

License Management, Key File Fault

OPERATING INSTRUCTIONS

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1 Introduction

This instruction concerns alarm handling.

1.1 Alarm Description

The alarm is raised when an installed license is unreachable for more than 24 hours.

In a deployment with multiple license key files, the alarm is raised in response to a single missing or corrupted license key file.

The possible alarm causes and fault locations are explained in Table 1.

Table 1 Alarm Causes

Alarm Cause	Description	Fault Reason	Fault Location	Impact
Failing to reach an installed license for more than 24 hours	The license key file used by the Managed Element (ME) remains unreachable after the 24-hour Autonomous mode period. The ME enters Locked mode	The installed license key file is unreachable either because of connectivity problem or it goes missing or becomes corrupted	License servers	The licensed services are affected (no availability or limited capacity)
			Possible IP network issue	
			Domain Name System (DNS) server	
			Network interface	
Wrong fingerprint	The fingerprint in the license key file is not properly set	The fingerprint in the license key file does not match the fingerprint provided by the application	License key file on the license server	

Note: The alarm can be raised as a result of maintenance activities.

The alarm attributes are listed and explained in Table 2.

Table 2 Alarm Attributes

Attribute Name	Attribute Value
Major Type	193
Minor Type	393221
Managed Object Class	Lm



Table 2 Alarm Attributes

Attribute Name	Attribute Value
Managed Object Instance	ManagedElement=<node_name>,SystemFunctions=1,Lm=1
Specific Problem	License Management, Key File Fault
Event Type	qualityOfServiceAlarm (3)
Probable Cause	configurationOrCustomisationError (159)
Additional Text	Key file fault in Managed Element
Perceived Severity	critical (3)

1.2 Prerequisites

This section provides information on the documents, tools, and conditions that apply to the procedure.

1.2.1 Documents

This instruction references the following documents:

- Activate Emergency Unlock Mode
- Data Collection Guideline
- Install License Key File

1.2.2 Tools

No tools are required.

1.2.3 Conditions

Before starting this procedure, ensure that the following conditions are met:

- A License Management, Key File Fault alarm is raised.
- No ongoing maintenance activities are affecting the network or network elements.
- The user has proper authority to handle configuration management of the network elements.
- Linux® shell access to the System Controllers (SCs).
- Access to an Ericsson Command-Line Interface (ECLI).



2 Procedure

Do the following:

1. If there are any network-related alarms on the ME, act on them first.
2. Log on to the SC to access a Linux shell, for example:

```
ssh <user>@<hostname> -p 7022
```

3. Check connectivity with the persistent storage path, for example:

```
ls -l /storage/system/software/lm-apr9010503
```

4. Is the persistent storage path accessible?

Yes: Continue with the next step.

No: Proceed with Step 15.

5. Exit the Linux shell:

```
exit
```

6. Start the ECLI:

```
ssh <user>@<hostname> -p 22
```

7. Navigate to the `KeyFileManagement` Managed Object (MO), for example:

```
>dn ManagedElement=N0DE06ST,SystemFunctions=1,Lm=1,KeyFileManagement=1
```

8. View the key file information:

```
(KeyFileManagement=1)>show -r
```

The following is an example output:



```
KeyFileManagement=1
  reportProgress
    actionId=0
    actionName="loadLicKeyFile"
    progressInfo=""
    progressPercentage=100
    result=SUCCESS
    resultInfo="Successfully loaded the new LKF"
    state=FINISHED
    timeActionCompleted="2014-05-13T14:12:34"
    timeActionStarted="2014-05-13T14:12:34"
    timeOfLastStatusUpdate="2014-05-13T14:12:34"
  KeyFileInformation=1
    installationTime="2014-05-13T14:12:34"
    locatable=true
    productType="SSR 8000"
  KeyFileInformation=2
    installationTime="2014-05-13T14:11:35"
    locatable=false
    productType="SASN"
  KeyFileInformation=3
    installationTime="2014-05-13T14:12:15"
    locatable=true
    productType="EDA 1500"
```

If locatable=false, then the corresponding license key file is missing or corrupted.

9. Change directory to the location where the license key file is stored on the SC, for example:

```
cd /storage/system/software/lm-apr9010503/SSR\ 8000/8887563311a276a54cba15d6359a7f8c
```

Note: Each license key file is stored in a hashed subdirectory. The path to the hashed directory contains productType of the license key file, for example:

```
/storage/system/software/lm-apr9010503/SSR\
8000/8887563311a276a54cba15d6359a7f8c
```

The ME detects the restored file within one minute.

For each license key file where locatable=false, transfer the backup license key file to the SC from the backup location.

10. Open an SFTP session, for example:

```
>sftp <user>@<hostname>
```

Enter remote host password if necessary.



password:

11. Navigate to the directory where the backup license key files are located, for example:

```
sftp>cd /cluster/licenses
```

12. Copy the backup license key files, for example:

```
sftp>get license.xml
```

Note: If backup files are not available, order replacement license key files from the Ericsson software supply organization and install the files, refer to [Install License Key File](#).

Emergency Unlock mode can be used to restore access to licensed functionality temporarily while the system is in locked mode, refer to [Activate Emergency Unlock Mode](#).

The following is an example output when copying a backup license key file from the `/cluster/licenses/` folder:

```
Fetching license.xml
```

13. Exit the SFTP session:

```
sftp>exit
```

14. Is the alarm cleared?

Yes: Proceed with Step 17.

No: Continue with the next step.

15. Perform data collection, refer to [Data Collection Guideline](#).
16. Consult the next level of maintenance support. Further actions are outside the scope of this instruction.
17. Job is completed.