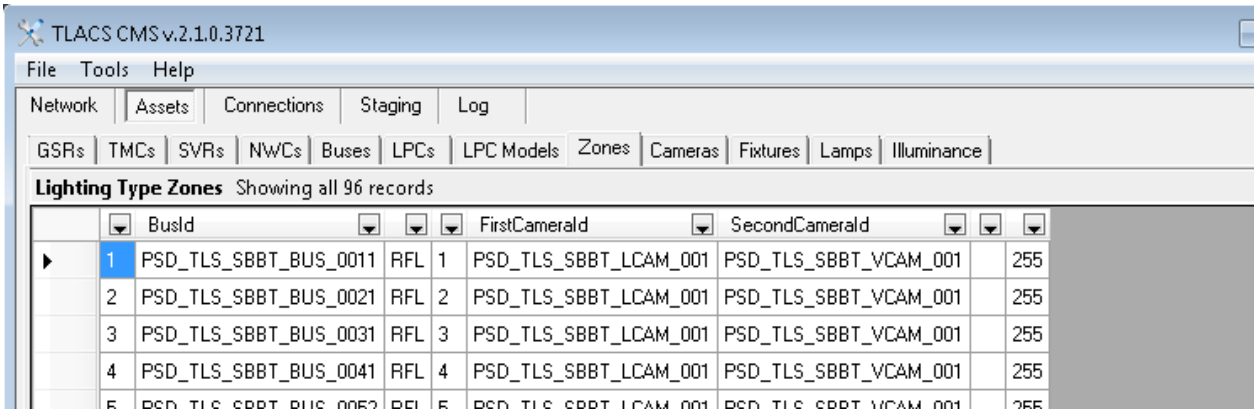


Figure 20: Zones Table

The following table describe the Zones columns:

Table 10: Zone column description

Menu	Description
Id	Zone identifier.
BusId	Identifier of the bus that manages this zone.
LightingTypeZone	Identifier of the Zones in every LPCs table.
Zone	To configure the zone number in the NWC.
FirstCameraId	To configure the default photometer for this zone.
SecondCameraId	To configure the backup photometer for this zone.
ThirdCameraId	To configure the second backup photometer for this zone.
MaxFailurePing	To configure the number of LPCs in failure for this zone before skipping the rest of LPCs in that zone during the ping process.
NetworkControllerClusterId	Identifier of the bus that manages this zone.

Photometers

This view shows and allows editing information for all photometers in the TLACS.

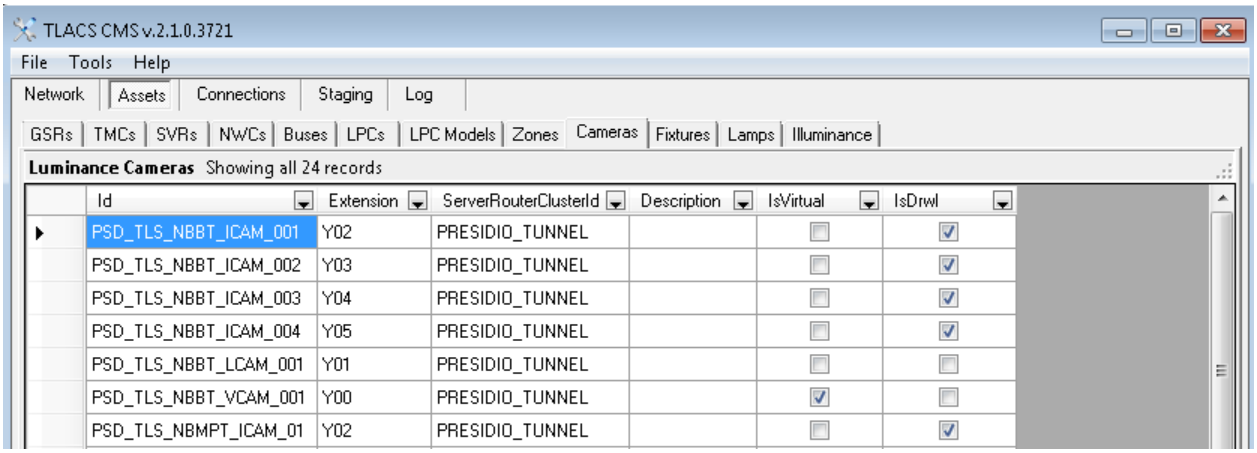


Figure 21: Photometer Table

The following table describes the photometers columns:

Table 11: Photometer column description

Menu	Description
Id	Photometer identifier for the Zones table.
Extension	To configure the photometer number of the zone in the NWC.
ServerRouterClusterId	Server router identifier of the photometer.
Description	Description of the photometer.
IsVirtual	To indicate if this photometer is virtual (time table).
IsDrwl	To indicate if this photometer is for Depressed Road Wall Light Zone.

Luminaires (Fixtures)

This view shows and allows editing information for all luminaires (Fixtures) in the TLACS .

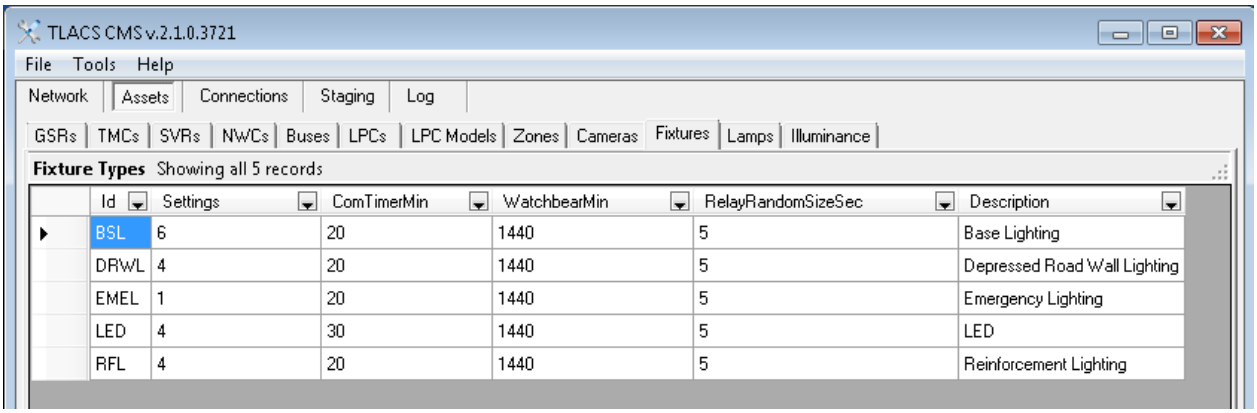


Figure 22: Luminaire (Fixtures) Table

The following table describe the luminaires (Fixture) columns:

Table 12: Luminaires (Fixtures) column description

Menu	Description
Id	Identifier of the luminaires (Fixtures) in the LPCs table
Settings	To configure the basic settings that defines the type luminaires (Fixtures) installed.
ComTimerMin	To configure the number of minutes before switching the lamp ON automatically when the lighting stage is not refresh in LPC.
WatchbearMin	To configure the number of minutes in the watch bear timer. When this timer expired, the LPC is rebooted automatically.
RelayRandomSizeSec	To configure the number of seconds of random delay when lamp switchs ON.
Description	The description of the luminaire (Fixtures).

Lamps

This view shows and allows editing information for all lamps in the TLACS.

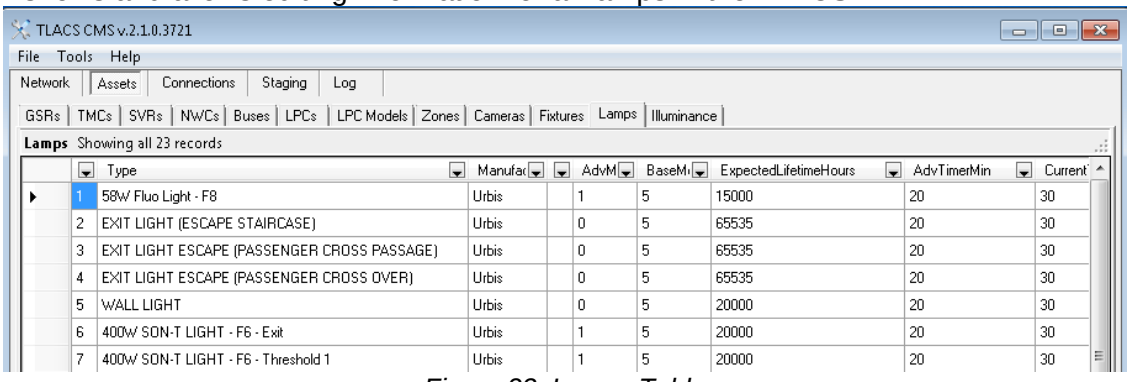


Figure 23: Lamps Table

The following table describes the Lamps columns:

Table 13: Lamps column description

Menu	Description
Id	The identifier of the lamp's type in the LPCs table.
Type	The description of the lamp's type.
Manufacturer	The manufacturer of the lamps.
AdvMonitoring	To configure the advanced load monitoring feature in the LPC.
BaseMonitoringDelayMin	To configure the number of minutes of the base monitoring timer. This timer is started each time the load is toggled. When this timer expires, the following relay alarm are monitored: • RELAY_SHORTED • NO_CURRENT
ExpectedLifetimeHours	To configure the expected life time hours of this lamp. The burn hour percentage is calculated according to this value.
AdvTimerMin	To configure the number of minutes of the advanced monitoring timer. When this timer expired, the following relay alarms are monitored:. • RELAY_SHORTED • NO_CURRENT • OUT_OF_THRESHOLD • LOW_POWER_FACTOR
CurrentTolerancePercentage	To configure the percentage of the current tolerance boundary.

LPCs

This view shows and allows editing information for all LPCs in the TLACS.

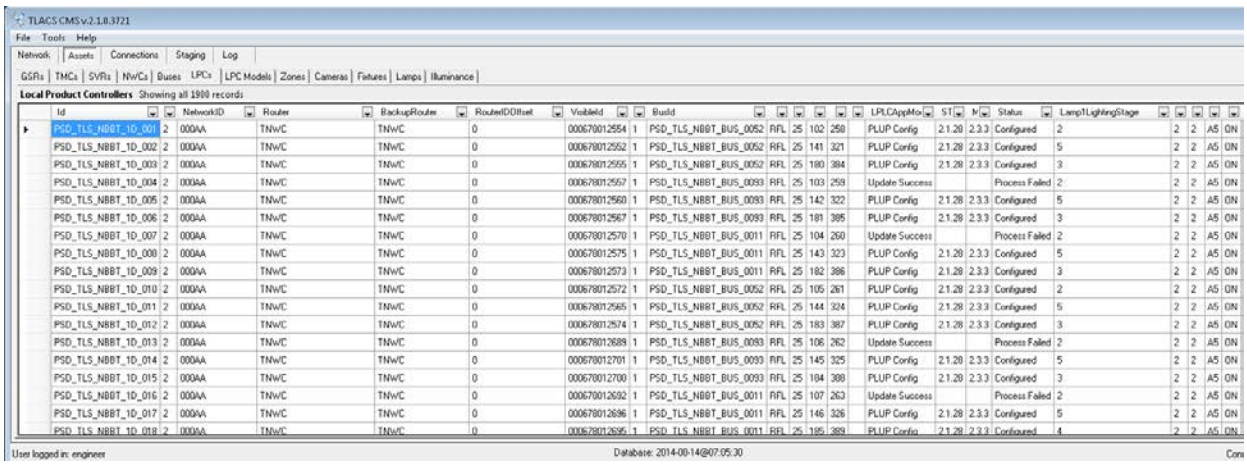


Figure 24: LPCs table

The following table describes some useful LPC column:

Menu	Description
Id	Identifier of the LPC.
LPLCModelId	To determine the model of LPC (see **LPC Models** section).
NetworkID	To determine the position of the LPC in the tunnel.
Router	To configure the router of the LPC in the network.
BackupRouter	To configure the backup router of the LPC in the network.
VisibleId	To determine the visible ID (6 bytes address) of the LPC in the network.
BusID	To determine the bus of the LPC (see **Buses** section).
FixtureTypeId	To determine the fixture type of the LPC (see **Luminaires** section).
LampId	To determine the lamp type of the LPC (see **Lamps** section).
PowerBusUnitAddress	To determine the unit address (2 bytes) of the LPC.
STVersion	To know the ST firmware version of the LPC.
MaxVersion	To know the Maxim firmware version of the LPC.
Status	To know the Status of the LPC (see **Table 2: LPCs icon** section).
Lamp1LightingStage	To configure at which lighting stage (LSR) the lamp should be ON for relay 1 in the LPC.
Lamp2LightingStage	To configure at which lighting stage (LSR) the lamp should be ON for relay 2 in the LPC.

Table 14: LPC column description

Illuminance

This view shows and allows editing information for all Illuminance zone in the TLACS.

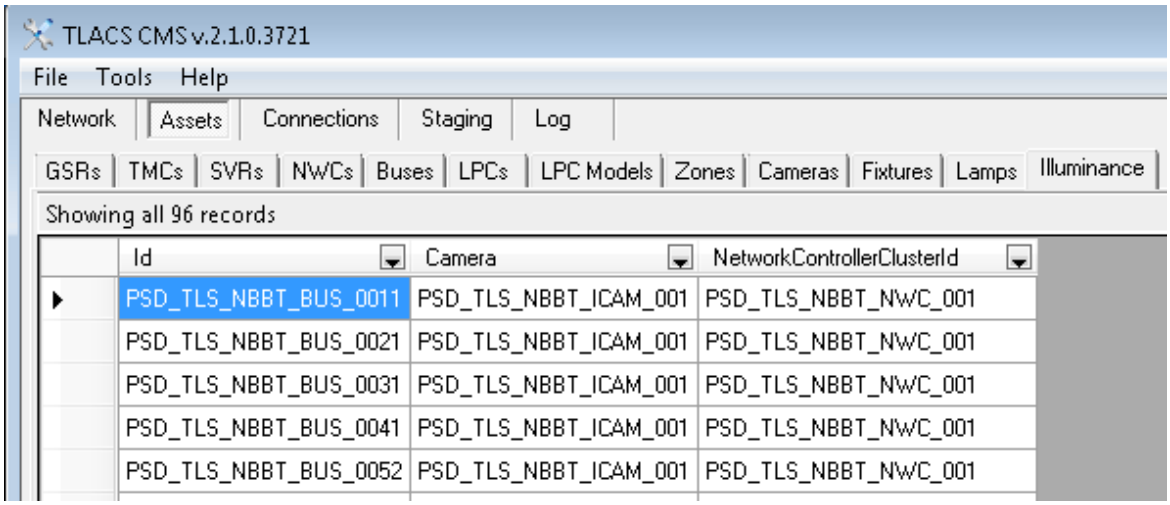


Figure 25: Illuminance Table

The following table describes the Illuminance columns:

Table 15: Illuminance column description

Menu	Description
Id	Identifier of the bus to configure Illuminance camera.
Camera	Identifier of the camera (see **Photometers** section).
NetworkControllerClusterId	Identifier of the NWC that manages this zone illuminance.

Log

This view is simply to show different logging table such as Login, Messages, Database Change and Network Traffic

Login logs

This view shows the Login table. An entry is added every time a user logs in.

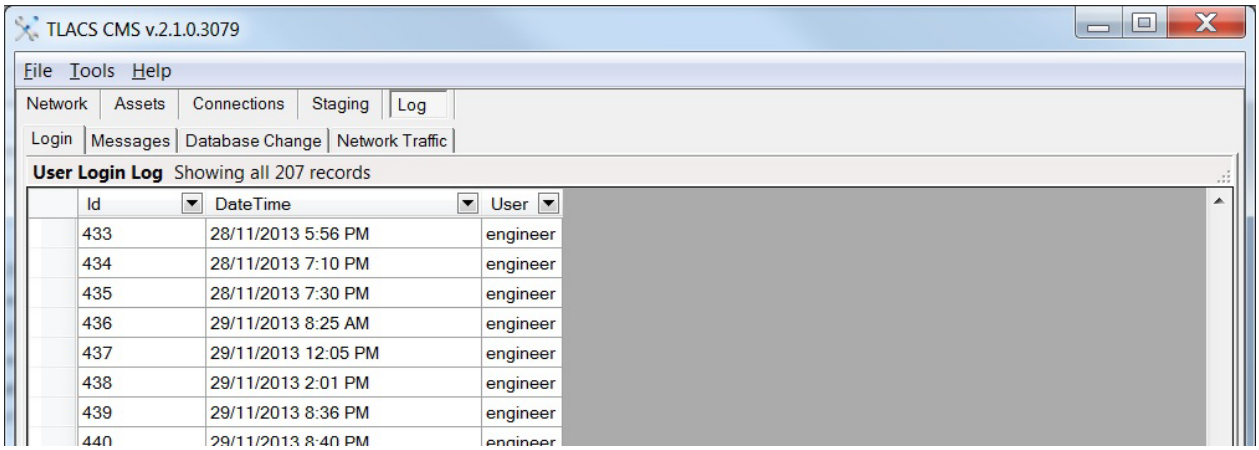


Figure 26: Login Table

Messages

This view shows the Log Messages table. This table contains all messages displayed in Log Message window of the Network view.

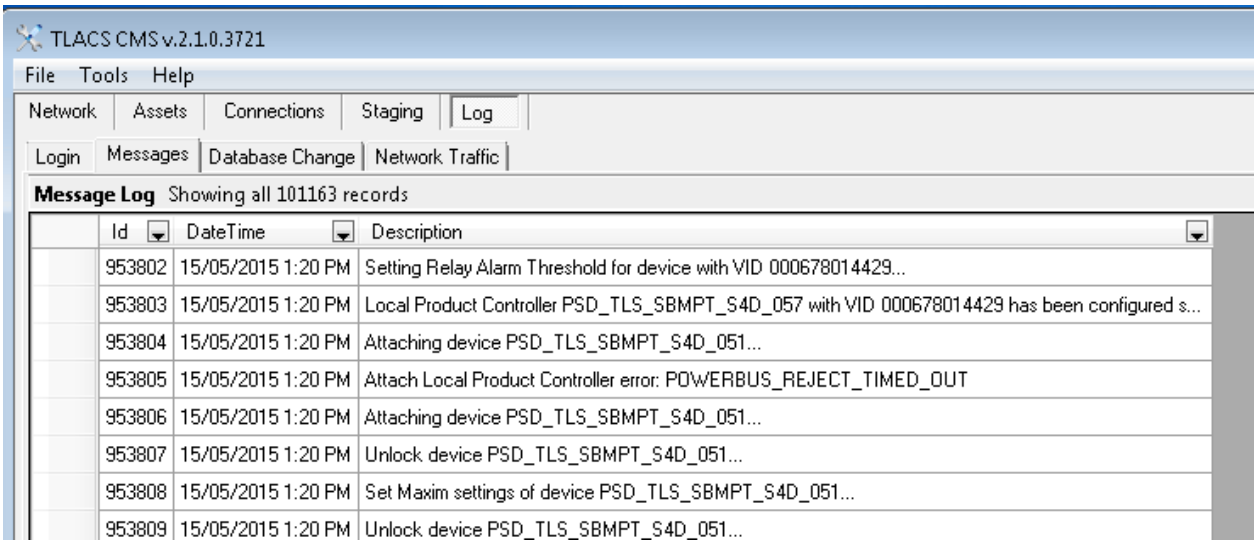


Figure 27: Messages Table

Database change

This view shows the Database change table. An entry is added each time an element changes in the TLACS CMS database.

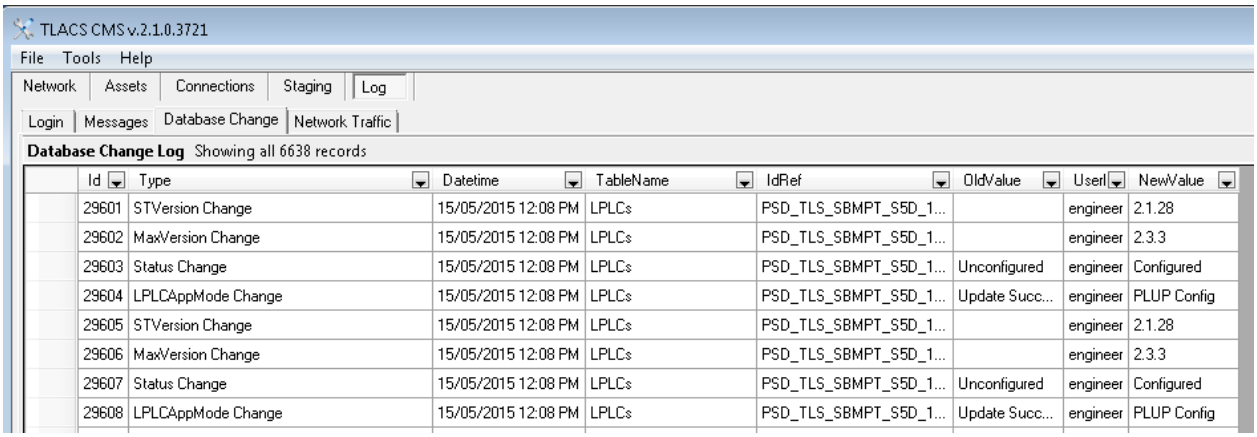


Figure 28: Database change Table

Network Traffic

This view shows the Network Traffic table. It is the message's log between TLACS CMS and Network Controller.

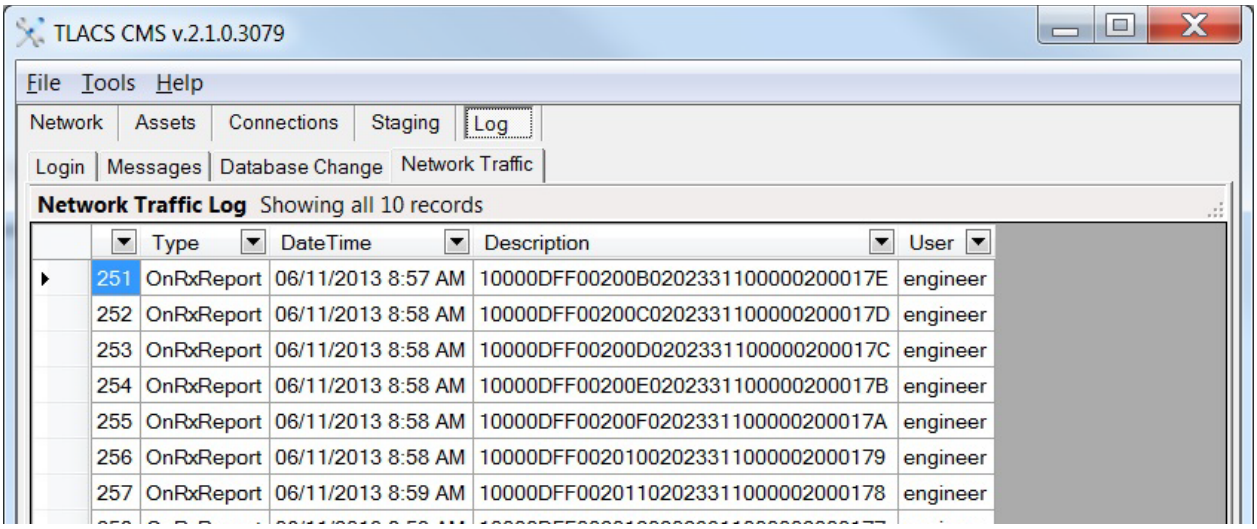


Figure 29: Network Traffic Table

Status bar

The status bar located at the bottom of the screen displays some information about TLACS Configuration Management Software.

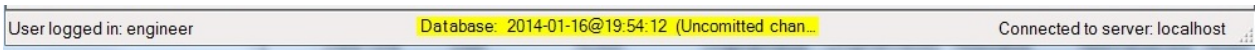


Figure 30: Status Bar

The following table describes all status bar information from left to right:

Table 16: Status bar

Panel	Description
User Logged in:	This is the name of the user logged in TLACS CMS database.
Database:	This is the current version of the TLACS CMS database. When this panel is yellow, it means that TLACS CMS contains uncommitted change.
Connected to server:	This is the name of the server where TLACS CMS database is installed.

Chapter 6: Database maintenance

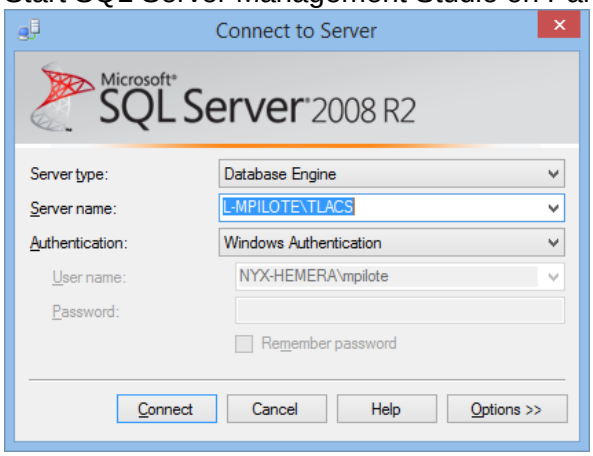
This section describes the main database maintenance operations. It is assumed that the user has a basic knowledge of Microsoft SQL server. The following actions are described:

- Backup database
- Restore database

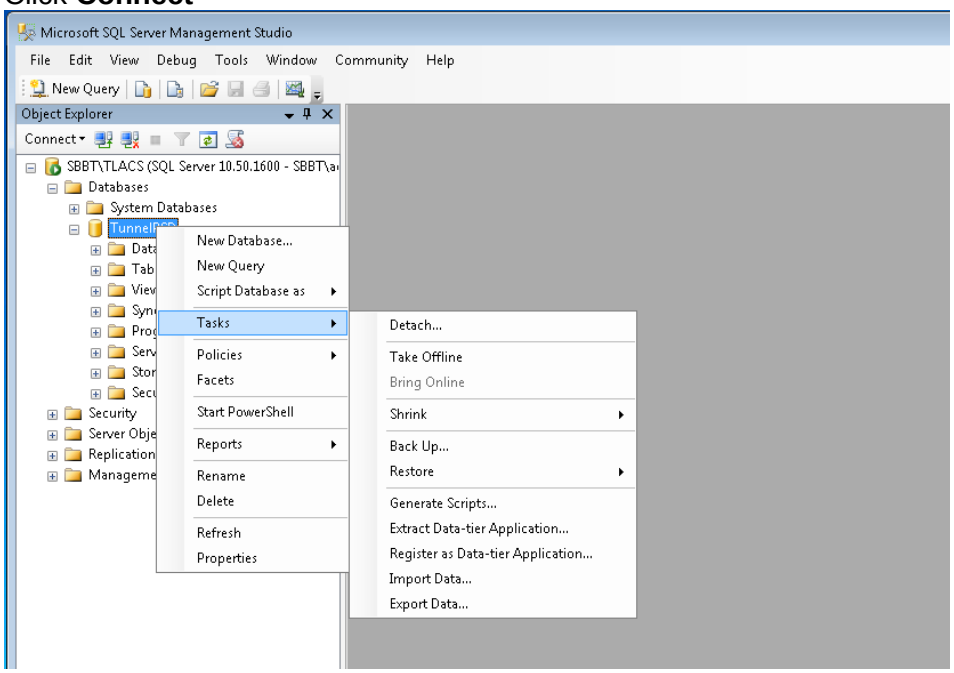
CMS Configuration Database Manual Backup

This procedure details how to manually backup the CMS Configuration Database.

1. Start SQL Server Management Studio on Panel PC, using Windows «admin » account.

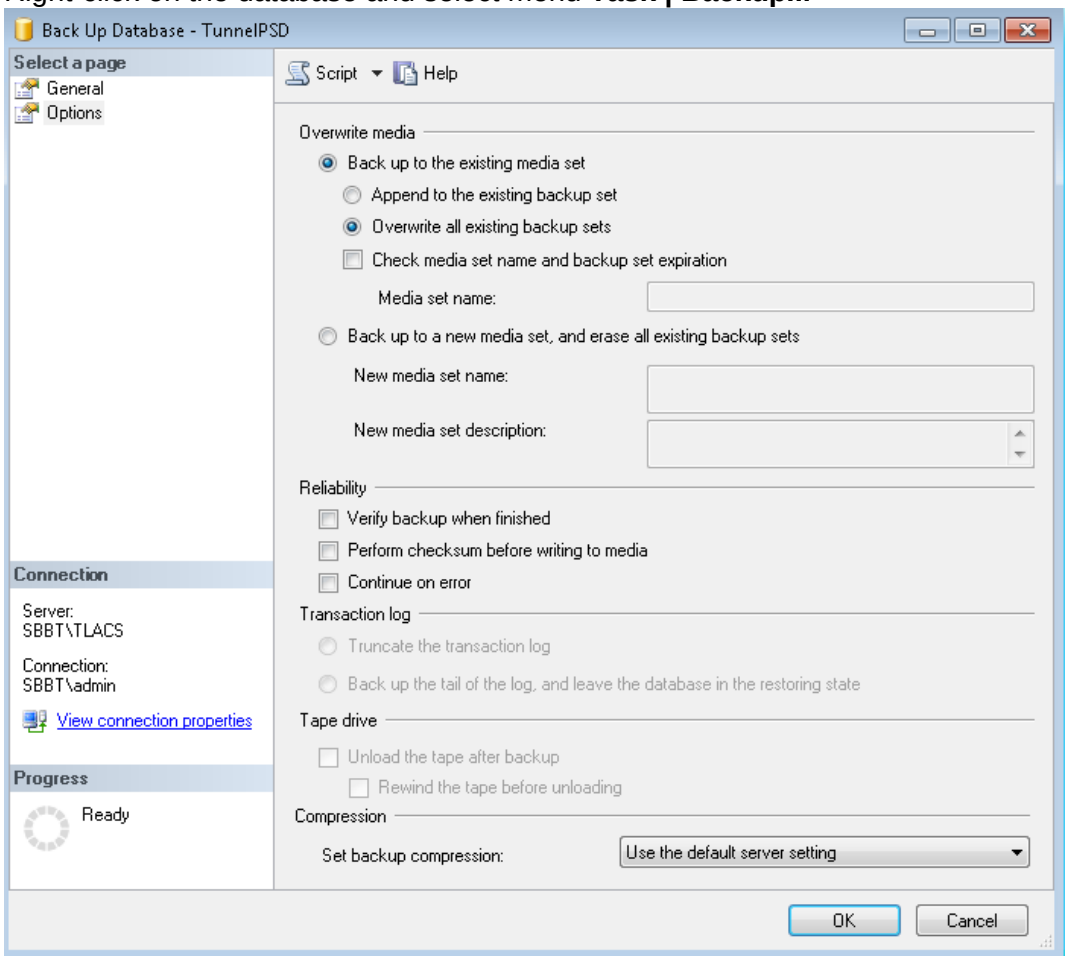


2. Click **Connect**



3. In the left side pane, navigate to the configuration database to backup.

4. Right-click on the database and select menu **Task | Backup...**



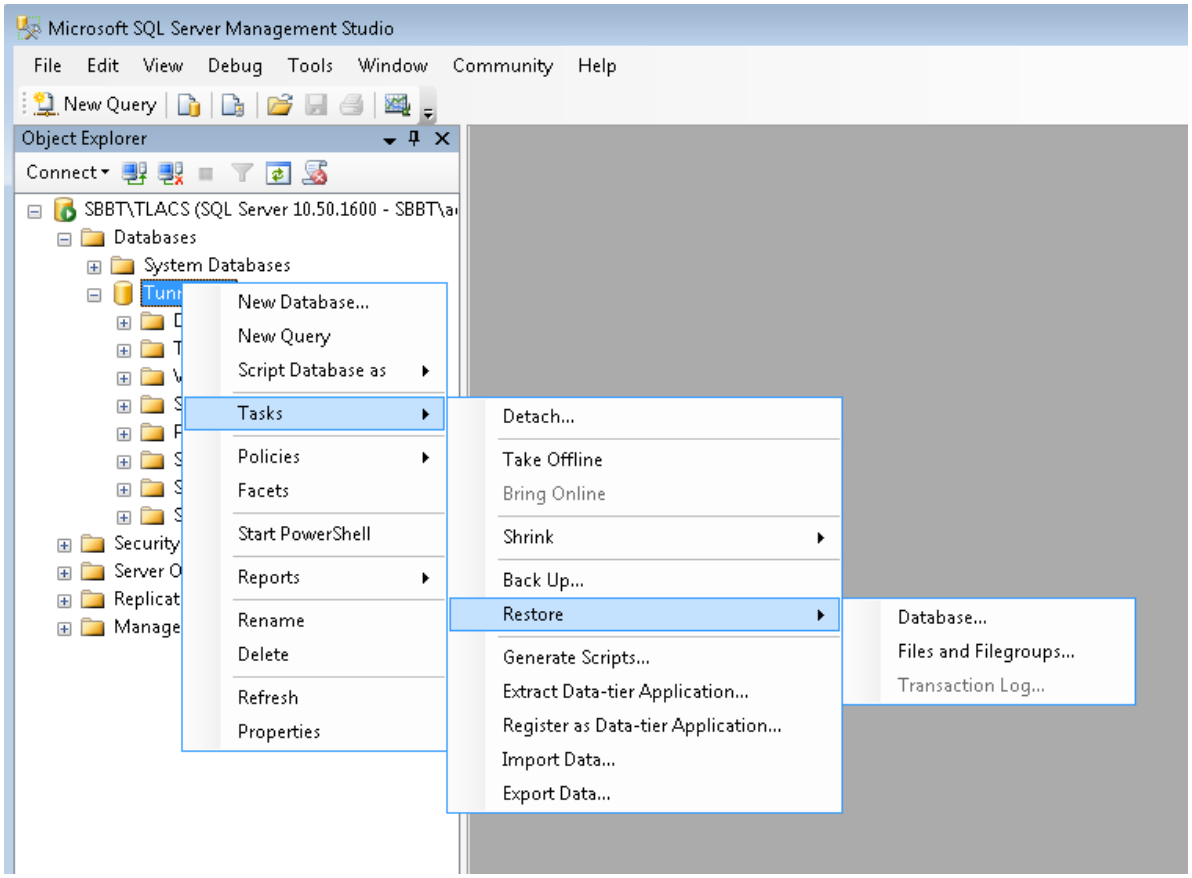
5. In the Back Up Database window, go to Options, and click **Override all existing backup sets.**

6. Click **OK** at bottom right of the Back Up Database window.

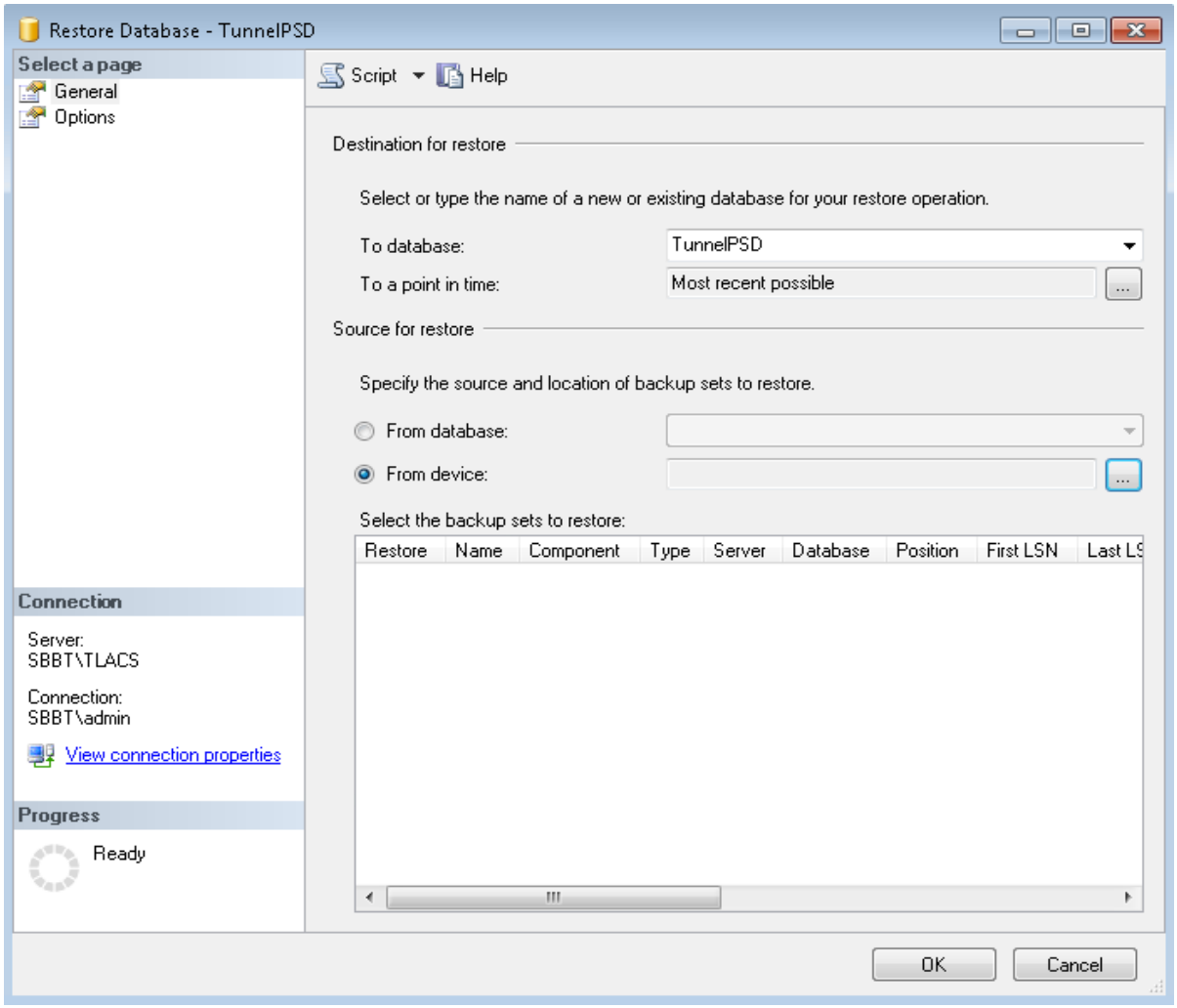
CMS Configuration Database Manual Restore

This procedure details how to manually restore the CMS Configuration Database.

1. Start SQL Server Management Studio on Panel PC, using windows «Admin » account.
2. Click **Connect.**



3. In the left pane, right-click on the database to restore and select menu **Task | Restore | Database...**



4. Select **From Device,** navigate to your backup and select the file.
    a. In the Specify Backup window, click **Add** button
    b. Select the backup file and click **OK**
5. If the database is not available on the server it will be created with the name as entered in the **To database** field.
6. Check the **Restore** column for the tunnel Database.
7. Select Options page in the left pane.
8. Select **Overwrite the existing database (WITH REPLACE).**
9. Click **OK** on message “The restore of database ‘tunnel’ completed successfully”.
10. Restart CMS.

Glossary