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# Unify

## OpenScape 4000 Manager V11, License Management Tool - Access Management

Administrator documentation

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Mitel

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# Contents

# 1 Manager OpenScape 4000 LMT Overview

LMT (License Management Tool) as an application in the OpenScape 4000 Manager allows you to administrate and control codewords on OpenScape 4000 and HiPath 4000 systems within a network. The features of both system types are structured in the form of software license packages. As soon as LMT takes care of license management, license check is done centrally by the OpenScape 4000 Manager for all managed systems except for systems in the topology group.

There is no need to pay attention to licences of individual OpenScape 4000/ HiPath 4000 systems as long as the amount of licenses per administration group is not exceeded. In each OpenScape 4000/HiPath 4000 of the LMT administration group the number of acquired licences for each OpenScape 4000/HiPath 4000 software feature is set to the maximum value in the codeword.

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**NOTICE:** LMT does not care about OpenScape 4000/ HiPath 4000 Assistant licenses (e.g. SLES Update Protection for 3 years or application licenses used on OpenScape 4000/ HiPath 4000 Assistant).

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### Function

License Management Tool (LMT) provides two basic functions:

- Registration of the used port licenses of ALL systems within the LMT management area.
- This function operates in any case on the OpenScape 4000 Manager but it has got no user interface. The data registered is made available only to specific applications, mainly to OpenScape License Management (LicM).

  Please see in the "References" chapter: Counting the Port Licenses in connection with OpenScape 4000 Manager Licenses on page 109
- License management of systems for which a central license management is requested by the customer.
- To use this functionality it is neccessary to purchase a network license for HiPath 4000 systems (net code word - NCW) and Network Customer License File for OpenScape 4000 Manager (NCLF). This NCW license is transferred to the manager via an interface integrated in the web based user interface of OpenScape 4000 Manager LMT. The NCLF has to be installed on the Central License Agent of the Manager. After this the system license data of the network can be monitored and administered via the LMT interface.

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**NOTICE:** For a list of supported systems see System Versions.

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### See also


- Overview on page 7
- Prerequisites on page 19
- Functionality on page 22
- – Code Words on page 26
  – Automatic License Check on page 29

## 1.1 Overview

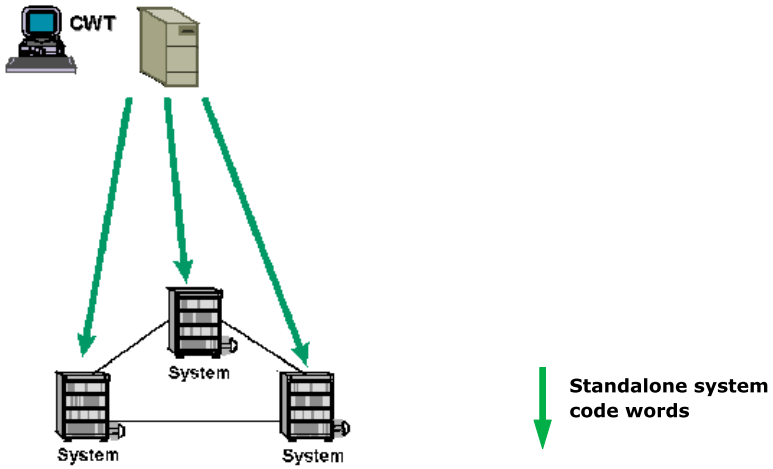
In this section you will find information on the following topics:



### 1.1.1 Management of HiPath 4000 Systems (V5 and Older) Without Manager

Without OpenScape 4000 Manager, licenses for every software license package are only counted and checked for each system. Licenses must be moved via the code word tool (CWT) between the systems before administration changes (e.g. relocations in the network).

License management without OpenScape 4000 Manager:




- Standalone system code words are generated with the code word tool (CWT) and are transferred to the system by the service technician.
- License checks are performed for systems with both the old as well as the new marketing structure, one standalone system at a time.
- A standalone system code word is generated with the code word tool. Together with the hardware ID, this code word contains information on the number of bought licenses for every software system license package. In case of license violations, a license alarm (type: "used" counter is greater than the number of bought licenses) is generated in the relevant standalone system.
- Administration changes in the network (e.g. relocation) can necessitate the transfer of licenses between the systems. If license thresholds for individual systems are thereby exceeded, new standalone code words must

be generated for all the systems involved and imported into the individual systems.

**See also**

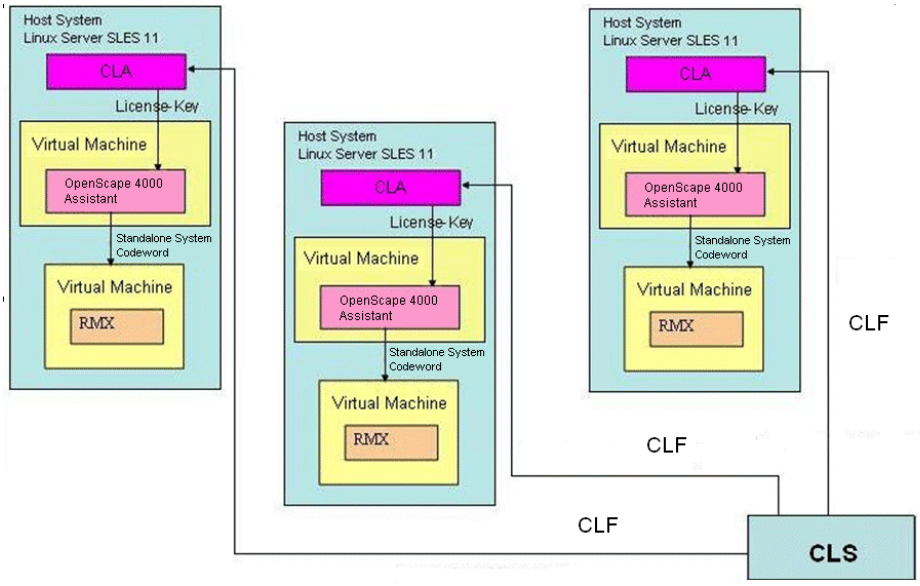
Management of OpenScape 4000/HiPath 4000 Systems (V6 and Newer) Without Manager on page 9

## 1.1.2 Management of OpenScape 4000/HiPath 4000 Systems (V6 and Newer) Without Manager

Up to HiPath 4000 V6, all HiPath 4000 PBX switches were licensed using the CWT (Code Word Tool). In HiPath 4000 V6 a new licensing concept was introduced.

In the new version "OpenScape 4000 V7/HiPath 4000 V6 " the licenses (customer license files â“ CLF) are provided by the Central License Server (CLS).

A technician has to install this license into the Central License Agent (CLA) of the OpenScape 4000 V7/HiPath 4000 V6 system. He can do this via the Assistant or use the Central License Manager (CLM).




In 20 minutes after the new license is installed on the CLA, the standalone system codeword is generated automatically and applied on the RMX.

### 1.1.2.1 OpenScape 4000/HiPath 4000 Grace Period - Using OpenScape 4000/HiPath 4000 Systems Without the Customer License

After the installation of the OpenScape 4000/HiPath 4000 Assistant, you can use the full functionality of the OpenScape 4000/HiPath 4000 system for 30 days without the license. This interval is called "Grace Period".

Once the grace period expires, all the features are blocked.

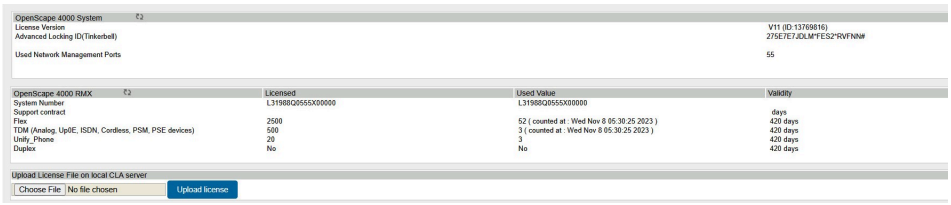
**NOTICE:** Prior to the installation of the Assistant, the platform system has to have the correct date/time setting.

**NOTICE:** On the RMX, a codeword is installed that is valid for 30 days - this is called the "Grace Period Codeword".

### 1.1.2.2 OpenScape 4000/HiPath 4000 Licensing without Manager

Within 30 days after the installation of the OpenScape 4000/HiPath 4000 Assistant, a technician has to "purchase" the customer license file from the CLS and install it on the central license agent of the OpenScape 4000/HiPath 4000 Assistant.

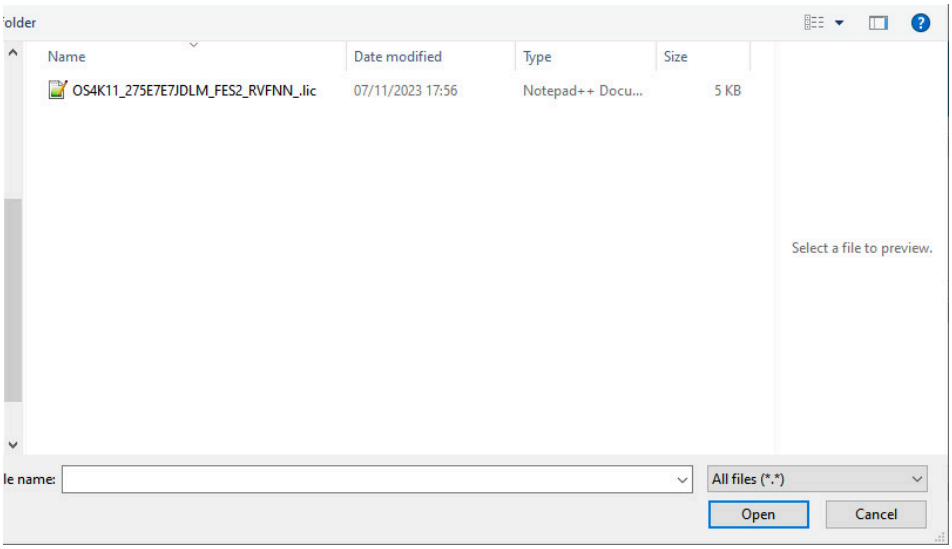
To "purchase" this license, the technician has to provide one of the MAC-addresses of the OpenScape 4000/HiPath 4000 system. The MAC addresses can be seen from the user interface of the License Management.




The generated license is specific for the MAC address and it is generated for the specific System Number.

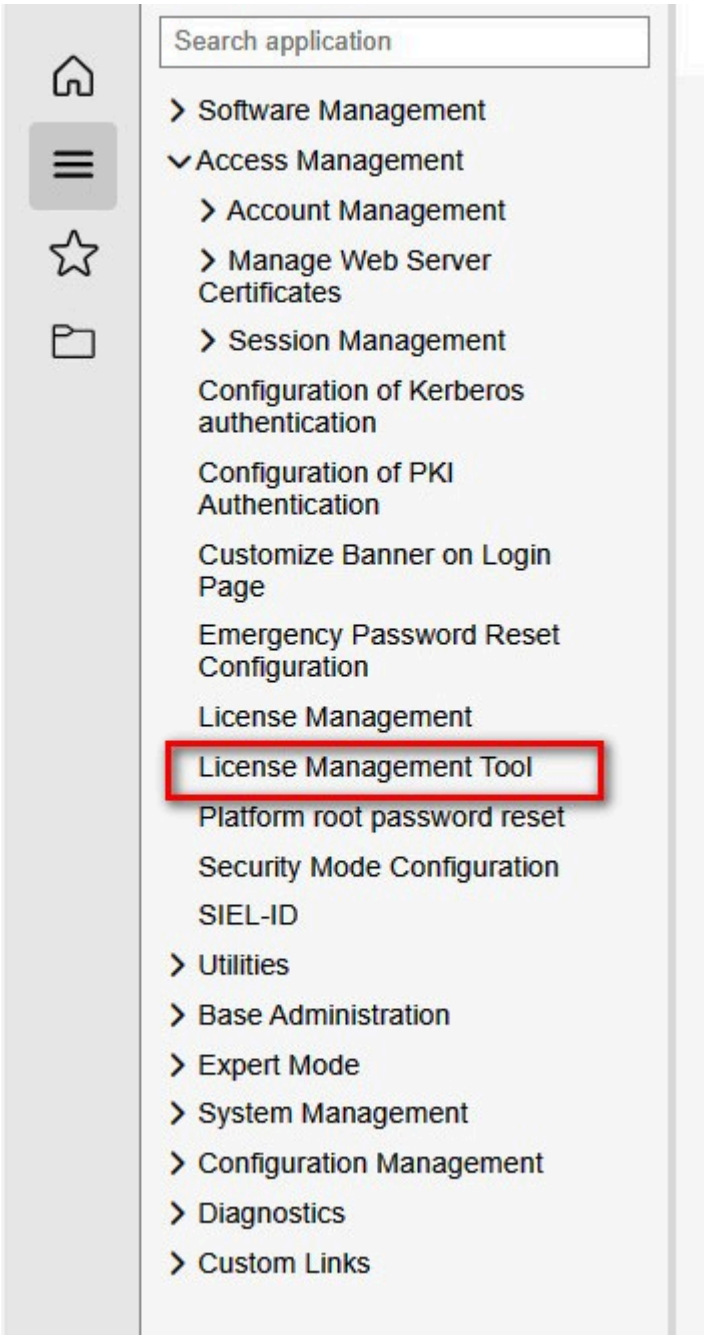
To activate the license, the technician has to execute the following steps:

1) Configure the correct System Number on the RMX via the Amo-command ADD-ANUM.
2) Upload the customer license file into the CLA -this can be done via the user interface of the Central License Manager or the Assistant -License Management -> Upload License File on Local Server.




1) Within 20 minutes after the license file was uploaded on the CLA, the license is transferred to the server and the new codeword can be displayed via the Amo-command DISP-CODEW.

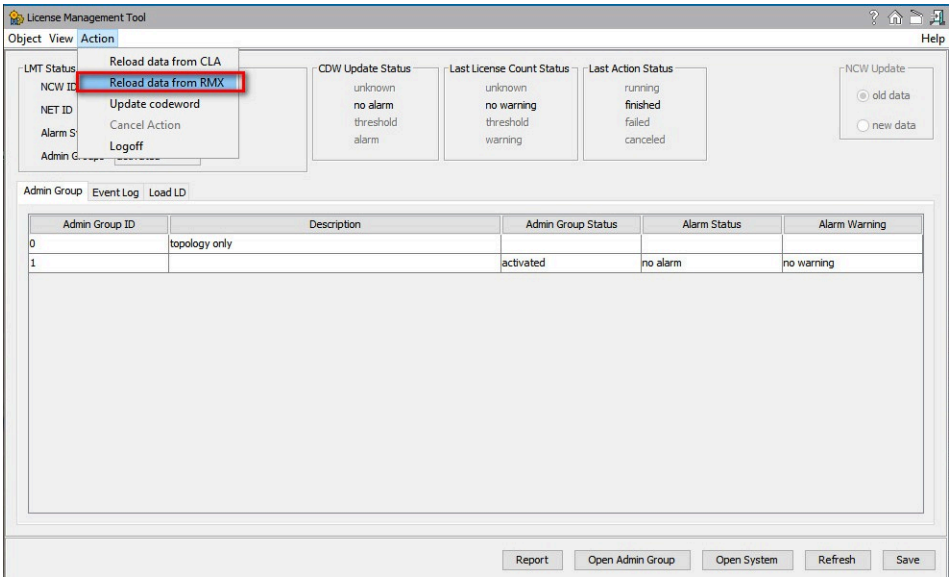
Later, the progress of the RMX codeword information and the customer license information gathered by the Assistant can be monitored via the user interface of the Assistant's "License Management Tool":



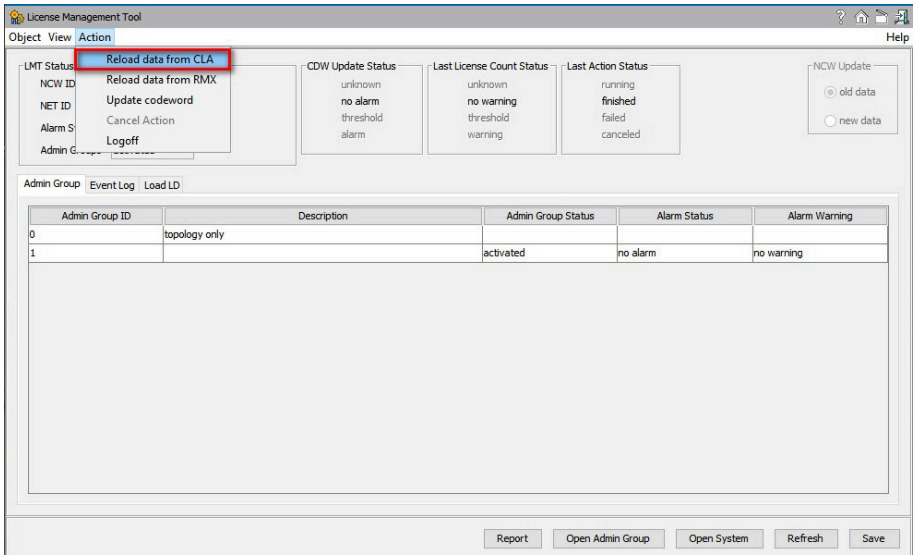

If the system number is not provided to the RMX or the LMT is not able to automatically install the new codeword for any other reason (e.g. connectivity problem, Assistant not active at the time of installation of the license into the CLA etc.), you can manually update the codeword on the RMX via this License Management Tool by the following manual steps:

**1)** If the system number is not configured on the RMX, configure it (manually by amo ADD-ANUM).

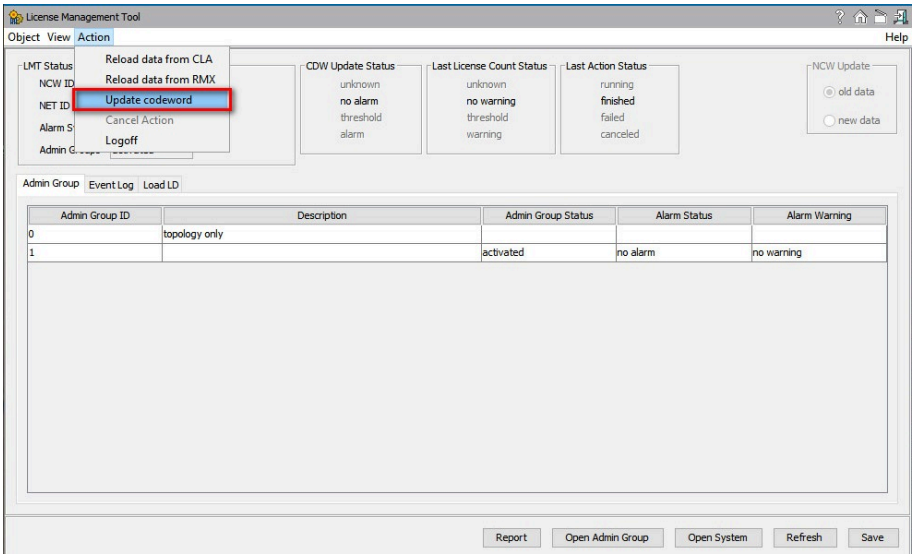
**2)** Start the LMT and select "Action->Reload data from RMX" to load the configured ANUM information from the RMX to the LMT database as well as the information about the used number of licensed ports.



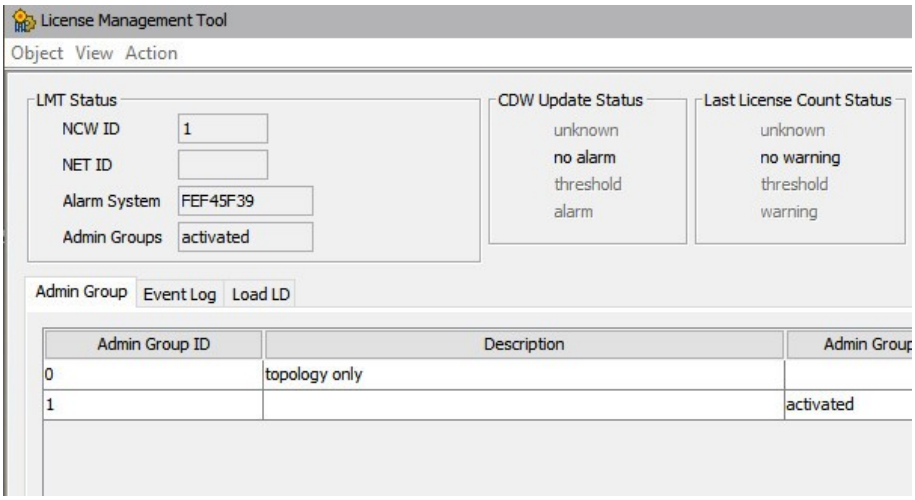

**1)** When step 3 is finished, start the LMT and select "Action ->Reload data from CLA" in order to load the actual information about the purchased port numbers from the CLA.



**2)** If no warning/alarm (e.g. number of purchased licenses is lower than the number of used licenses) is displayed, you can install the codeword on the switch via the LMT "Action->Update codeword".

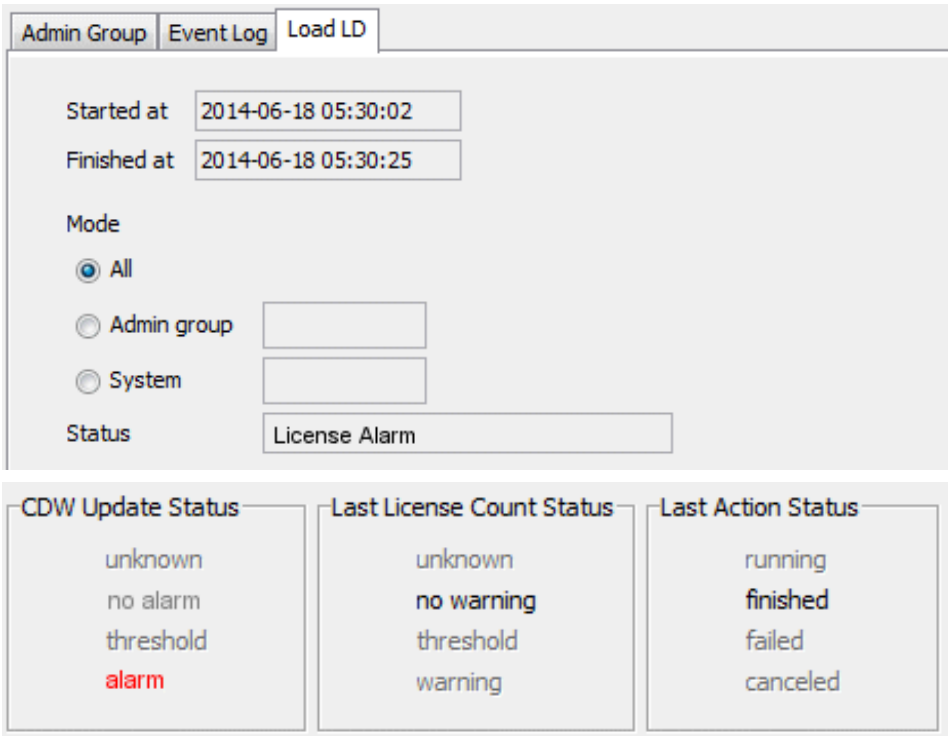



**3)** If everything is ok, the Status in the Load LD tab sheet is set into the "CDW updated" state.

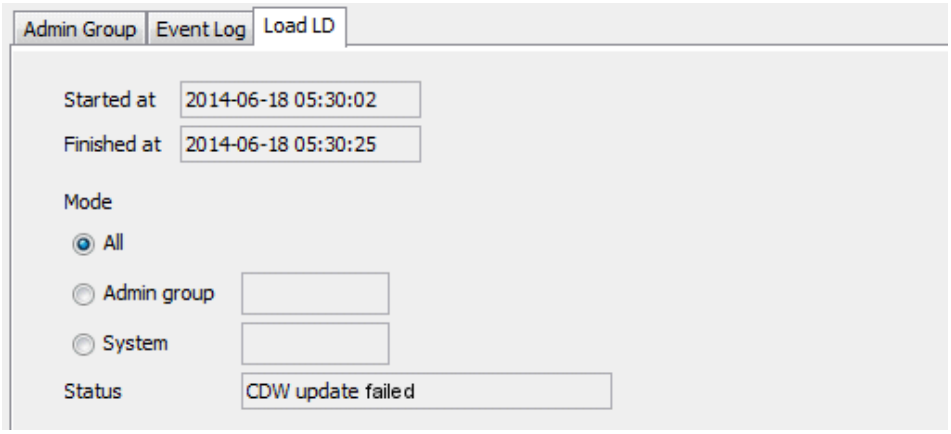



**4)** This means that the code word of Type 1 is installed on the RMX and you can administer the OpenScape 4000/HiPath 4000. The statuses of the CDW Update Status and Last License Count Status fields stay in state "No alarm" and "No warning" respectively.

If the switch rejects the code word because it uses more ports than are included in the code word generated from the license information taken from the CLA, the Status will be set to "License Alarm" in the Load LD tab sheet and the CDW Update Status will be set to "Alarm".




If the codeword should be updated but is not for any other reason (e.g. problems with RMX connectivity etc.), the Status will be set to "CDW update failed" in the Load LD tab sheet and the reason for the error will be logged in the Event Log tab sheet. The CDW Update Status will be set to "Alarm".




## 1.1.3 Using OpenScape 4000/HiPath 4000 Manager's LMT Without an Installed NCW

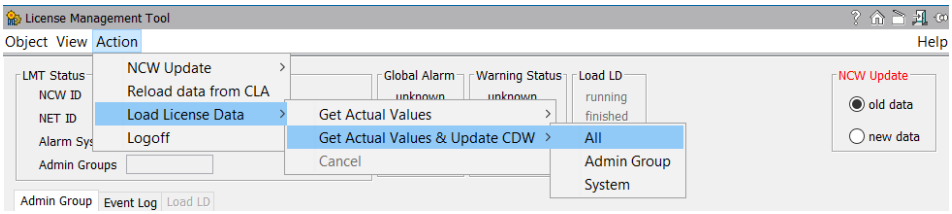
In this case, the LMT has no installed NCW (Network Code Word) for the administration of the codewords for V5 and older HiPath 4000 systems (the LMT of this Manager is used only for administration of the codewords for OpenScape 4000 V7/HiPath 4000 V6 systems).

On the CLA is uploaded Network Customer License File (NCLF), this NCLF contains the same information like it is in the NCW, except its format is adapted for usage on the CLA and the System Numbers of the systems are provided instead of the HW-IDs.

A Manager without an installed NCW can only update code words on the OpenScape 4000/HiPath 4000 systems. This update behaves based on the systems configured on the Manager (via System Management), on the content of the license information retrieved from the CLA and on the information about the used ports retrieved from the systems.

The workflow on this use case from the customer point of view is following:

1) Install the NCLF key generated by the CLS at the CLA.
2) Configure the connection into the CLA via the Manager's LicM GUI (only if the CLA is located on a different machine).
3) Use the Manager's GUI to load the license data and update the code words on the systems.




1) When step 3 is completed, you can see the status of the admin groups and system's code words (similar to V5 after the confirmation of the NCW and loading the license data with "Codeword update").

Basically this use case is similar to the procedure used in the previous version V5, except that the CLA license has to be installed and the connection to the CLA has to be configured via Licence Management (LicM) before using the LMT GUI.

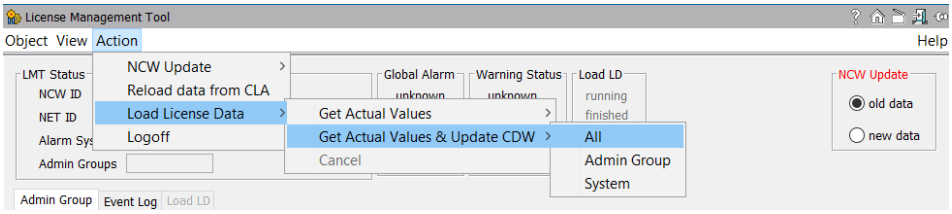
## 1.1.4 Using OpenScape 4000/HiPath 4000 Manager's LMT With an Installed NCW

In this case, the LMT has an installed NCW for administration of the codewords for V5 and older HiPath 4000 systems and CLA based licenses for OpenScape 4000 V7/HiPath 4000 v6 systems.

Use this scenario if you want to manage the code words on the OpenScape 4000 V7, HiPath 4000 V6, HiPath 4000 V5, HiPath 4000 V4, etc. switches alltogether by one Manager.

The workflow in this use case from the user point of view is as follows:

1) Install the NCW into the LMT - same as in V5 (Transfer NCW to server, Read NCW, Confirm New NCW)
2) Install the NCLF key into the CLA via CLM.
3) Configure the connection into the CLA via the Licence Management (LicM) GUI -this step is necessary only if the CLA is located on a different machine than the Manager.
4) After these steps you can update the code words manually from the GUI (codewords on the switches will be updated immediately) or wait until the next lmttask run (code words on the switches are usually updated the next day at 5:30 am).




When step 4 is completed, finished customer can see the result in the LMT GUI like in the V5 with the OpenScape 4000/HiPath 4000 specific data like it is in points 2.,3.,4. in chapter GUI Changes.

When step 4is completed, you can see the result in the LMT GUI as in V5 with the OpenScape 4000/HiPath 4000 specific data.

## 1.2 Prerequisites

In this section you will find information on the following topics:



### 1.2.1 Administered Licenses

LMT administers the following types of licenses:

- System software license packages which exist many times for each system:
- – per b-channel
  – per analog port
  – per workstation
- System software license packages which are counted per system (i.e. exists only once per system).

### 1.2.2 System Versions

LMT supports the following system (switch) versions:

| System version | Market | Marketing concept | Checks |
|---|---|---|---|
| HiPath 4000 V1.0, V2.0, V3.0, V4, and V5 HiPath 4000 V6.0 OpenScape 4000 V7 and higher | US & IM | PFS | License check & topology information |

- The LMT management area can only contain OpenScape 4000/HiPath 4000 systems for license management in the OpenScape 4000 Manager

- The systems that belong to the LMT management area are set in the network code word and network license file key. The new network code word only recognizes licenses that are based on the NMS or PFS.
- An OpenScape 4000/HiPath 4000 system (with NMS or PFS) supports both standalone system code words and LMT system code words.
- For OpenScape 4000/HiPath 4000 systems outside the LMT management area LMT displays the current values as information (topology group). The system versions aren't checked any longer.

### 1.2.3 OpenScape 4000 Manager Prerequisites

- Network-wide software license management is only possible with the OpenScape 4000 Manager application, LMT.
- The new marketing structure (NMS or PFS) is a prerequisite for systems in the LMT management area.
- If there are several OpenScape 4000 Manager systems in a network, every OpenScape 4000 Manager performs license management for its subnetwork, i.e. the customer network is divided into several subnetworks from a license perspective.

### 1.2.4 LMT Management Area

License management in OpenScape 4000 Manager supports several administration groups.

- An administration group can either contain bought or leased systems. Licenses cannot be transferred from a bought to a leased system or vice versa. In the NCW/NCLF is defined which system is assigned to which administration group.
- Additional systems in the network whose licenses are not to be checked by LMT are automatically assigned to the topology group.

## 1.3 Functionality

- Levels for Data Display on page 22
- Application Area on page 22
- Client/Server Architecture on page 23
- License Management with OpenScape 4000 Manager on page 24

### 1.3.1 Levels for Data Display

LMT provides three levels for displaying data:

- LMT start page with overview about current LMT status including administration group overview (see LMT Start Page.
- **LMT Admin Group Data** window with detailed information about selected administration groups (see LMT Admin Group Data Window.
- **LMT System Data** window with detailed information about selected system (see LMT System Data Window).

## 1.3.2 Application Area

LMT can be used in a OpenScape 4000 network on a OpenScape 4000 Manager.

**NOTICE:** LMT functionality is **not** required for single systems. For a list of supported systems see System Versions.

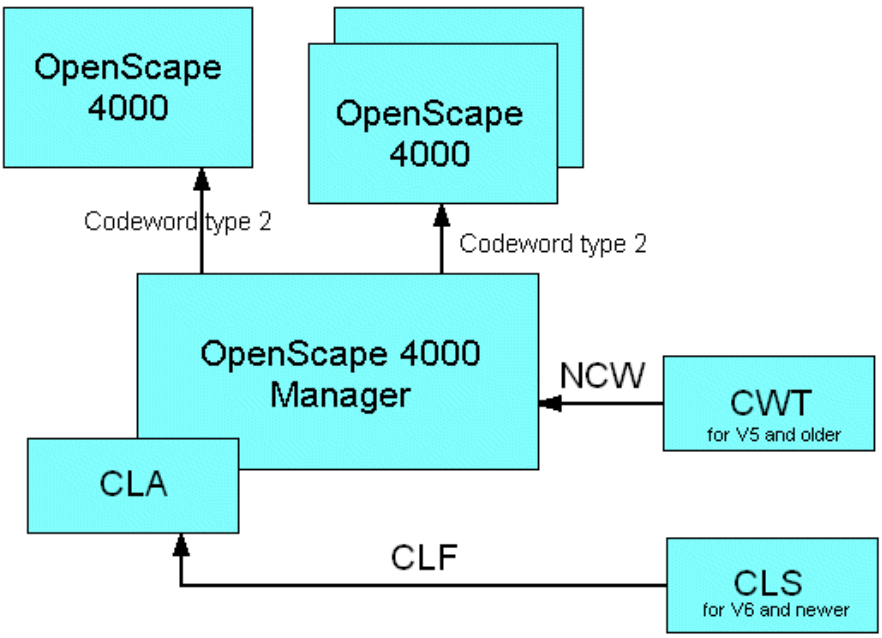
## 1.3.3 Client/Server Architecture

LMT is implemented in client/server architecture:

- Client: PC with web browser
- Using a PC with a web browser you can comfortably accomplish all user actions provided by LMT.
- Server: SuSE Linux Enterprise Server computer
- The server components of the LMT application are operating on the OpenScape 4000 Manager/Assistant. The complete functionality of LMT is available on the server irrespective of the existence of a client PC.

  The LMT client represents the user interface for the user and communicates with the LMT server which carries out the actual license management.

## 1.3.4 License Management with OpenScape 4000 Manager




- A network code word containing per administration group the total number of licenses for all HiPath 4000 system software license packages for the entire LMT management area is generated in the CWT.

- A Network customer License File containing per administration group number of licenses for all OpenScape4000 software license packages for entire LMT management area is generated in the CLS.
- This network code word and customer license file are read into the OpenScape 4000 Manager and are used as the basis for license management.
- License violation checks for the LMT management area are performed exclusively in OpenScape 4000 Manager (license violation checks per standalone system are no longer performed).
- A code word generated by the LMT sets all license counters to the maximum value, but contains an expiry date (30 days). The validity of the expiry date instead of license violation is checked for a code word generated by LMT in the systems.
- An advisory message (error message) is generated in the event of license violation. This error message informs you that you must either order additional licenses within 30 days or reduce the number of licenses in the LMT management area.
- The license management function takes effect with the installation of a valid NCW or NCLF and cannot be deactivated (for information on deactivation, see Deactivating License Management in OpenScape 4000 Manager on page 33).

### 1.3.4.1 Multiple Product Licensing

Multiple Product Licensing is a functionality of CLS which enables feature sharing between two products or two versions of the same product. This functionality is enabled for OpenScape 4000 V8.

However, for some network scenarios of the product, like upgrade scenarios, which utilizes the OpenScape 4000 Manager V8 as the network's Central License Agent, OpenScape 4000 V8 system may not be available.

In order to enable Multiple Product Licensing for those scenarios, CLS will generate an empty OpenScape 4000 V8 Network Customer License File (NCLF) which is based on the V6 versions of the systems in the network, if and only if it does not detect an OpenScape 4000 V8 system in its own network which is identified by the Locking Id of the OpenScape 4000 Manager V8 system.

This empty Network Customer License File (NCLF) which will enable Multiple Product Licensing, will be delivered with the OpenScape 4000 Manager V8 system. If any change in the setup of HiPath 4000 V6 systems in the network occurs, and still there is no available OpenScape 4000 V8 in the network setup, OpenScape 4000 Manager V8 system's license file must be regenerated or refreshed. If any OpenScape 4000 V8 is enabled in the network, then the new license of that system must be used.

## 1.4 Code Words

In this section you will find information on the following code words:

## 1.4.1 The Network Code Word (NCW) and Network Customer License File (NCLF)

License management in the OpenScape 4000 Manager requires the generation of a new code word (NCW) in the code word tool (CWT) for admistration HiPath 4000 V5 and older. For administration OpenScape 4000 V7/HiPath 4000 V6 systems it requires the generation of the Network customer license file (NCLF) in the Central License Server.

**The NCW or NCLF contains the following information:**

- Version counter for the new code word
- A new code word is only accepted by the LMT if the version counter read in is greater than or equal to the currently valid code word. This guarantees, for example, that following a license reduction, the previously valid network code word can no longer be read in.
- A globally unique OpenScape 4000 Manager ID (corresponds to the network ID of the OpenScape network)
- Transferred when the network code word is entered in OpenScape 4000 Manager for the first time. All other network code words are only accepted by the LMT if the network ID matches.
- Definition of the LMT management area
- Contains the code 1 and code 2 pairs of all HiPath 4000 systems to be checked by LMT as regards licenses, contains System Numbers for OpenScape 4000 /V7HiPath 4000 V6 systems to be checked by LMT as regards licenses. A network subarea in which LMT performs license management is set. Multiple administration groups are possible.
- HW ID of the "main system" (alarm system) in the LMT management area (used only in case of the licensing HiPath V5 systems).
- Important for the ordering purposes. The network code word is generated for this system and is used by LMT for alarm generation in the case of license violation.
- Total number of licenses bought per administration group (per system software license package)
- Permits the liberal use of the bought licenses in the LMT management area.

## 1.4.2 LMT System Code Words

After the OpenScape 4000 Manager takes over license management, the code words for the individual systems in the LMT management area are only generated by the OpenScape 4000 Manager and regularly transmitted (1 x day) to the individual systems (LMT system code words).

LMT system code words are recognised by the system and can be distinguished from standalone system code words.

**Information contained in the LMT system code word**

- Version counter or creation date of the code word (depending on the system version)
- Expiry date (validity expires after 30 days)
- Globally unique network ID, as contained in the network code word.

- The network ID is incorporated in the LMT system code words generated by LMT and clearly indicates the OpenScape 4000 Manager/Assistant used to generate an LMT system code word. The network ID thus prevents the misuse of LMT system code words.
- "unlimited CW" flag or "HDMS code word" flag (depending on the version of the system): sets the bought values of all system software license packages in the system to the relevant maximum value (i.e. not to the bought values).
- The standalone systems thus check against the maximum number of licenses possible. License violation checks are thus no longer in the systems themselves, but rather in OpenScape 4000 Manager.
- "Lawful Interception", "ACL connection of voice applications" and the "Octophone terminal permitted" flags: depending on whether the appropriate system software license packages were acquired for at least one system in the LMT management area and are thus included in the network code word.

**Validity check**

The validity of the LMT system code word is checked against the expiry date in the individual systems of the LMT management area. LMT system code words are automatically generated and distributed regularly to ensure that the validity of the LMT system code words does not expire.

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**NOTICE:** LMT system code words are not transmitted to systems that have a dongle (serial number = 0).

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## 1.5 Automatic License Check

The automatic check for all systems in the LMT management area is performed in OpenScape 4000 Manager.

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**NOTICE:** OpenScape/HiPath 4000 systems outside the LMT management area are not checked by LMT with regard to licenses.

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**See also**

- License Check Algorithm on page 29
- License violation on page 30
- Unavailable Systems on page 31
- LMT TINFO Data on page 103

## 1.5.1 License Check Algorithm

- "Operating software" system software license package
- – The bought values and the used values are checked separately for HiPath 4000 V1.0, V2.0, V3.0, V4.0, V5.0, V6.0, and OpenScape 4000 V7, V8, V10 and V11.
  – If the used values for a certain SW version (e.g. E V1.0) are greater than the bought values for this version, the difference can be compensated for with any extra bought values for a higher SW version (e.g. E V2.0) (no license alarm).

  - In contrast, compensation is not possible with any extra bought values for a lower SW version (license alarm).
- Other system software license packages
- – LMT adds up the b-channel/analog port/workstation-specific and system-specific licenses for all systems checked in the network for licenses (regardless of the version).
  - For more information please see Counting the Port Licenses in connection with OpenScape 4000 Manager Licenses on page 109.
- No checks are carried for the system software license packages "Lawful Interception"", "ACL connection of voice applications" and "Octophone terminal permitted" because no used values are supplied by the systems. If there are licenses in the NCW the corresponding flag in the CDW, however, is set.
- The total number of licenses for "ATM Networking V1.0", "ATM Networking V2.0", "ATM Interworking V1.0", "ATM Networking Plus" in the NCW are checked against the total number of used values for this package on the systems.
- The used values for "Art/Networking Comfort" are ignored.

## 1.5.2 License violation

First of all, license thresholds are automatically checked in OpenScape 4000 Manager/Assistant, i.e. the "used counters" read in from all systems in an administration group are added up and compared with the bought license values contained in the network code word.

As soon as the used counter in a system software license package exceeds the number of bought licenses, the LMT generates a license alarm (type: used value > bought value) for the alarm system and an error message in OpenScape 4000 Manager/Assistant.

No more new LMT system code words are supplied to the systems in this administration group. The code words in these systems are thus invalid after 30 days.

The administration restriction for license-related administration then takes effect in the systems in this administration group.

## 1.5.3 Unavailable Systems

If the OpenScape 4000 Manager is temporarily unable to reach a system in the LMT management area, then the last user values entered for this system are used for checking license violation.

No more LMT system code words can be transmitted if a system is no longer available for OpenScape 4000 Manager. The validity of the LMT system code word expires after 30 days and a license alarm (type: "expiry date reached") is triggered in the system.

No new code word can be transmitted if a system is removed from the network, thereby deleting a connection to OpenScape 4000 Manager. The validity of your code word expires after 30 days and a license alarm ("expiry date reached") is activated in the system.

**1)**

**NOTICE:** Systems which are unavailable when the LMT is started up for the first time cannot be assigned their HW ID. All unavailable systems are therefore assigned to the topology group. LMT performs license checks for the systems that are available.

## 1.6 Deactivating Administration Restriction

The OpenScape 4000 Manager routinely enters used values for systems and checks that license alarms can be reset even after the expiry of the 30-day-period and after activation of the administration restriction in the individual systems.

The administration restriction can be deactivated in the following ways:

- Buy enough additional licenses and enter the increased network code word (used <= bought) - or a network code word with an adapted network plan into the OpenScape 4000 Manager. Routinely check alarm resetting: as usual the LMT performs LMT system code word distribution.
- Reduce the used values for at least one system from the administration group. If the used values are matching the license values purchased with the network code word, LMT performs LMT system code word distribution as usual.
- Downgrade systems or remove systems from the network so that the network corresponds to the network plan. Routinely check alarm resetting: as usual the LMT performs LMT system code word distribution.

## 1.7 Deactivating License Management in OpenScape 4000 Manager

License monitoring in the OpenScape 4000 Manager and standalone system code word checking can only be deactivated if a network code word with number of all licenses = 0 and total number of systems in the network plan = 0 has been set up by CWT and entered in the OpenScape 4000 Manager.

From this point onwards, no LMT system code words are distributed, no alarms are generated and alarm resetting is not checked.

The standalone systems (from the LMT and CWT perspective) are to be supplied with standalone system code words set by CWT within 30 days. After the 30-day period has elapsed, the administration restriction for license-relevant AMOs is activated (locally in the system).

The cronjob for periodic interrogation of current information remains active, to keep the internal data up-to-date.

**NOTICE:** As soon as LMT is operational, it is no longer possible to deinstall LMT on the OpenScape 4000 Manager and to load the (old) single system code words which already exist. Both NCW and the single system code words of all systems contained in the NCW have to be requested again via the CWT

# 2 License Management

The administration activities for system license management are performed at the client computer via a graphical user interface. Only traces are output at the server.

License check via OpenScape 4000 Manager becomes effective when the OpenScape 4000 License Management Tool (LMT) is installed and a NCW is transmitted, read-in and confirmed. These can not be deactivated.

The OpenScape 4000 LMT consists of the following windows:

- **LMT start page** (see LMT Start Page): Overview about current OpenScape 4000 LMT status including administration group overview.
- **LMT Admin Group Data** window (see LMT Admin Group Data Window): Provides detailed information about selected administration group.
- **LMT System Data** window (see LMT System Data Window): Provides detailed information about selected system.

---

**NOTICE:** For a list of supported systems see System Versions, for addresses and contacts for ordering see Addresses and Contacts for Ordering.

---

**See also**

- Step by Step on page 65
- User-defined Settings for License Management Tool on page 88
- Error Handling on page 91
- Expert mode on page 102

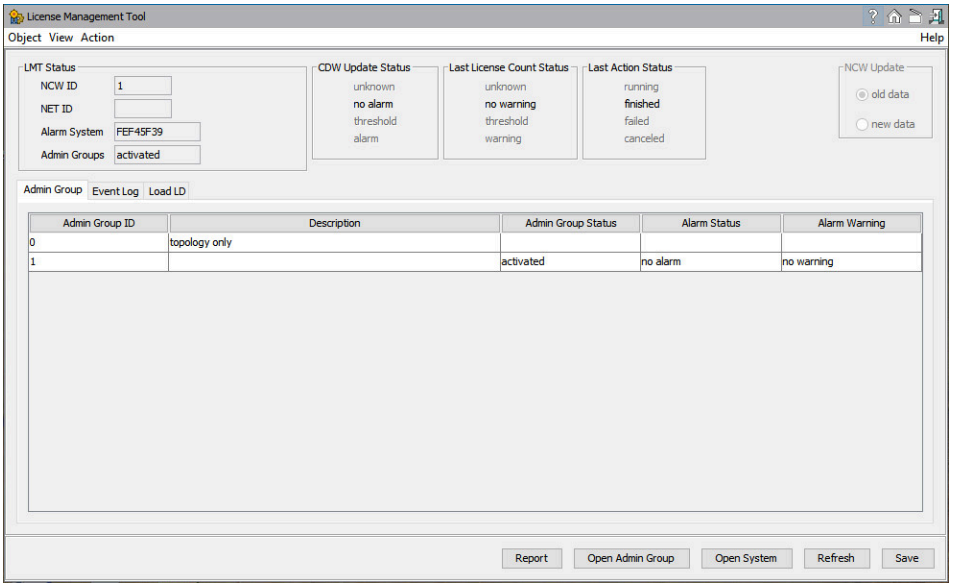
## 2.1 Starting License Management

After successful installation, the OpenScape 4000 LMT application can be started at the workstation. Proceed as follows to start the OpenScape 4000 License Management Tool:

1) Start the OpenScape 4000 Manager start page.
2) Click the **Access Management** button in the OpenScape 4000 Manager start page. The application tree appears.
3) Select the OpenScape 4000 License Management Tool folder in the application tree. The OpenScape 4000 LMT home page appears.

## 2.2 LMT Start Page

The LMT start page displays global OpenScape 4000 LMT data. All LMT tasks are started and controlled in this start page and it is the entry point to all other LMT data.




- Toolbar
- Command Buttons
- Menu (see LMT Start Page Menu)
- Step by Step (see Step by Step)

### See Also

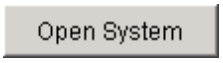
- Example of a Report on page 108.

### Toolbar

The toolbar contains:

| | | |
|---|---|---|
|  | **Help** Button | Link to context help |
|  | **Home** Button | Link to the LMT start page |
|  | **Start** Button | Link to the OpenScape 4000 Manager start page |
|  | **Logoff** | Logs you off, closing the current session for all associated browser windows, and brings you back to the Logon screen. |
|  | **Sticky Page** Button | Changes the sticky mode. ON: a new window will be started in a new browser window OFF (default setting): a new window will be started in the browser window currently opened |

**Command Buttons**

| | |
|---|---|
|  | **Refresh** button Updates information on this page (the LMT start page header and the **Load LD** tab are updated periodically). Not saved read/write information is restored to current values. |
|  | **Save** Button Stores read/write information (changes are not propagated to other clients displaying the data).<br>• **Admin Group** tab is active: user defined admin group descriptions are stored. |
|  | **Open Admin Group** button Opens **LMT Admin Group Data** window. If no administration group is selected the tabs are empty until a selection was made via **Admin Group Selection** combo box. |
|  | **Open System** button Opens **LMT System Data** window. The TABs are empty until a selection was made via **Admin Group Selection** combo box. |
|  | **Report** button Opens the **Report** window. This window displays a report containing all license data of the network relevant for LMT. The report shows the content of the `"/opt/ncc/lmt/data/.report"` file on the Manager. You may print the report via the print function of the browser. |

## 2.2.1 LMT Start Page Menu

- **Object**
- – **Save** Enabled when user has modified admin group descriptions in the **Admin Groups** tab. It saves modifications to server.
- **View**
- – **LaunchPad** Displays **OpenScape 4000 Manager start page**
  – **Admin Group Data** Displays **LMT Admin Group Data** window. If no admin group is selected the lines will be empty and the user has to use the combo box to select an administration group.
  – **System Data** Displays the **LMT System Data** window. The lines will be empty and the user has to use the combo box to select a system.
  – **Refresh** Refreshes the data displayed on the page. The original data is restored if no changes were previously saved. Data in this window is regularly refreshed.
- **Action**
- – **NCW Update** Enabled for the client which started the 'Update NCW' task or when neither 'Load License Data' nor 'Update NCW' tasks are running.
  – – **Transfer to Server** Transfers a new NCW to the server. A file selection box is presented.
  – **Read NCW** Initiates the 'Update NCW' task on the server. New data can be displayed. A flag will be shown in each window to indicate that new data are available but not yet confirmed.
  – **Confirm New NCW** Confirms data from the new NCW. It is enabled only when 'Update NCW' task is running. This will refresh the data

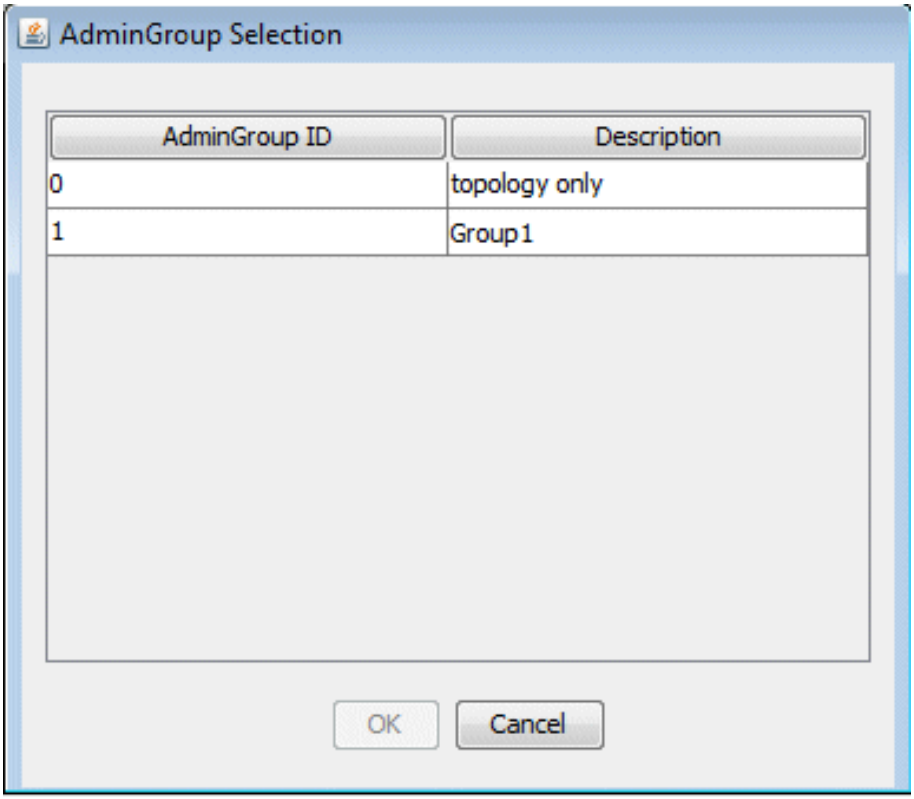
so that the updated data will be shown. If another user has already finished the task and the window has not been refreshed a message will be presented.

- **Refuse New NCW** Refuses data from the new NCW. It is enabled only when 'Update NCW' task is running. This will refresh the data so that the original data will be shown. If another user has already finished the task and the window has not been refreshed a message will be presented.

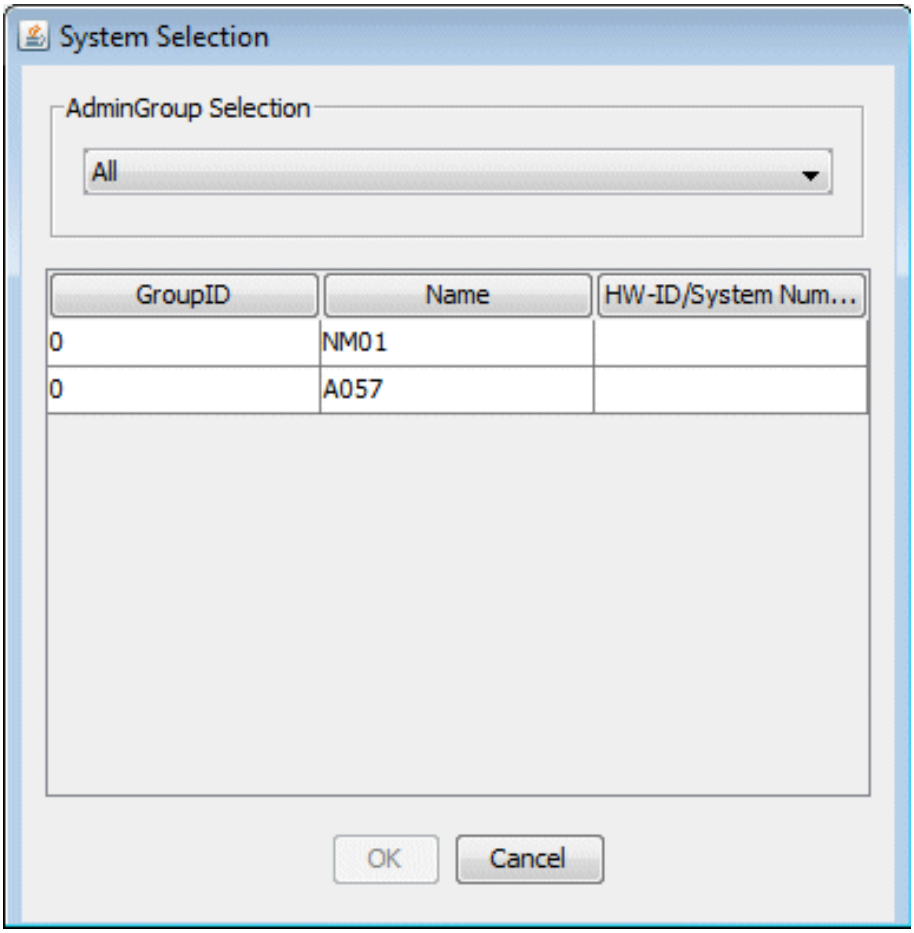
- **Load License Data** Enabled when no 'NCW Update' task is running. It starts the task for the selected network part.
- – **Get Actual Values** If this action is chosen, information will be displayed only. This will cause no license alarm and no CDW update on systems.

- **All**

- 1) **Admin Group** An **Admin Group Selection** list is displayed. When an unresolved group is chosen, only those systems are updated, which are already resolved.




1) **System** The target system can be selected in the **System Selection** list.




1) **Get Actual Values & Update CDW** System CDW and alarm status will be updated.
2) – **All** This action corresponds to the scheduled start of license check.
   – **Admin Group** An **Admin Group Selection** List is displayed. When an unresolved group is chosen only those systems are updated which are already resolved.
   – **System** The target system can be selected in the **System Selection** list.
   – **Cancel** LMT will no longer wait for system responses. The check of licenses will be finished using the last received responses. TINFO AMOs (see LMT TINFO Data) will not be sent to the systems. This menu option is enabled when a âLoad License Data' task is running.

– **Logoff** The current user is logged off and the current session will be closed for all associated browser windows. Afterwards the user is brought back to the Logon screen.

- **Help**
- **Context Help**
- **Help Topics**
- **About**

## 2.2.2 LMT Start Page Header

The LMT Header contains the following data:


- **NCW ID** (read only) Version counter of the currently used NCW
- **Net ID** (read only) Unique id for the whole OpenScape 4000 Manager stored in the NCW
- **Alarm System** (read only) Name of a system or its HW ID if the system is not resolved yet where notifications about alarm changes are sent
- **Admin Groups** (read only) Status of administration groups
- – **not resolved:** Not all systems are known to OpenScape 4000 LMT (licenses are checked with available data and CDWs can be updated if there is no alarm in this group)
  – **resolved:** System names are known for all managed systems
  – **activated:** All managed systems received CDW updated by OpenScape 4000 LMT
- **Global Alarm** (read only): Contains information about current alarm status which is generated by a scheduled or manual start of 'Load License Data' with CDW Update.
- – **unknown:** Information about all administration groups is currently not available
  – **no alarm:** All administration groups are in alarm-free status
  – **threshold:** One or more administration groups use more licenses than the specified threshold
  – **alarm:** One or more administration groups use more licenses than specified in NCW
- **Global Warning** (read only) Contains information about the alarm status which was generated by manual start of license check without CDW Update. This is used to check licenses after modifications of the net.
- – **unknown**: License check would result to "unknown" status
  – **no warning**: License check would result to "no alarm" status
  – **threshold**: License check would results to "threshold" status
  – **warning**: License check would result to "alarm" status
- **Load LD** (read only) Result of the last or running 'Loading License Data' task
- – **running:** Task is currently running
  – **finished:** Finished without any fatal error. Minor problems are reported in the **Errors** tab.
  – **failed**: Task failed due to a fatal error. Detailed information is in the **Errors** tab.
  – **canceled**: Task was canceled
- **NCW Update** (read only) All clients see the information that 'NCW Update' task is running at the right-upper corner of the header. They can toggle between old and new NCW environment using the radio buttons.
- – **old data**
  – **new data**

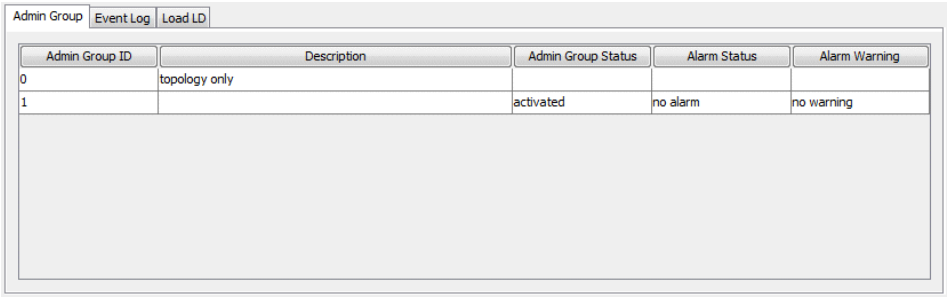
---

**NOTICE:** The data have to be confirmed or refused by any client. This action refreshes the window. If the user does not response within the defined period of time (default: 1 hour) the task is cancelled and a message will be displayed. The whole task has to be started again to update the NCW.

The **NCW Update** group is not active when the task is not running.

## 2.2.3 Admin Group Tabsheet

The **Admin Groups** tab contains a list with overview about all configured administration groups.



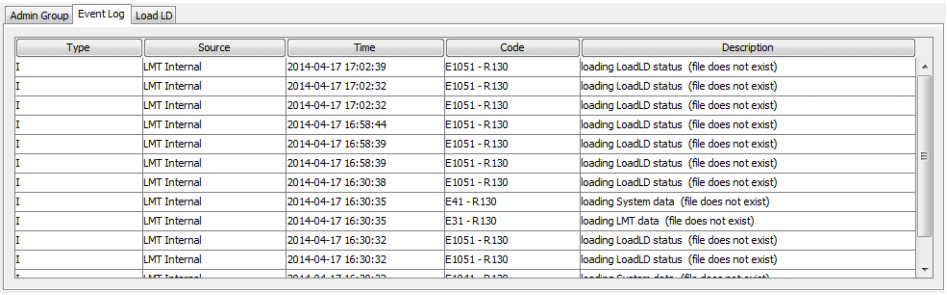

The following information is provided:

- **Admin Group ID** (read only) Unique number to identify an administration group
- **Description** (read/write) Name of the administration group specified by a user
- **Admin Group Status** (read only)
- – **not resolved:** not all systems of the admin group are known to OpenScape 4000 LMT (licenses are checked with available data and CDWs can be updated if there is no alarm in this group)
  – **resolved:** System names are known for all systems in the administration group.
  – **activated:** All systems in the administration group received OpenScape 4000 LMT CDW.
- **Alarm Status** (read only) Contains information about current alarm status
- – **unknown:** Information currently not available (license check is not executed in this administration group)
  – **no alarm:** Administration group is in alarm-free status
  – **threshold:** Administration group uses more licenses than the specified threshold
  – **alarm:** Administration group uses more licenses than specified in NCW
- **Alarm Warning** (read only) Contains information about the alarm status which is generated by manual start of license check without CDW Update. This is used to check licenses after network modifications.
- – **unknown:** Information currently not available (status after scheduled or manual start of 'Load License Data' with CDW Update)
  – **no warning:** License check would result to "**no alarm**" status
  – **threshold:** License check would result to "**threshold**" status
  – **warning:** License check would result to "**alarm**" status

  The list allows to select an administration group and open another window with all available administration group data.

## 2.2.4 Event Log Tabsheet

The **Event Log**tab contains a list of OpenScape 4000 LMT events and errors.




**NOTICE:** The list is limited. Entries older than 30 days will be deleted!

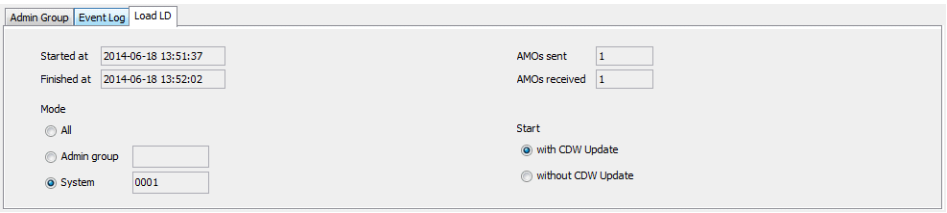
The following data for each event is provided (read only):

- **Type**
- – "**H**": Event is related to a system
  – "**G**": Event is related to an Admin Group
  – "**I**": Event is LMT internal
- **Source**
- – **<System/Group name>:** Event is related to this system/group
  – **LMT internal:** Event is not related to a system or group
- **Time** Time and date when the error/event occurred
- **Code** Code which specifies the event consisting of module number and error number. The error code consists of 2 numbers:
- – "**E**" numbers correspond to the action where the event occurred. See also Error Codes E..... on page 93
  – "**R**" numbers give detailed information on the reason. See also Error Codes R..... on page 98
- **Description**: Language dependent event description.

**NOTICE:** On the client, "E" number descriptions and "R" number descriptions are displayed.

## 2.2.5 Load LD Tabsheet

The **Load LD** tab contains information about currently running or last 'Load License Data' task.



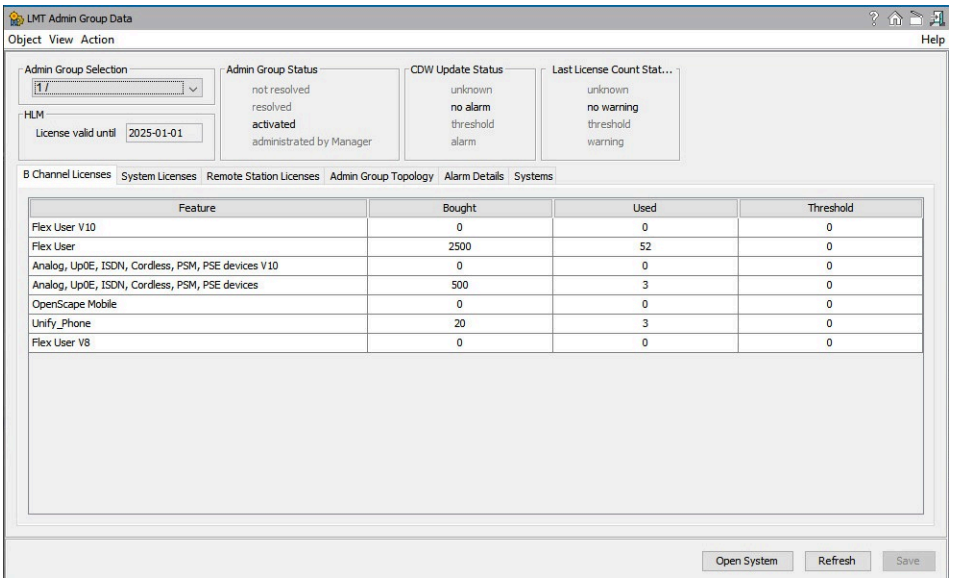

It contains the following information (read only):

- **Started at**: Time when running (or last) Load LD is started

- **Finished at**: Time when last "load LD" task is finished (empty when task is running)
- **AMOs sent**: Number of systems where AMO commands were sent to
- **AMOs received**: Number of already received responses
- **Mode**: Specifies for which part of the network and how the task was started
- – **All**: Whole network
  – **Admin Group** + Admin Group ID (or administration group description)
  – **System** + system name
- **Start**
- – **with CDW Update**: Scheduled or manual start with update of system code words
  – **without CDW Update**

## 2.3 LMT Admin Group Data Window

The **LMT Admin Group Data** window displays administration group data of the selected administration group.




**NOTICE:** If no administration group is selected the tabs are empty until a selection was made via 'Admin Group selection' combo box.

The sticky mode is preset to OFF and can be changed to ON, so new window can start either in the same or in a new browser window.

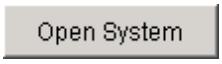
- Toolbar
- Command Buttons
- Menu (see LMT Admin Group Data Window Menu)
- Step-by-step instructions: Defining threshold values on page 69

### Toolbar

The toolbar contains:

| | | |
|---|---|---|
|  | **Help** Button | Link to context help |
|  | **Home** Button | Link to the LMT start page |
|  | **Start** Button | Link to the OpenScape 4000 Manager start page |
|  | **Logoff** | Logs you off, closing the current session for all associated browser windows, and brings you back to the Logon screen. |
|  | **Sticky Page** Button | Changes the sticky mode. ON: a new window will be started in a new browser window OFF (default setting): a new window will be started in the browser window currently opened |

**Command Buttons**

| | |
|---|---|
|   | **Refresh** Button Updates information on this page. Not saved read/write information is restored to current values. |
|   | **Save** Button Stores read/write information (changes are not propagated to other clients displaying the data).<br>• Modified thresholds are stored on the server. |
|   | **Open System** Button Opens **LMT System Data** window. The destinations in the tabs are empty until a system is selected via the combo box. |

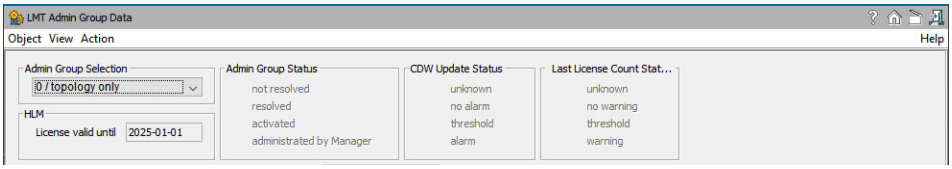
## 2.3.1 LMT Admin Group Data Window Menu

- **Object**
- – **Save** Enabled when user modifies thresholds in the **B Channel Licenses** or **Remote Station Licenses** tab. It saves modifications to the server.
- **View**
- – **LaunchPad** Displays **OpenScape 4000 Manager start page**
  – **Home**
  – **System Data** Displays **LMT System Data** window. If no system is selected the lines will be empty and the user has to use the combo box to select a system.
  – **Refresh** Refreshes data displayed on the page.
- **Action**

- – **Logoff** The current user is logged off and the current session will be closed for all associated browser windows. Afterwards the user is brought back to the Logon screen.
- **Help**
- **Context Help**
- **Help Topics**
- **About**

## 2.3.2 LMT Admin Group Data Window Header

The **LMT Admin Group Data** header contains following information:




- **Admin Group Selection** combo box Allows to select an administration group for displaying data.
- **Codeword valid until**: this date represents the common expiry date of code words of the administration groups. It results from the current date plus the LMT synchronization time stipulated in the network code word. If an error situation occured during the latest code word adjustment with single systems, the expiry date on these systems might diverge from the common expiry date. For details please refer to the System view (see LMT System Data Window on page 59).

---

**NOTICE:** At this point a notification message can show up containing the following text: "due to missing systems licenses are reduced to <xx> %". **Cause:** Since LMT operation has started one or more systems could not be accessed for a period of usually 30 days (variable in exceptional cases via the network code word). For LMT purposes it is assumed that the corresponding system(s) is/are operating with a single code word and therefore the licenses are not available for LMT. Since for LMT the number of licenses purchased for each system is not recognizable, the reduction takes place linearly (proportional) to the number of systems.

---

- **Admin Group Status** (read only)
- – **not resolved:** Not all systems of the admin group are known to OpenScape 4000 LMT (licenses are checked with available data and CDWs can be updated if there is no alarm in this group)
  – **resolved:** System names are known for all systems in the administration group
  – **activated:** All systems in the administration group received OpenScape 4000 LMT CDW
- **Alarm Status** (read only) Contains information about current alarm status
- – **unknown:** Information currently not available (license check was not executed in this administration group)
  – **no alarm:** Administration group is in alarm-free status

  - **threshold:** Administration group uses more licenses than the specified threshold
  - **alarm:** Administration group uses more licenses than specified in NCW. The license alarm is set for this administration group.
- **Alarm Warning** (read only) Contains information about the alarm status which was generated by manual start of license check without CDW Update. This is used to check licenses after network modifications.
- – **unknown:** Information currently not available
  - **no warning:** Licence check would result to **no alarm** status
  - **threshold:** License check would result to **threshold** status
  - **warning:** License check would result to **alarm** status
- **NCW Update** (read only) Information confirming that the 'NCW Update' task is being performed appears on all clients in the right-upper corner of the header. You can use the radio button to select the old or the new NCW environment
- – **old data**
  - **new data**

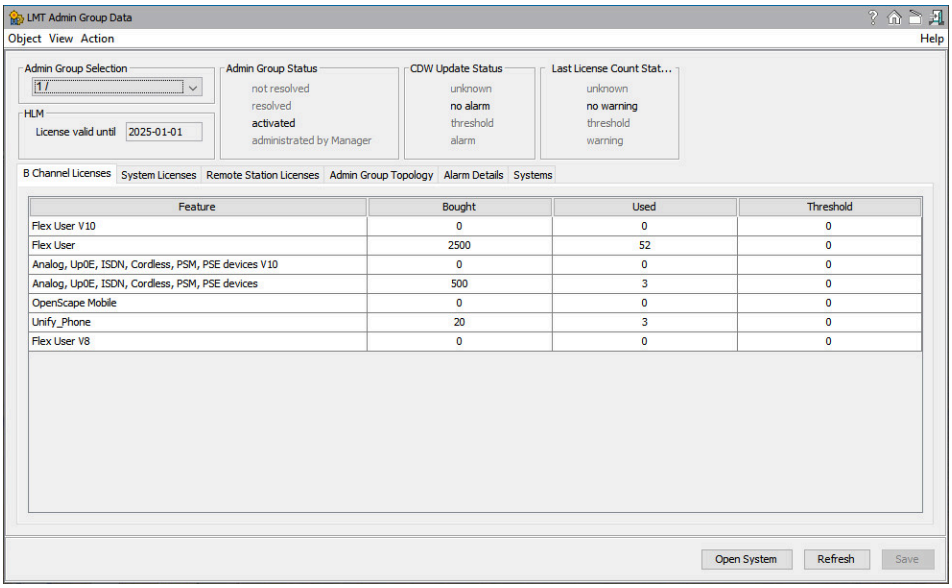
---

**NOTICE:** The data must be confirmed or rejected by a client in the LMT start page. This action refreshes the window. If the user does not respond within the defined period of time (default: 1 hour) the task is canceled and a message is displayed. The entire NCW update task must be restarted. The **NCW Update** group is not active when task is not running.

---

## 2.3.3 B Channel Licenses Tabsheet

The **B Channel Licenses**tab contains overview about licenses for features of the 'B Channels' type.

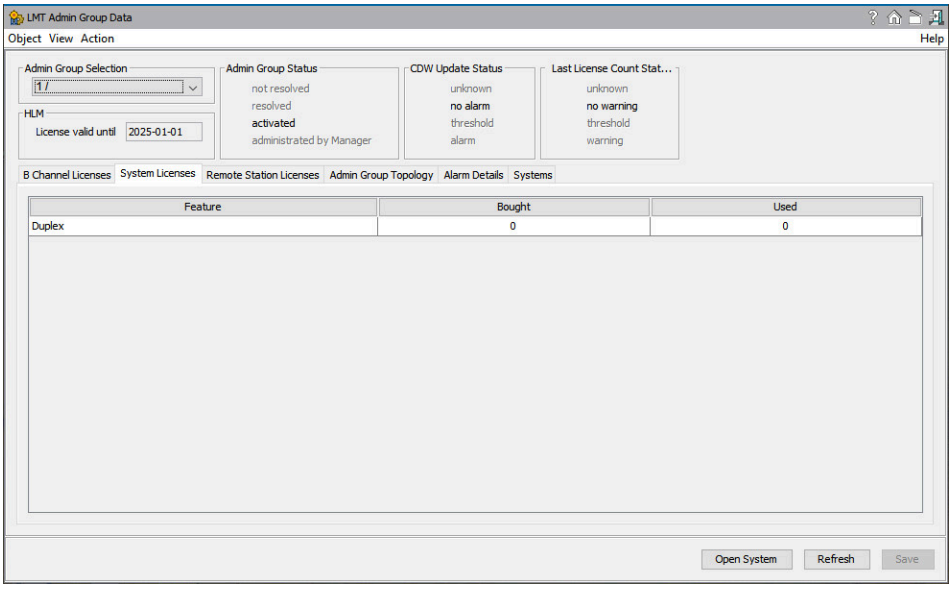



The tab is hidden when 'topology onlyâ group is selected as these data are not available for unmanaged systems. The following data are available for each feature:

- **Feature** (read only): Language dependent name of the feature
- **Bought** (read only): Number of bought licenses as it is stored in the NCW
- **Used** (read only): Sum of used licenses in current administration group
- **Threshold** (read/write): Minimal number of free licenses. When less licenses are available then alarm status of the administration group is set to **threshold**.

## 2.3.4 System Licenses Tabsheet

The **System Licenses**tab contains overview about licenses for features of the 'System' type.

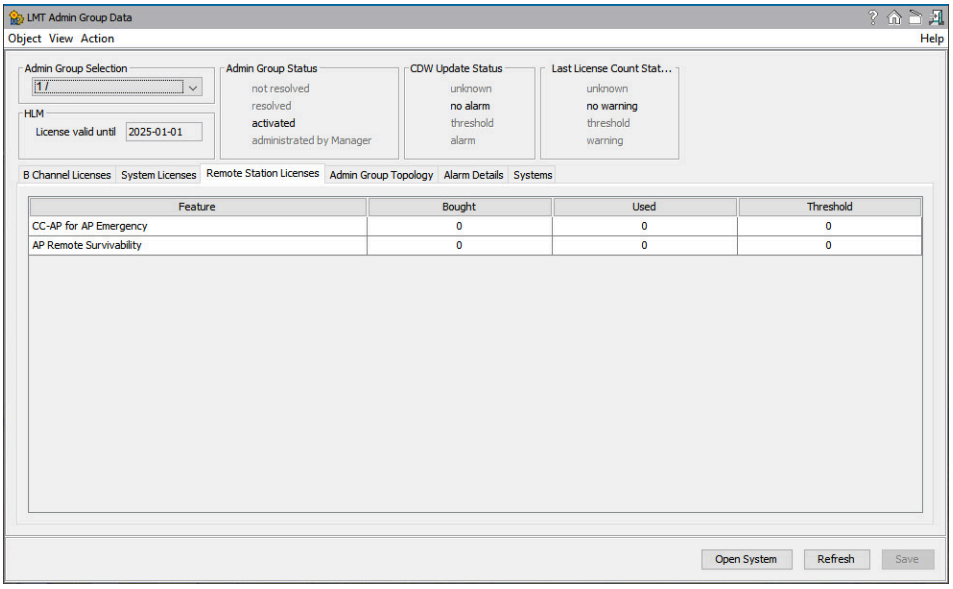



The tab is hidden when 'topology only' group is selected as these data are not available for unmanaged systems. The following data is available for each feature (read only):

- **Feature**: Language dependent name of the feature.
- **Bought**: Number of bought licenses as it is stored in the NCW (see page 66).
- **Used**: Sum of used licenses in current administration group.

## 2.3.5 Remote Station Licenses Tabsheet

The **Remote Station Licenses** tab contains overview about licenses for features of the 'Remote Station' type (see PFS documentation).

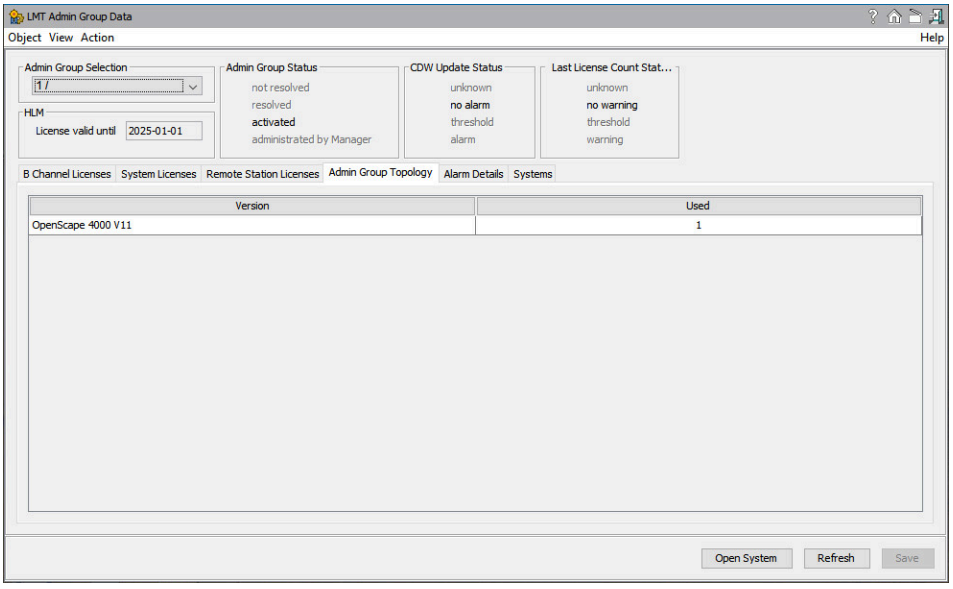



The tab is hidden when 'topology only' group is selected as these data are not available for unmanaged systems. The following data are available for each feature (read only):

- **Feature**: Language dependent name of the feature
- **Bought**: Number of bought licenses as it is stored in the NCW
- **Used**: Sum of used licenses in current administration group
- **Threshold** (read/write): Minimal number of free licenses. When less licenses are available then alarm status of the administration group is set to **threshold**,page 69.

## 2.3.6 Admin Group Topology Tabsheet

The **Admin Group Topology** tab contains overview about system versions in the administration group.

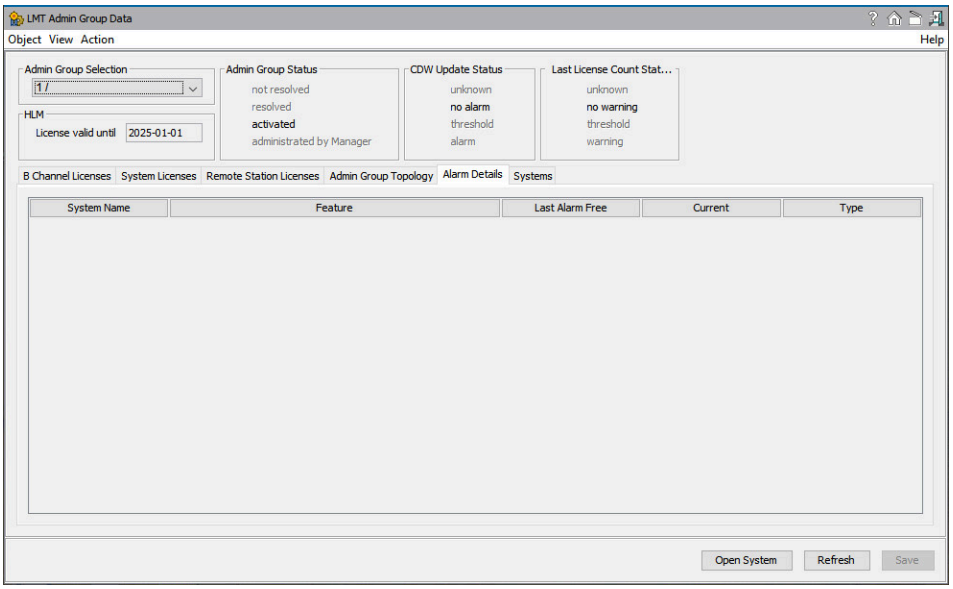



The following data are available for each entry (read only):

- **Version**: Used system version.
- **Used**: Number of systems with this version.

## 2.3.7 Alarm Details Tabsheet

The **Alarm Details** tab contains information about modifications of used licenses since last alarm-free status.

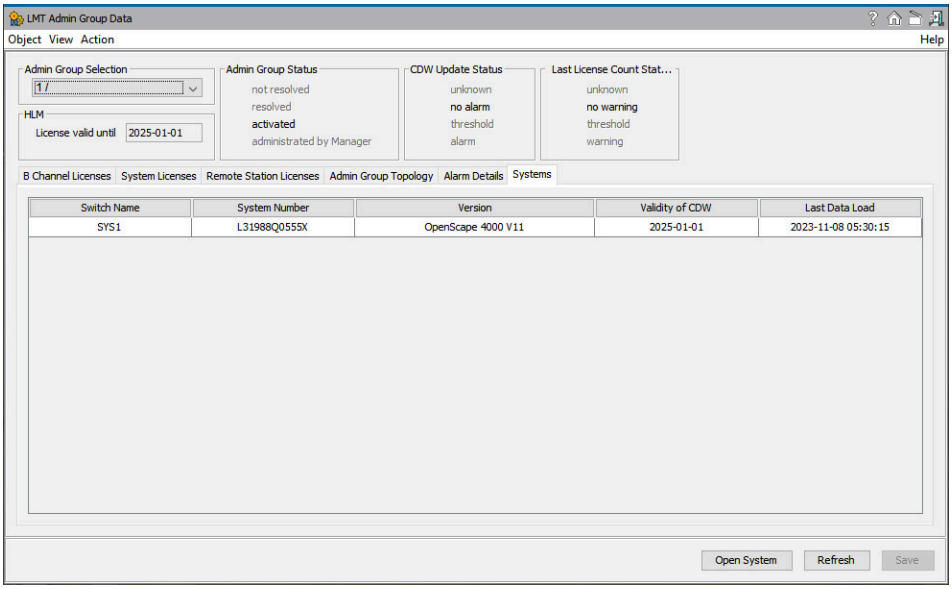



The tab is empty when no threshold and no alarm warning exists in the administration group. The following data are available for each entry (read only):

- **System Name**
- **Feature**: Language-dependent name of the feature which was modified since last alarm-free status.
- **Last Alarm Free**: Number of licenses used during last alarm-free status.
- **Current***:* Number of currently used licenses.
- **Type**:
- – **Alarm**: The corresponding feature uses more licenses than specified in NCW and alarm is set in the administration group.
  – **Warning**: The same as **Alarm** but after the manual start of license check without CDW Update only a warning is set.
  – **Threshold**: Less licenses than specified in threshold remain free in the administration group.

## 2.3.8 Systems Tabsheet

The **Systems**tab contains a list of all Systems which belong to the administration group.



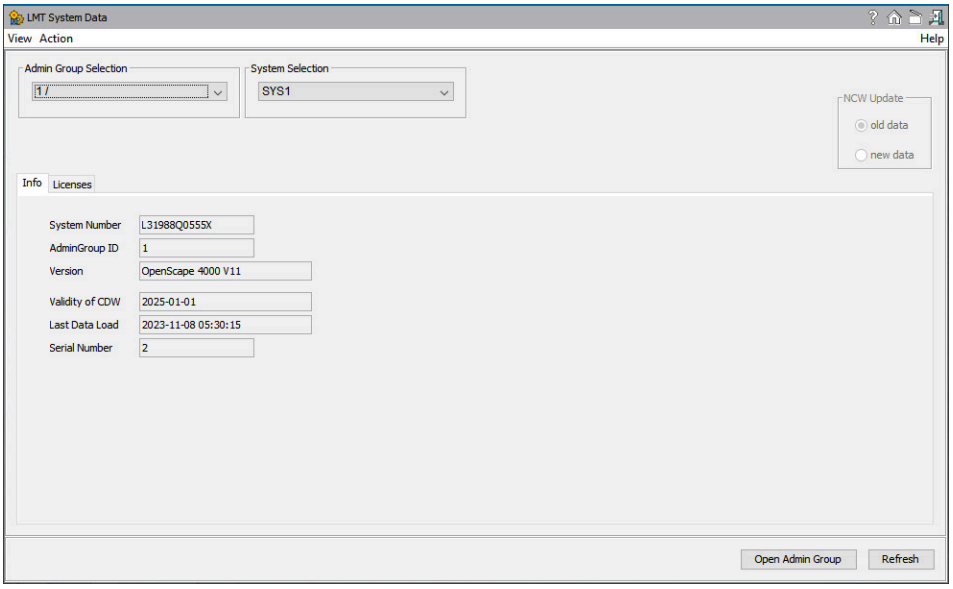

It contains the following information for each system (read only):

- **System Name**: If the system is not resolved yet, it is placed at the end of the list and its name is empty apart from in the case of topology group.
- **HW-ID**
- **Version**
- **Validity of CDW**:
- – Date when CDW will expire in case of LMT CDW
  – "stand alone" when the system does not contain LMT CDW
- **Service CDW**: Service dongle: when service dongle is used
- **Last Data Load:** Date of last successful data load

> **NOTICE:** The topology group is a special group. The content of the group is not defined in the NCW but is composed of all the systems which do not belong to any OpenScape 4000 LMT administration group. Until all LMT administration groups are resolved, this administration group temporarily contains also all unresolved systems.

## 2.4 LMT System Data Window

The **LMT System Data** window displays system data of the selected system.




If no system is selected the tabs are empty until a selection was made via **Admin Group Selection** and **System Selection** combo boxes.

- Toolbar
- Command Buttons

### Toolbar

The toolbar contains:

| | | |
|---|---|---|
|  | **Help** Button | Links to context help |
|  | **Home** Button | Links to the LMT start page |
|  | **Start** Button | Links to the OpenScape 4000 Manager start page |
|  | **Logoff** | Logs you off, closing the current session for all associated browser windows, and brings you back to the Logon screen. |
|  | **Sticky Page** Button | Changes the sticky mode. ON: a new window will be started in a new browser window OFF (default setting): a new window will be started in the browser window currently opened |

### Command Buttons

| | |
|---|---|
|  | **Refresh** Button Forces updating information on this page. |

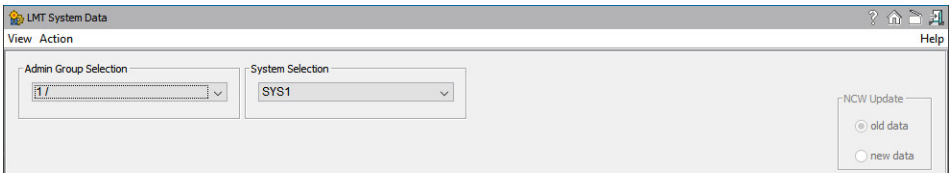
| | |
|---|---|
| Open Admin Group | **Open Admin Group** Button Opens **LMT Admin Group Data** window with data for the corresponding administration group. |

## 2.4.1 LMT System Data Window Menu

- **View**
- – **LaunchPad** Displays **OpenScape 4000 Manager start page**
- **Home**
- – **Admin Group Data** Displays **LMT Admin Group Data** window of the corresponding administration group.
  – **Refresh** Refreshes data displayed on the page. Data might have changed after NCW update or license data check (manually or scheduled).
- **Action**
- – **Logoff** The current user is logged off and the current session will be closed for all associated browser windows. Afterwards the user is brought back to the Logon screen.
- **Help**
- **Context Help**
- **Help Topics**
- **About**

## 2.4.2 LMT System Header

The **LMT System Data** header contains the following information:



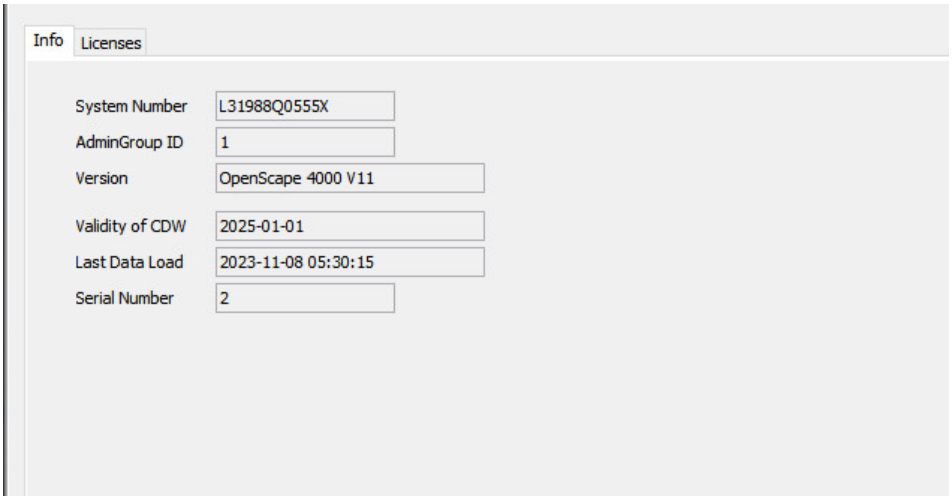

- **Admin Group Selection** Combo Box: Allows to select an administration group
- **System Selection** Combo Box: Allows to select a system for displaying data. The list will show all systems of the selected administration group.
- **NCW Update** (read only) Information confirming that the 'NCW Update' task is being performed appears on all clients in the right-upper corner of the header. You can use the radio button to select the old or the new NCW environment
- – **old data**
  – **new data**

**NOTICE:** The data must be confirmed or rejected by a client in the LMT start page. This action refreshes the window. If the user does not respond within the defined period of time (default: 1 hour) the task is canceled and a message is displayed. The entire NCW update task must be restarted.

The **NCW Update** group is not active when task is not running.

## 2.4.3 System Info Tabsheet

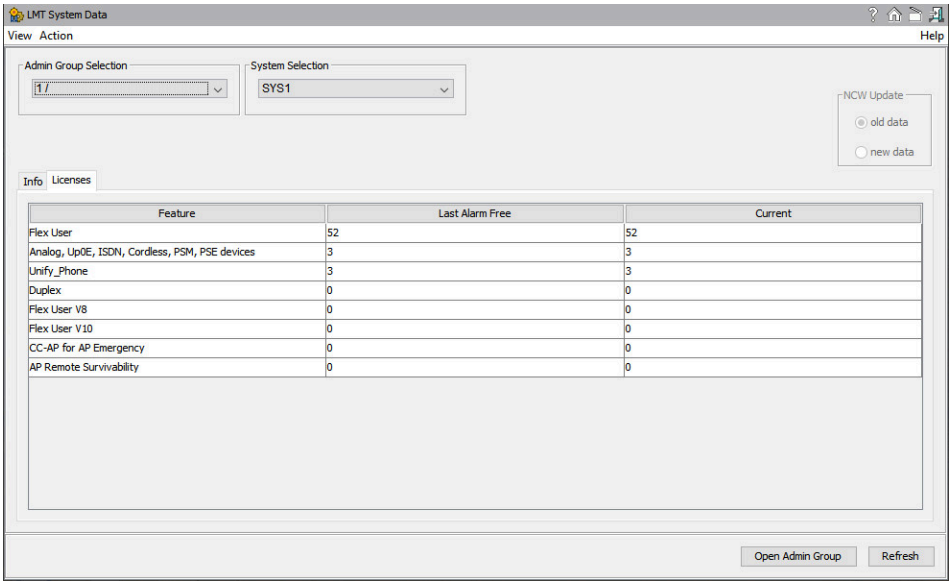
The **System Info**tab contains a list with all available information about selected system (read only).




- **HW-ID:** This field contains the hardware identification number of the SIM card or the dongle.
- **Admin Group ID**: It specifies which administration group the system belongs to.
- **Version**: System operating system version
- **CDW**
- **Validity of CDW**:
- – Date when CDW will expire in case of LMT CDW.
  – Standalone: System does not contain LMT CDW.
- **Last Data Load:** Date of last successful data load.
- **Serial Number:** Counter in CDW which is incremented by OpenScape 4000 LMT every time a new CDW is sent to the system. It is set to 0 when a service dongle is used.

## 2.4.4 System Licenses Tabsheet

The **System Licenses**tab contains a list with information about licenses used by the system:




- **Feature**: Language-dependent descriptive name of the feature.
- **Last Alarm Free**: Number of licenses used during last alarm-free status.
- **Current**: Number of used licenses after last license check.

# 3 Step by Step

In this chapter you will find step-by-step instructions on the following topics:



**See also**



## 3.1 Updating NCW

**Prerequisites**

- Initialization is only possible for systems at which no service dongle is connected.
- You need a new NCW.

| Step | Action | Meaning |
|---|---|---|
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server | The NCW serial number must be higher than or equal to the one previously activated.<br>The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified). |
| | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The new bought values from all system software license packages in the network code word are displayed. You can check these values. |

| Step | Action | Meaning |
|---|---|---|
| Check the new network code word | Header of every window, NCW Update group<br>-> select alternately the old data and new data radio button | |
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>The internal LMT data is updated with data previously displayed. No data is transferred to the systems.<br>You can reject the NCW if it is not suitable. |
| Load license data | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | This process may take up to 23 hours (default setting can be changed using the ANSWERTIMEOUT variable). A command batch is sent to all systems registered in the current administration group.<br>The returned command batch contains the code word, the system version and the features used. |

Automatic license check is only activated after the first NCW has been loaded.

**NOTICE:** If you use an earlier version (older than HiPath 4000 Manager V1.0 KV300) with a new NCW without topology licenses, a topology group alarm (group ID = 0) might be issued which can be ignored. This alarm does not affect the network topology license checks of the other administration groups. The display of topology information (Used values) on the client will continue to be supported in the future.

**See also**

Addresses and Contacts for Ordering on page 112

## 3.2 Loading license data

You can start loading license data manually at any time in the LMT start page.

| Step | Action | Meaning |
|---|---|---|
| Load license data | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | The following levels can be selected for the manual start of "Load license data":<br>• the entire network (All)<br>• An administration group<br>• a system<br>with or without CDW update |

Automatic license check is only activated after the first NCW has been loaded.

**NOTICE:** Initialization is only possible for systems at which no service dongle is connected.

A new NCW must be installed if a structure of an administration group is changed or more (or less) licenses are bought in an administration group.

You can define descriptions for administration groups. This information is optional.

## 3.3 Defining threshold values

| Step | Action | Meaning |
|---|---|---|
| Define threshold value | LMT Admin Group Data window,<br>B Channel Licenses/ Remote Station Licenses tabs<br>Threshold column<br>-> enter preferred threshold value | You can define threshold values as the minimum number of free licenses for features.<br>If the number of free licenses for a feature is less than the number defined in the Threshold column, LMT activates the threshold alarm status in the header. |
| Save definition | LMT Admin Group Data window<br>-> Object menu<br>-> Save | Changes to the threshold values are saved on the server. |

**NOTICE:** All data in this window is updated on request.

## 3.4 Creating a new system network with OpenScape 4000 Manager license management

The code word tool can be used to generate standalone system code words for all systems and a network code word that contains the total number of licenses for all systems in the LMT management area.

All systems are started up with their standalone system code word.

| Step | Action | Meaning |
|---|---|---|
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified). |
| | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The new bought values from all system software license packages in the network code word are displayed. You can check these values. |
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |

| Step | Action | Meaning |
|---|---|---|
| Load current license data<br>(recommended) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | Renewed attempt to<br>• Input the used values of the system software license packages for all systems in the LMT management area.<br>• Calculate the current actual values for the network topology<br>This accelerates the receipt of the required HW IDs.<br>The HW-ID of the dongles is retrieved at this time. Therefore, no service dongles should be plugged in on any system in the LMT management area (at this time). |

LMT performs license management as soon as the HW IDs of some systems can be entered in the LMT management area. License management in OpenScape 4000 Manager is activated for these systems and LMT generates LMT system code words during the next automatic license check for the systems already set up in the LMT management area.

The initial startup of the Load Licence Data action or the initial automatic license check is necessary to determine the HW IDs. Licence management is only activated in OpenScape 4000 Manager for the resolved systems if all HW IDs cannot be determined. All other systems are temporarily assigned to the topology group. The LMT tries to receive the pending HW IDs the next time the Load License Data action is started.

After the initial activation of the Load License Data action, you can compare the bought values from the new network code words with the used values of all systems in the LMT management area for all system software license packages. Similarly, you can check the systems that are not in the LMT management area against the network plan in the network code word.

**NOTICE:** If a service dongle is plugged in at a system in the LMT management area, no LMT system code word is transmitted to this system.

**NOTICE:** Network licenses for networks with V6 systems on V11 Manager can now be generated on live CLS.

Since V8 a new license concept is used (Advanced Locking Identifier -ALI). Therefore, the usage of CLS is under preparation.

The official CLS (Central Licensing Server) generated incomplete network licenses for OpenScape 4000 Manager V7, only containing OpenScape 4000 V7 systems. The V6 systems were not included in such network license. Users were required to contact Unify customer service desk (CLS L2) in order to get a corrected license file, which includes V7 and V6 systems. Customers, who installed Manager V7 R2.20 or above, can directly activate the network license generated on the new CLA.

The CLS L3 - Support Team set the network license key files of all OS4K Manager V7 customers to "re-generate" state. The customers, using the network licenses on the HP4K Manager V7 are expected to regenerate and download the new network licenses from CLS and upload the license keys file to the CLA delivered with OS 4000 Manager V7 R1.7 Hotfix 2.

**NOTICE:** If V6 and V7 systems are still used in the network with Manager V11, the customer may get 3 license files from CLS. All have to be activated on the Manager.

## 3.5 Converting the system network to OpenScape 4000 Manager license management

The license check in the LMT management area takes effect with:

- the installation of a OpenScape 4000 Manager with the LMT application in the customer network and
- the input of a network code word

Up to this point, the local system mechanism which only permits license transfer to other systems via the CWT is valid.

A network code word that contains the total number of licenses for all systems in the LMT management area is generated in the CWT.

| Step | Action | Meaning |
|---|---|---|
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified). |
| | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The bought values from all system software license packages in the network code word are displayed. You can check these values. |

| Step | Action | Meaning |
|---|---|---|
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |
| Load current license data (recommended) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | Renewed attempt to<br>• Input the used values of the system software license packages for all systems in the LMT management area.<br>• Calculate the current actual values for the network topology<br>This accelerates the receipt of the required HW IDs.<br>The HW-ID of the dongles is retrieved at this time. Therefore, no service dongles should be plugged in on any system in the LMT management area (at this time). |

LMT performs license management as soon as the HW IDs of some systems can be entered in the LMT management area. License management in OpenScape 4000 Manager is activated for these systems and LMT generates LMT system code words during the next automatic license check for the systems already set up in the LMT management area.

The initial startup of the Load Licence Data action or the initial automatic license check is necessary to determine the HW IDs. Licence management is only activated in OpenScape 4000 Manager for the resolved systems if all HW IDs cannot be determined. All other systems are temporarily assigned to the topology group. The LMT tries to receive the pending HW IDs the next time the Load License Data action is started.

After the initial activation of the Load License Data action, you can compare the bought values from the new network code words with the used values of all systems in the LMT management area for all system software license packages. For the systems that are not in the LMT management area the network plan is displayed.

**NOTICE:** If a service dongle is plugged in at a system in the LMT management area, no LMT system code word is transmitted to this system.

**See also**

Addresses and Contacts for Ordering on page 112

## 3.6 Expanding a network to include a new system with LMT

The code word tool can be used to generate a standalone system code word for the new system in the LMT management area and a network code word that is extended to include the licenses for all system software license packages for the new system.

The new system is started up with the standalone system code word.

| Step | Action | Meaning |
|---|---|---|
| Load current license data<br>(optional) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | The used values of the system software license packages are updated.<br>The original bought values of the system software license packages are displayed. The values can be checked. The bought and used licenses of the new system are not yet included. |
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified).<br>The new bought values from all system software license packages in the network code word are displayed. You can check these values. |

| Step | Action | Meaning |
|---|---|---|
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |
| Load current license data | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | Renewed attempt to<br>• Input the used values of the system software license packages for all systems in the LMT management area.<br>• Calculate the current actual values for the network topology<br>The HW-ID of the dongles is retrieved at this time. Therefore at the new system no service dongle should be plugged in. |

If the HW ID of the new system was successfully determined, you can check the bought values from the network code word against the used values of all systems in the LMT management area for all system software license packages.

License management in the OpenScape 4000 Manager uses the new network code word in the next automatic license check. If the check reveals a license deficiency, this deficiency must be resolved within 30 days.

The threshold values can be reset if required.

**NOTICE:** If a service dongle is plugged in at a system in the LMT management area, no LMT system code word is transmitted to this system.

**See also**

Addresses and Contacts for Ordering on page 112

## 3.7 Adding additional software licenses to a system

Order additional licenses. The code word tool can be used to generate a new network code word which takes the license expansion of all system software license packages for the new system into account.

| Step | Action | Meaning |
|---|---|---|
| Load current license data<br>(optional) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | The used values of the system software license packages as well as the actual value of the network topology are updated.<br>The original bought values of the system software license packages are displayed. The values can be checked. The bought and used licenses of the new system are not yet included. |
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server<br>LMT start page, Action menu<br>-> NCW Update<br>-> Read NCW | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified).<br>The new bought values from all system software license packages in the network code word are displayed. You can check these values. |

| Step | Action | Meaning |
|---|---|---|
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |

License management in OpenScape 4000 Manager uses the new network code word in the next license check. If the check reveals a license deficiency, this deficiency must be resolved within 30 days.

The threshold values can be reset if required.

**See also**

Addresses and Contacts for Ordering on page 112

## 3.8 Upgrading systems that are administered with LMT

After upgrading a system two LMT runs are necessary to make sure that the system has a valid LMT code word again.

| Step | Action | Meaning |
|---|---|---|
| Quoting phase | -> Shift licenses on CLS<br>Generate a partial REGEN file from the system to be upgraded. | To correctly reflect the actual customer usage. **Very important** if SoftGates were moved to a different system. |

| Step | Action | Meaning |
|---|---|---|
| Ordering phase | Remove the system from the LMT network (e.g. in CLS)<br>-> Shift licenses on CLS<br>-> Change license files imported in the Manager and the system to be upgraded.<br>Generate a partial REGEN file from the system to be upgraded.<br>Generate the order using ECS and other tools. | Regenerate the license file and remove Locking ID of Manger.<br>To correctly reflect the actual customer usage. |

| Step | Action | Meaning |
|---|---|---|
| Upgrading phase | **Upgrade OS4K Manager**<br>Upgrade license and create new license file.<br>Upgrade the system.<br>Upgrade the system in CLS.<br>Generate single system license file and import it into upgraded system.<br>Add the system to the Manager.<br>In CLS move the upgraded system back into the machine group.<br>Import the updated network licenses for all versions to the LMT. | A default (empty) OS4K V8 license file is generated. As soon as a real OS4K V8 is available, the empty license file must be replaced by the newly generated license files for the OS4K system (old versions and new versions). If **no V8 system** is available, the empty V8 license file **must remain** in the Manager.<br>License numbers of each system must be included in LMT.<br>Please note specific rules for V8 for reducing licenses formerly needed for trunking.<br>The system is NOT administered by LMT.<br>No additional action to be taken in upgraded system. |

**NOTICE:** Do not increase the number of used licenses during the upgrade process as this could activate a license alarm and the system code word cannot be updated.

## 3.9 Exchanging the system SIM card or dongle

OpenScape 4000 Manager has already taken over license management for a system in the LMT management area. A license alarm was generated by this system because the SIM card or dongle was faulty.

A new SIM card or dongle must be ordered via the usual ordering process.

To perform the following six steps, you must have authorization for the Network Information Tool (NIT) (see Addresses and Contacts for Ordering on page 112):

1) Use the NIT to remove the affected system from the network.
2) Transfer the required licenses from the network to the system.
3) Get a system code word for the system from the CWT and copy it to the system.

**NOTICE:** Loading code words for systems older than HiPath 4000 V2.0: Note that a service dongle with password must be installed first. Otherwise the code word will be rejected due to an incorrect serial number. After the code word has been installed on the system, from the second LMT run onward the code word will be updated regularly.

1) Then use NIT to transfer the system back into the network.
2) Get a new NCW from the CWT.
3) Activate the new NCW on the Manager.

**Transfer and load network code word**

| Step | Action | Meaning |
|---|---|---|
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified).<br>The new bought values from all system software license packages in the network code word are displayed. You can check these values. |

| Step | Action | Meaning |
|---|---|---|
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |

Starting with the next automatic license check the LMT system code words are distributed with a new SIM card or dongle.

**See also**

Addresses and Contacts for Ordering on page 112

## 3.10 Migrating a system that was not yet administered by LMT to the LMT management area

The code word tool can be used to generate a standalone system code word for the system to be migrated as well as a network code word containing an administration group which has been extended to include the licenses of all system software license packages for the system to be migrated.

The system to be migrated is started up with its standalone system code word.

| Step | Action | Meaning |
|---|---|---|
| Load current license data<br>(optional) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | The used values of the system software license packages as well as the actual value of the network topology are updated.<br>The original bought values of the system software license packages are displayed. The values can be checked. The bought and used licenses of the new system are not yet included. |

| Step | Action | Meaning |
|---|---|---|
| Transfer and load network code word | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Transfer to Server | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified). |
| | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The new bought values from all system software license packages in the network code word are displayed. You can check these values. |
| Accept new network code word<br>or<br>Refuse NCW | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Confirm New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |
| | or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | |
| Load current license data<br>(optional) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | Renewed attempt to<br>• Input the used values of the system software license packages for all systems in the LMT management area.<br>• Calculate the current actual values for the network topology<br>The HW-ID of the dongle is retrieved at this time. Therefore no service dongle should be plugged in on the system to be migrated. |

If the HW ID of the new system was successfully determined, you can check the following:

- the bought values from the network code word using the used values for all systems in the LMT management area for all system software license packages
- systems that are not in the LMT management area against the network plan in the network code word

License management in OpenScape 4000 Manager uses the new network code word in the next automatic license check. If the check reveals a license deficiency, this deficiency must be resolved within 30 days.

The threshold values can be reset if required.

**See also**

Addresses and Contacts for Ordering on page 112

## 3.11 Removing a system from the LMT management area

Licenses can be moved from the network code word to the removed system in the CMT if required. A new network code word is displayed in the CWT and reduced accordingly. If the system remains in the network it is allocated to a topology group. A new standalone system code word is displayed for the removed system (possibly with licenses that were moved to the standalone system).

The standalone system code word is loaded into the removed system by the on-site service department.

| Step | Action | Meaning |
|---|---|---|
| Load current license data<br>(optional) | LMT start page,<br>Action menu<br>-> Load License Data | The used values of the system software license packages as well as the actual value of the network topology are updated. |
| | -> Get Actual Values<br>-> All | The new bought values of the system software license packages are displayed. The values can be checked. The bought and used licenses of the new systems are not yet included. |
| Transfer and load network code word | LMT start page, Action menu<br>-> NCW Update<br>-> Transfer to Server | The values are checked for consistency (version counter, network identification). The network code word may be refused (reason specified). |
| | LMT start page,<br>Action menu<br>-> NCW Update<br>-> Read NCW | The new bought values from all system software license packages in the network code word are displayed. You can check these values. |

| Step | Action | Meaning |
|---|---|---|
| Accept new network code word<br>or<br>Refuse NCW | LMT start page, Action menu<br>-> NCW Update<br>-> Confirm New NCW<br>or<br>LMT start page,<br>Action menu<br>-> NCW Update<br>-> Refuse New NCW | You accept the new network code word.<br>If the bought licenses are not OK, cancel the new network code word transfer. |
| Load current license data<br>(optional) | LMT start page,<br>Action menu<br>-> Load License Data<br>-> Get Actual Values<br>-> All | Renewed attempt to<br>• Input the used values of the system software license packages for all systems in the LMT management area.<br>• Calculate the current actual values for the network topology |

You can check the bought values from the new network code word against the used values of all systems in the LMT management area for all system software license packages.

License management in OpenScape 4000 Manager uses the new network code word in the next automatic license check.

If a system was removed from the network and no standalone code word was imported by Service, no new LMT system code word is transmitted to the standalone system. The validity of the code word therefore expires after 30 days and the administration restriction is activated in the system.

## 3.12 Relocating stations in the network

**Relocating from system to system in the LMT management area**

No license transfer is necessary for relocation within an administration group. The customer can relocate in the network (multi-phase also) without difficulty even if there are no available unused individual licenses for this group.

However, a license alarm is activated if phase 1 of a multi-phase relocation aborts during the night because the additional station on the new system exists concurrently with the station on the old node.

Apart from the signal, the alarm generated has no administration-restricting effect. The administration restriction only takes effect in the systems of the LMT area when the license alarm is active for over 30 days.

A new NCW must be ordered in the case of relocation between systems in different administration groups if the number of additional licenses is greater than the number of free licenses in the new group.

**Relocating from system to system outside the LMT management area**

The relocation is performed without LMT. License transfer is performed via CWT.

## 3.13 Supplying a standalone system

The delivery of a standalone system is performed with the supply of the code word from the code word tool in accordance with the previous concept without affecting the OpenScape 4000 Manager. This code word contains no network identification.

**See also**

Addresses and Contacts for Ordering on page 112

# 4 Reference Information

In this section you will find the following reference information on LMT:



## 4.1 User-defined Settings for License Management Tool

Traces are controlled by Logging Management.

All variables defined overwrite the default LMT configuration. The FMHOME variable must not be modified because all LMT files are installed under $FMHOME/lmt directory. This file is executed by $FMHOME/lmt/bin/lmtstart.sh script. Variables defined here must be exported, e.g. export ERRORLIMIT=500.

The following variables can be defined in the data file `/opt/ncc/lmt/config/lmt.cfg`.

- TRACEPATH defines the directory where all trace files including trace configuration files are stored:
- export TRACEPATH=$FMHOME/lmt/trace
- TRACEFILENUMBER defines the number of trace files that can be created for each LMT server process (lmtd, lmttask):
- – Allowed values: <0, 999>
  – Standard: 50 (export TRACEFILENUMBER=50)
- ERRORLIMIT defines the maximum number of current errors that are stored in the error file (and displayed by client)
- – Allowed values: <50, 1000>
  – Standard: 300 (export ERRORLIMIT=300)
- ERRORTIMELIMIT defines the time limit when old errors are deleted from the error file
- – Allowed values: <7, 120> days
  – Standard: 30 days (export ERRORTIMELIMIT=30)
- ANSWERTIMEOUT defines the timeout from the last answer to AMO until the lmttask process waits for further answers to AMO jobs:
- – Allowed values: <3600, 86400> seconds
  – Standard: 21600 seconds (export ANSWERTIMEOUT=21600)
- NNCTIMEOUT defines the timeout for the lmttask process to wait for confirmation of a new NCW:
- – Allowed values: <3600, 14400> seconds
  – Standard: 3600 seconds (export NNCTIMEOUT=3600)
- SAVEAMOANSWER defines, whether LMT is obliged to store all received AMO answers to the error directory:
- – Allowed values: {0|1}
  – Standard:0 (=not saved) (export SAVEAMOANSWER=0)

- SEQDIR defines the directory where information about sequential names of AMO jobs for all systems are stored:
- export SEQDIR=$FMHOME/lmt/config

---

**NOTICE:** Be cautious when changing this value!

---

- THREADSINPOOL defines the number of threads in pool started per ORB endpoint:
- – Allowed values: <4,30> threads
  – Default: 8 (export THREADSINPOOL=8)

---

**NOTICE:** Be cautious when changing this value!

---

- ORBPSTACKSIZE defines the stack size of the threads created by the ORB Process Framework
- – Default: 100000 Bytes (export ORBPSTACKSIZE=100000)
- ORBPTRACE defines the trace mode of ORB Process Frameworks
- – Allowed values: {<not set> | -i | -a}

  -i ... INFO traces

  -a ... INFO + DEBUG traces

  – Default: not set (export ORBPTRACE= )

  With the following variables (see also Retrieving License Data from systems with the Old Marketing Structure) you can define individual days for sending AMO commands of type "Regen" to certain systems:
- LICMREGENDAY
- – Allowed values: comma-separated list with the entries <1,...,7>
  – Default: 6 (export LICMREGENDAY=6)
- LICMREGENDAY1
- LICMREGENDAY2
- LICMREGENDAY3
- LICMREGENDAY4
- LICMREGENDAY5
- LICMREGENDAY6
- LICMREGENDAY7
- – Allowed values (for LICMREGENDAY1,...,LICMREGENDAY7): comma-separated list of mnemonic names containing the systems which occur in the database
  – Default (for LICMREGENDAY1,...,LICMREGENDAY7): not set
- TINFOSWITCHES define the systems that LMT sends a status report to. LMT uses the TINFO AMO to do this. See also Configuring systems with Network License Status Receipt.
- – Allowed values: comma-separated list of mnemonic names containing the systems which occur in the database
  – Default: not set

## 4.2 Error Handling

- Information, Warning, Error Windows: see Information, Warning, Error Windows

- **Errors** tab (LMT start page): see Error Tab (LMT start page)
- List of **Error Codes E...** see Error Codes E...
- List of **Error Codes R...** see Error Codes R...

## 4.2.1 Information, Warning, Error Windows

Serious errors of the server can cause the client to open a message box that displays detailed information (additional to an entry in **Errors** tab of LMT start page).

In addition the client can display the following messages:

- **No connection to LMT server**
- This information window is displayed when client cannot connect to LMT server to get some data.
- **The new NCW is read in. You can toggle between old and new data to check the differences. If the NCW is not confirmed or canceled within a defined time period (standard: 1 hour), the operation is canceled. If the LMT start page is closed it can be opened again within this time period to terminate the action, as long as 'NCW Update' is running.**
- This information window is displayed at the start of the "Enter New NCW" task.
- **'Load License Data' task could take several hours. Do you want to continue?**
- This information window is displayed after starting 'Load License Data' task. User has to confirm or cancel the task.
- **Canceling 'Load License Data' task may cause temporary inconsistency in LMT data. Do you want to continue?**
- This information window is displayed after starting 'Load License Data' task. User has to confirm or cancel the action.
- **Semicolon in Admin Group description is an unallowed character**
- This error window is displayed after modifying an admin group description and the semicolon character is contained in it.

## 4.2.2 Error Tab (LMT start page)

If there are errors on the Server there will be an entry in the **Errors** tab of LMT start page. Some entries can also be set during the normal execution, e. g. when there isn't any data available yet at the first initialization.

The error code consists of 2 numbers:

- "E" numbers correspond to the action where the error occurred. See also Error Codes E... on page 93
- "R" numbers give detailed information to the reason. See also Error Codes R... on page 98

---

**NOTICE:** On the client, "E" number descriptions and "R" number descriptions are displayed.

---

### 4.2.2.1 Error Codes E...

See also Error Codes R... on page 98

| Code E... | Description |
|---|---|
| E0 | OK |

**Errors during Start of a Process**

| Code E... | Description |
|---|---|
| E1 | Checking parameters |
| E2 | Checking process owner |
| E3 | Checking if another process is running |
| E10 | Opening DB |
| E12 | Loading systems from DB |
| E13 | Loading systems from DB |

**Access to Files data/.nnc and data/.lmnc Errors**

| Code E... | Description |
|---|---|
| E20 | Loading NCW file |
| E21 | Loading NCW file |
| E22 | Loading new NCW file |
| E23 | Renaming new NCW file |
| E24 | Renaming new NCW file |
| E25 | Loading new NCW file |

**NOTICE:** If the files are corrupted a new NCW has to be installed.

**Access to Internal File data/.system Errors**

| Code E... | Description |
|---|---|
| E30 | Loading LMT data |
| E31 | Loading LMT data |
| E32 | Saving new LMT data |
| E33 | Saving LMT data |
| E34 | Renaming LMT data file |

**NOTICE:** A corrupted file is to be deleted. LMT has to be reinstalled ('NCW Update' and 'Load LD' task).

**Access to Internal File data/.hicom Errors**

| Code E... | Description |
|---|---|
| E40 | Loading system data |
| E41 | Loading system data |
| E42 | Saving new system data |
| E43 | Saving system data |
| E44 | Renaming system data file |

**NOTICE:** A corrupted file is to be deleted. LMT has to be deleted. LMT has to be reinstalled ('NCW Update' and 'Load LD' task).

**Access to Internal File data/.status Errors**

| Code E... | Description |
|---|---|
| E50 | Loading LoadLD status |
| E51 | Loading LoadLD status |
| E52 | Saving LoadLD status |
| E58 | Loading errors |

**NOTICE:** A corrupted file is to be deleted. Next 'Load LD' task will rebuild this file.

**Access to Internal File data/.agdesc Errors**

| Code E... | Description |
|---|---|
| E64 | Loading admin group descriptions |
| E65 | Updating admin group descriptions |

**NOTICE:** A corrupted file is to be deleted. Admin Group description have to be redefined via Client.

**Access to Internal File data/.threshold Errors**

| Code E... | Description |
|---|---|
| E70 | Loading and merging thresholds |
| E71 | Loading and merging thresholds |

| Code E... | Description |
|---|---|
| E72 | Updating thresholds |

**NOTICE:** A corrupted file is to be deleted. Threshold have to be redefined via Client.

**CORBA Interface Errors**

| Code E... | Description |
|---|---|
| E80 | Starting new thread |
| E85 | Starting LoadLD task by lmtd |
| E86 | Starting NCW Update task by lmtd |
| E87 | Reporting current task status to lmtd daemon |
| E88 | Reporting current task status to lmtd daemon |
| E89 | Getting LMT data via CORBA interface |
| E90 | Transferring new NCW |
| E91 | Corba Exception |
| E92 | Exceptions |
| E93 | Sending command to task |

**NOTICE:** lmtd displays an error or is not running: restart lmtd via ProcM.

**'Load License Data' Task Errors**

| Code E... | Description |
|---|---|
| E100 | Checking if selected system/group exist |
| E101 | Generating dongle HW ID |
| E102 | Reading CDW attributes |
| E103 | Updating CDW |
| E104 | Generating CDW from scratch |

**NOTICE:** NCW may be corrupted or incorrect or internal files are inconsistent. Reload license data or reinstall NCW or reinitialize LMT.

**'Load License Data' Task Errors**

| Code E... | Description |
|---|---|
| E105 | Creating and starting AMO job |
| E106 | Processing AMO answer |
| E107 | Retrieving data from an AMO answer |
| E108 | Retrieving the leading system name |

**Note:**

Leading system not resolved yet (reload license data) or NCW (install new NCW) is incorrect.

**NOTICE:** There may be an error with connection to the systems. No actual data can be received. LMT will make the license check with last received data. Check the connection and File Transfer configuration.

**'NCW Update' Task Errors**

| Code E... | Description |
|---|---|
| E120 | Waiting for confirmation of new NCW |
| E121 | Waiting for confirmation of new NCW |
| E122 | Enabling/disabling LMT cronjob |

**NOTICE:** The NCW has to be confirmed or refused within a certain time period (default 1 hour).

See also Error Codes R... on page 98

### 4.2.2.2 Error Codes R...

See also Error Codes E... on page 93

| Code E... | Description |
|---|---|
| R0 | No details |
| R101 | Unspecified error |
| R102 | Incorrect usage |
| R103 | Another process is running<br>**Note:**<br>Only one lmttask process ('NCW Update' or 'Load License Data') may run at the same time. |

| Code E... | Description |
|---|---|
| R104 | Interrupted by signal |
| R105 | Interrupted by client |
| R130 | File does not exist |
| R131 | File cannot be opened |
| R132 | Lockfile cannot be opened or created |
| R133 | File cannot be locked |
| R134 | File cannot be read |
| R135 | File cannot be written |
| R150 | Directory cannot be opened |
| R151 | File cannot be deleted |
| R152 | system() call failed |
| R153 | Memory cannot be allocated |
| R154 | Environment cannot be set |
| R155 | cronjob of ncc cannot be modified |
| R170 | Attributes of the ncc user cannot be fetched |
| R171 | Process was not started by ncc or root |
| R172 | Process owner cannot be changed to ncc (if started as root) |
| R190 | no DB name (DBNAME@DBSERVER) defined |
| R191 | DB cannot be opened |
| R192 | DB cannot be closed |
| R193 | DB field type is unknown |
| R194 | DB select failed |
| R195 | No record was found |
| R196 | SQL command failed |
| R210 | Data cannot be decrypted (no NCW)<br>**Note**:<br>NCW has to be installed. |
| R211 | Data cannot be encrypted |
| R212 | Data cannot be decrypted |
| R230 | code1 is incorrect |

| Code E... | Description |
|---|---|
| R231 | code2 is incorrect |
| R232 | Dongle HW ID cannot be generated from code1/2 |
| R233 | CDW cannot be opened |
| R234 | Value cannot be fetched from CDW |
| R235 | Value cannot be set in CDW |
| R236 | Updated CDW cannot be fetched |
| R237 | SerialNo in CDW cannot be reset to 0 |
| R238 | WirelessServer flag set in CDW |
| R239 | CDW with SerialNo 0 |
| R250 | Directory to store AMO files is not known |
| R251 | addbjob command failed |
| R270 | Next object can be processed (internal return code) |
| R271 | Wait for object to be processed (internal return code) |
| R272 | Timeout reached |
| R290 | AMO response cannot be split to commands |
| R291 | Structure of AMO response is unexpected |
| R292 | License data in DISP-CODEW:SERVICE is missing |
| R293 | Dongle HW ID cannot be retrieved from AMO response |
| R294 | CDW cannot be retrieved from AMO response |
| R295 | Serial number cannot be retrieved from AMO response |
| R296 | Version cannot be retrieved from AMO response |
| R297 | Licenses cannot be retrieved from AMO response |
| R298 | CDW update has not been confirmed in AMO response |

| Code E... | Description |
|---|---|
| R299 | Service dongle<br>**Note**:<br>LMT cannot update service dongle. Customer dongle has to be installed. |
| R300 | Information about system version is missing |
| R301 | System version is not known |
| R302 | System version is not supported |
| R303 | Licenses cannot be decrypted from the<br>DISP-CODEW:SERVICE |
| R320 | File structure is incorrect |
| R321 | NCW format is not supported |
| R322 | NCW ID is incorrect<br>**Note**:<br>The NCW ID has to be equal or higher than the current one; order a new NCW. |
| R323 | All admin groups must have the same NCW ID |
| R324 | All admin groups must have the same leading system |
| R325 | NCW contains incorrect number of admin groups |
| R326 | All admin groups must have different admin group ID |
| R327 | Length of a feature ID is incorrect |
| R328 | 'Topology only' admin group |
| R329 | Dongle HW ID of the leading system is incorrect |
| R330 | Topology admin group must not contain code1/2 list |
| R331 | New NCW must have the same or higher NCW ID |
| R332 | New NCW must have the same Net ID |
| R333 | Inconsistency in internal files (NCW ID) |
| R334 | Inconsistency in internal files (NCW ID) |
| R335 | Inconsistency in internal files (timestamp) |
| R336 | Empty system name or length is incorrect |

| Code E... | Description |
|---|---|
| R337 | Format is not supported |
| R338 | Format is not supported |
| R350 | code1/2 with a specified dongle HW ID cannot be found |
| R351 | System cannot be found |
| R352 | Admin group cannot be found |
| R360 | System is not resolved yet<br>**Note**:<br>System has not answered yet or NCW is incorrect. |
| R361 | New NCW was refused by client |
| R370 | Connection to TaskData CORBA object failed |
| R373 | Connection to TaskData CORBA object failed |
| R374 | Connection to TaskData CORBA object failed |
| R375 | Connection to TaskData CORBA object failed |
| R376 | New NCW received is empty<br>**Note**:<br>If the NCW is empty no licence inspection takes place. |
| R377 | ORB is in shutdown phase |
| R390 | CORBA exception caught |
| R391 | Uncaught exception caught |
| R392 | Startup of a task did not finish before timeout |
| R393 | Startup of a task failed |
| R394 | Data related to a new NCW IS not available |
| R395 | System has been removed |
| R396 | Task is not running |

See also Error Codes E... on page 93

## 4.3 Expert mode

This section briefly describes the LMT command interface so that the most important actions can be entered via shell.

**lmtd**

Stop and start lmtd via Process Management with the entry `FM_LMT_Daemon`.

**lmttask**

The lmttask process is responsible for the "Update NCW" and "Load License Data" tasks.

The lmttask must be started via the start script `fmserver.sh` to get the right environment (see the following example).

Only one LMT task can run at a time.

```
lmttask -l [ -u ] [ -a <admin_group_id> | -h <hicom_name> ]
lmttask -n [ -c ]
```

| Input | Meaning |
|---|---|
| -l | Load license data |
| -u | Update CDWs If this option is not set, new license data is only loaded for information purposes without changing the alarm state. |
| -a | Only started for one administration group (standard: entire network) |
| -h | Only started for one system (standard: whole network) |
| -n | Input new NCW (in accordance with the client task) the .nnc data file must be available on the server. |
| -c | Confirm NCW automatically |

**Installing NCW manually**

Copy the file to `/opt/ncc/Imt/data/.nnc`

```
chown ncc:unity /opt/ncc/lmt/data/.nnc
chmod 644 /opt/ncc/lmt/data/.nnc
su - root
cd /opt/ncc/lmt/bin
/opt/ncc/bin/fmserver.sh lmttask -n -c &
```

**Initializing manually once NCW installation is complete**

```
/opt/ncc/bin/fmserver.sh lmttask -l &
```

## 4.4 LMT TINFO Data

Every time a license check is performed, LMT creates an overview of the license data in the text area of TINFO for all systems configured in the database.

**WARNING:** The "LMTxxx" TINFO entries must not be deleted because they are used by the configurator.

## 4.5 Reducing Network Load

In this section you can find information on the following topics:



### 4.5.1 Retrieving License Data from systems with the Old Marketing Structure

If the LMT administration area contains systems with the old marketing structure, license data is retrieved by LMT but not updated. This data is retrieved using the AMO "Regen". This may deliver large volumes of data which can lead to a heavy network load.

This data is retrieved by default during every LMT program run. The number of program runs can, however, be reduced in the configuration. This is modified by the system administrator directly in the `/opt/ncc/lmt/config/lmtcfg` configuration file. Client-based administration is not possible.

The license data entered by LMT is used by LicM. The retrieval of license data from systems with the old marketing structure is therefore not entirely avoidable. License data from systems with the new marketing structure is provided for LicM on a daily basis. License data from systems with the old marketing structure is made available on the basis of the variable definitions listed below. See also Planning license data retrieval with variables on page 106.

If the number of systems with the old marketing structure is relatively small, it is generally sufficient to limit retrieval to a day when the extra network load will not cause any problems (Saturday is set by default). However, if there is a larger number of these systems, retrieval operations should be spread over a number of days.

License data is synchronized with the systems in the LMT administration area every day via the crontab of the "ncc" user. This crontab can also be used for manipulations.

---

**WARNING:** License data must be synchronized at least once a week as LMT codewords expire after 30 days, after which time administrator rights are disabled.

---

### 4.5.2 Planning license data retrieval with variables

You can use the variables `LICMREGENDAY, LICMREGENDAY1, ..., LICMREGENDAY7`, to define individual days for sending "Regen" AMO commands to specific systems. `LICMREGENDAY1, ..., LICMREGENDAY7` correspond to days of the week (1 - Monday, 2 - Tuesday, etc.). Systems can be listed (mnemonic names) for each of these variables (for each day), and will be checked by the AMO "Regen" on the relevant day.

Example:

```
LICMREGENDAY2=ND11,ND14

LICMREGENDAY3=ND15,ND19

LICMREGENDAY4=ND20,ND29

LICMREGENDAY6=ND11,ND14,ND15,ND19,ND20,ND29
```

`LICMREGENDAY` defines a list of days (1 - Monday, 2 - Tuesday, etc.) for license data retrieval using the AMO "Regen". The systems that are not listed with the variables `LICMREGENDAY1`...`LICMREGENDAY7` in the configuration file are checked on the days (comma-separated) entered in this list. Daily retrievals are performed in the following cases: `LICMREGENDAY` is not in the configuration file, the list is empty or there was a formatting error in the definition.

Sample list of week days:

```
LICMREGENDAY=5,7
```

The following defaults are set during installation:

```
LICMREGENDAY=1,2,3,4,5,6,7

#LICMREGENDAY1=

#LICMREGENDAY2=

#LICMREGENDAY3=

#LICMREGENDAY4=

#LICMREGENDAY5=

#LICMREGENDAY6=

#LICMREGENDAY7=
```

### 4.5.3 Configuring systems with Network License Status Receipt

The variable `TINFOSWITCHES` defines a list of systems (mnemonic names, comma-separated), to which the LMT sends a status report using the AMO TINFO. This status report is then sent to all systems if `TINFOSWITCHES` does not exist in the configuration file or the list is empty.

Example:

```
TINFOSWITCHES=\

ND11,ND12,ND13,ND14,ND15,ND16,ND17,ND18,ND19,ND20,\

ND21,ND22,ND23,ND24,ND25,ND26,ND27,ND28,ND29,ND30,\

ND85,ND86,ND87,ND88,ND92
```

## 4.6 Example of a Report

You may call up the report from the LMT start page (see LMT Start Page). It is displayed in a browser window and you may print it as well.

The report displays the content of the `"/opt/ncc/lmt/data/.report"` file on the manager, which can be read there in the same quality as well.

```
=================================================
=================

LMT License Report created: 2003-07-22 09:06:08


=================================================
=================

Last Load License Data: 2003-07-22 09:06:08
Netcodeword Format: NCW2.1
Netcodeword ID: 5
Net ID:      121
Leading Switch: mnemo=A130   HWID=32c8079a
Global Status:  ACTIVATED
Global Alarm:   ALARM
Global Warning: ALARM
Number of Admin Groups:  2
=================================================
=================


=================================================
=================
Admin Group: 1
Number of switches: 1
Synchronization duration: 30
Startup time: 30
```

## 4.7 Counting the Port Licenses in connection with OpenScape 4000 Manager Licenses

Among the Manager features purchased by the customer, a OpenScape 4000 Manager license also includes the number of ports of all OpenScape systems managed by the OpenScape 4000 Manager. To verify the correct number of the ports licensed, the values

**1)** telephony plus,

**2)**
- trunk / networking comfort and
- cordless e

managed on the respective OpenScape 4000 systems of the whole net are added up on the manager.

**This means in detail:**

- For all OpenScape 4000 systems with new marketing structure:
- The values retrieved from the AMO command "DISPLAY-CODEW" referring to the "used" licenses of the corresponding OpenScape 4000 system features are added up.

- For "old" HiPath 4000 systems (HiPath 4000 systems without Dongles and HiPath 4000 systems with Dongles, but licenses according to the old marketing structure):
- A complex algorithm detects the administered boards of the systems via several REGEN commands. The following section describes the result of what is added in this context.

**Station Licenses**

This licenses correspond to the "telephony plus" license for OpenScape systems with new marketing structure. The SCSU, SSCSU and SBCSU AMO commands are interpreted as follows:

- Each analog device (configured via ADD-SCSU) increments the station counter by **1** (except ACL stations - virtual help devices with AMO parameter "INS=ACLSTN").
- Special devices (configured via ADD-SSCSU) increment the station counter by **1** only if the device is of the "TCLOG" type and **0** is not preceding the command.
- The following digital devices (configured via ADD-SBCSU) increment the station counter by **1** (qualified by the "device type" parameter in the AMO command):
- – Key300,
  – Set500,
  – Set600,
  – Set700,
  – Optiset

  Furthermore, extension boards (CBUSEXP, MBUSEXP, OPTIEXP) increment the station counter by **1** likewise..
- The following digital devices (configured via ADD-SBCSU) increment the station counter by **2** (qualified by the "device type" parameter in the AMO command):
- – Set500&,
  – Set600&,
  – Set700&,
  – Optiset&,
  – S0PP (ISDN Basic Rate Interface)
- A primary rate interface (configured via ADD-SBCSU, "device type" parameter "S2PP") increments the station counter by **30**.

**Networking Licenses**

This licenses correspond to the "trunk / networking comfort" license for OpenScape 4000 systems with new marketing structure. The TACSU, TSCSU and TDCSU AMO commands are interpreted as follows:

- Each connection (configured via ADD-TACSU) increments the trunk/networking counter by **1**.
- Each connection (configured via ADD-TSCSU) increments the trunk/networking counter by **1**.
- The following connections/boards (configured via ADD-TDCSU) increment the trunk/networking counter by **2**:
- – S0 (both trunk and internal)
  – WAML
  – LAN

- The following connections (configured via ADD-TDCSU) increment the trunk/ networking counter by **20**: S2 (both trunk and internal)
- The following connections (configured via ADD-TDCSU) increment the trunk/ networking counter by **30**:
- – S7,
  – MK,
  – CDG (both trunk and internal)

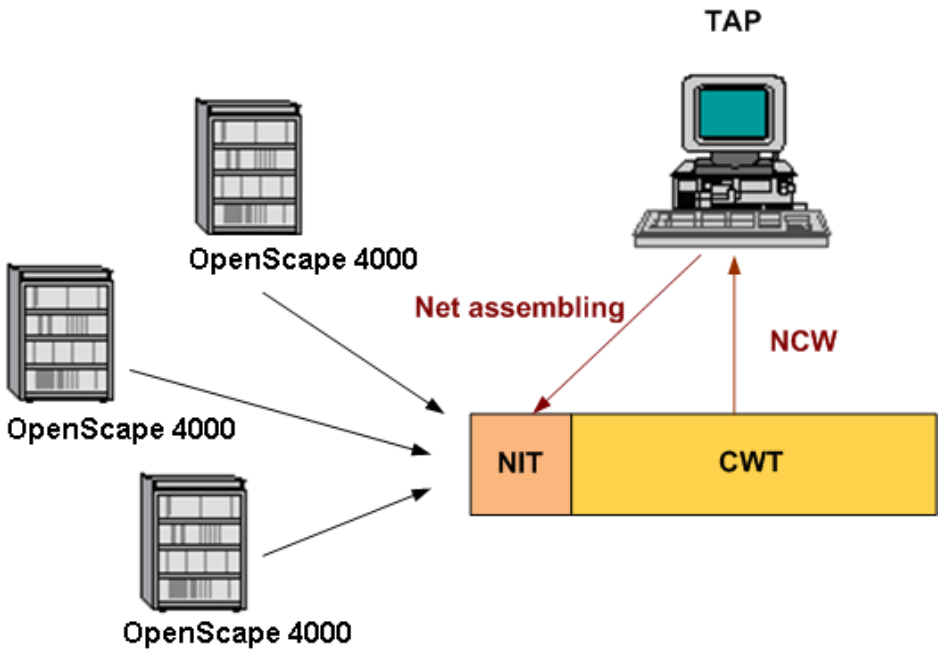
**Cordless Licenses**

This licenses correspond to the "cordless e" license for OpenScape 4000 systems with new marketing structure:

Each CMI basis station (configured via ADD-SBCSU) increments the cordless counter by **2**.

## 4.8 Addresses and Contacts for Ordering

**How does one get a network code word?**



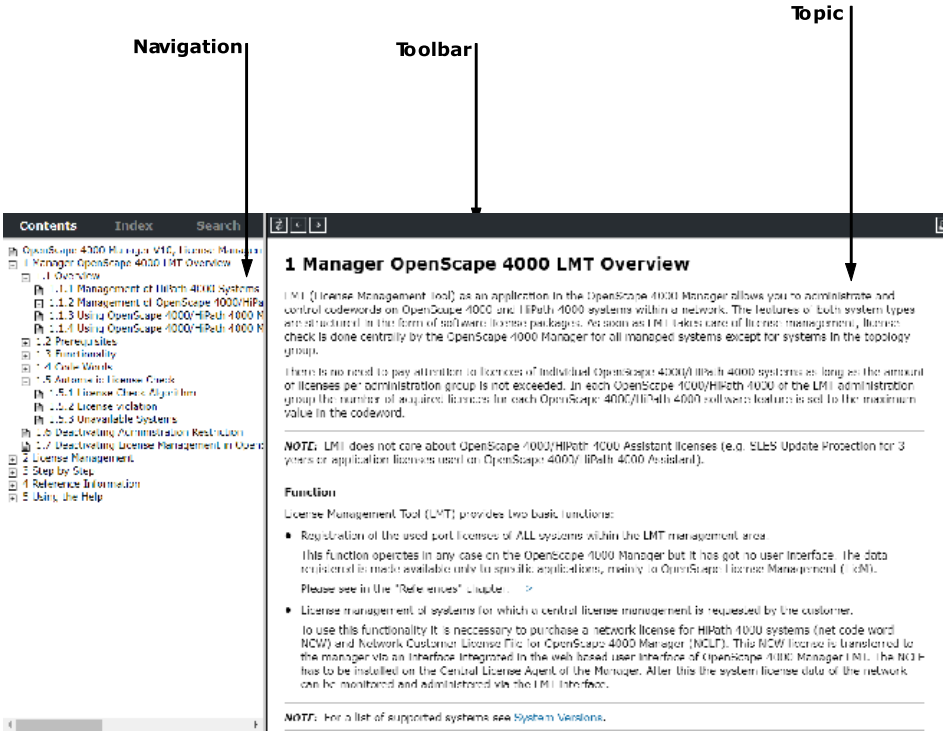

- **Like CW**s (system code words), NCWs (network code words) are assigned with the **CWT** (code word tool).
- **NIT** (Network Information Tool) To create a network from several systems, you can use the NIT which is integrated into the CWT.
- **Operation**
- – Once a system has been moved into a network, it is no longer possible to get a basic system code word for it. The licenses for the system are contained in the NCW.
  – Integration of a system into a network means transferring a license from a standalone system to a network and is comparable to the transfer of a license from one system to another. But with creation of a network code word, all licenses are transferred from the system to the network.
- **License transfers**

- If a customer has both systems managed with the LMT and systems operated "standalone", then license transfers from a system to the network as well as transfers from the network to a system are possible with the CWT.
  - **Old systems** (systems without dongle or SIM card) cannot be managed with the LMT, so they also cannot be integrated into an LMT network.
  - For **systems with dongles**, note that the LMT only operates when a customer dongle is being used on the system. With a service dongle, the system is not managed by the LMT. Broken dongle? See Exchanging the system SIM card or dongle on page 79.
  - **Systems with SIM card**: Since there are no service SIM cards (with serial number 0), LMT can work with any SIM card. For a defective SIM card, essentially the same applies as for a defective dongle.
  - **Ordering a replacement SIM card** When ordering a **replacement SIM card**, note that the SIM card must be allocated to the system.

# 5 Using the Help

## 5.1 Layout

The Help is displayed in a Web browser and is split into the three areas shown below:




### Navigation

The navigation area is displayed at the left of the browser window and contains the following tabs:

- Contents tab The Contents tab displays all topics relevant to the Help. Click the book icon to expand or collapse the subtopics. Click any entry to display the relevant topic in the Topic area.
- Index tab Click the Index tab to view all index entries. An alphabetical list of keywords for each topic is displayed. Click any index entry to display the relevant topic.
- Search tab Click the Search tab to search for a word or phrase. Enter the search term and click **Go**. If you do not know the exact word or phrase, you can enter a star "*" before or after the term. Click any search result entry to display the relevant topic. (For details see "Search Within the Help").

### Toolbar

The toolbar is displayed at the top of the browser window and contains the following buttons:

- Display in Contents Click this button to synchronize the contents currently displayed in the Topic area with the list of contents. If you navigate through the Topic area with the "Previous Topic" or "Next Topic" buttons, you can use the "Display in Contents" button to display the relevant topic entry in the list of contents.
- Previous Topic Click this button to revert to the previous related topic. By contrast, click the "Back" button of the browser to revert to the last topic viewed.
- Next Topic Click this button to jump to the next related topic.
- Print Click this button to print the topic currently displayed in the Topic area. (For details see "Printing Help Topics").

**Topic**

The Topic area is at the right of the browser window and displays the information on the selected topics.

The browser's caption displays the title of the current Help page.

## 5.2 Overview of Key Functions

- Key combination + You can use this key combination to switch between the Help and the application.
- Text highlighted in blue (links ) Within a Help topic, you can click a link (text highlighted in blue) to obtain further information about the topic. This information is displayed in the Topic area as well.
- Popup windows Within a Help topic, you can click a link (text highlighted in blue - bold) to obtain further or more detailed information in an additional window (popup). These popup windows are displayed in the lower left corner by default.
- If you click another popup link while a popup window is open, the contents of the popup window will be changed accordingly.

  A popup remains displayed until it is closed or the entire Help is closed.
- Drop down text If you click on text identified with the icon within a Help topic, a drop down text box containing additional information will open under the text. Click the icon again to collapse this text box. To collapse all drop down text boxes in a Help topic, click the browser's **Refresh** button.
- Start page Click the first entry in the table of contents to open the start page for the Help. The start page may contain the following information about the open Help:
- – Title of the Help
  – Help ID number
  – Link to **HTML download**
  – Link to **PDF download**
  – Link to **Feedback**
  – Version number and release date of the Help

## 5.3 How to Use the Help

You can use the following functions to navigate the Help system:

- Open the Help Window

## 5.3.1 Open the Help Window

There are different ways of opening the Help depending on the application.

**Display the Help topics**

- Open the contents of the integrated Help by using the **Help** menu in the application.
- Or
- Left-click the Help icon in the application toolbar to open the content of the Help.
- Or (if implemented)
- Left-click the Help icon or the Help button in the application window.

**Context-sensitive help for a window (if implemented)**

- Press key F1 if you require information about a window.

**Context-sensitive help for an element (if implemented)**

- Select an element (field, button, tab, etc.) in the user interface and press the + F1 keys to open the context-sensitive help.
- Or
- Open the context-sensitive help by using the **Help** menu in the application.
- Or
- Left-click the Help icon in the application toolbar. The cursor will become a question mark . Now click an element (field, button, tab, etc.) in the user interface to view the relevant Help text.

## 5.3.2 Search Within the Help

The Help has an integrated full-text search function which makes it easy for you to find the information you need.

1) To search for a word or phrase, click the **Search** tab in the Navigation area on the left.
2) Enter the search term in the input field. To optimize the search, you can search for several words at the same time. If you do not know the exact word or phrase, you can insert an asterisk "*" before or after the term. Spaces between words are interpreted as AND operators (see examples). The search is not case-sensitive.
3) **Examples**

   `Te*` This will display all topics containing a phrase beginning with the letters *Te...* or *te...*, such as *text, teleworking, telephone, telephone connection, Telephone Connection,* etc.

   `Find text` This will display all topics containing the word *find* or *text* or both.

4) If the Help consists of several books, you can optionally select a specific book. In this case a drop down list showing the names of all books will be displayed. The preselected option in this drop down list is **All available books**. If you select this entry, the search is run in all available books. The search result displayed indicates the source (book).
5) Click the **Start** button to initiate the search.
6) Click an entry in the list of search results (in the **Title** column) to display the required topic.
7) The more often the search term occurs on the page, the higher its **priority** will be. Results also have priority if the search term occurs in the heading.

   The **title** shows the heading of the chapter in which the term occurs.

   The **book** in which the term occurs is displayed last.

**NOTICE:** You can also use your browser's ( CTRL + F) search function to run a search within a Help topic.

## 5.3.3 Printing Help Topics

- Right-click the topic you want to print and click Print.
- Or
- Click the print icon in the toolbar.
- Or
- Press the CTRL + P keys.

**NOTICE:** Popup windows: To print the contents of a popup Help topic, right-click anywhere in the popup window and click Print topic. Drop down list: If you wish to print the information displayed in dropdown text, it must be visible. Be sure to open the desired drop down text boxes prior to printing the topic.

## 5.3.4 Key Combinations in the Help

| Key combinations | Action |
|---|---|
| ALT+TAB | Switch between the Help and other open windows. |
| TAB | Jump to the next link within a Help topic. |
| SHIFT+TAB | Revert to the previous link within a Help topic. |
| F5 | Refresh the display. |
| CTRL+POS1 | Go to the top of the page. |
| CTRL+END | Go to the end of the page. |

| Key combinations | Action |
|---|---|
| CTRL+A | Select all the text in a window. |
| CTRL+F | Search within a Help topic. |
| CTRL+P | Print a topic. |
| ALT+left arrow | Revert to the previously displayed topic. |
| ALT+right arrow | Go to the next (previously displayed) topic. |
| ALT+F4 | Close the Help. |

# Index

## T



## W