

License Counter Management

Ericsson Dynamic Activation 1

OPERATION GUIDELINES

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1 Introduction

This document describes the procedure for setting the license field `Used capacity` to the correct value in Ericsson Dynamic Activation (EDA) during the migration of subscribers from monolithic Network Elements to User Data Consolidation (UDC).

1.1 Target Group

The target group for this document is as follows:

- System Administrator
- System Integrator

1.2 Typographic Conventions

Typographic conventions are described in the document *Library Overview*, Reference [2].

For information about abbreviations used throughout this document refer to *Glossary of Terms and Acronyms*, Reference [1].





2 Overview

The value of `Used Capacity` should reflect the real number of subscribers that are defined in the CUDB for each type of service. Dynamic Activation will increase or decrease this value automatically each time a subscriber is added or removed for the licensed service from the CUDB by Dynamic Activation.

In Dynamic Activation, a licensed service is called `License Item`.

During the initial migration of existing subscribers into the CUDB, Dynamic Activation will not be involved and therefore the values have to be set manually when the migration is finished.

After this, Dynamic Activation will handle the counter based on the successful commands. For example, executing a `CreateSubscription` will increase the HLR license counter by one, and `DeleteSubscription` will decrease the HLR license counter by one.

Note: Do not update the license value until the subscriber migration process is complete. No migration rollback is needed as the counter can only be increased.





3 Licenses

Each service has one or more licenses for controlling the number of defined subscribers of that specific service. For information of valid license Ids, see *Function Specification Resource Activation*, Reference [3].

For each of the services that are provisioned by the system, the following should be done after the migration is finished:

1. Find out the exact number of subscribers for the service that has migrated into the CUDB, for example by running an LDAP search towards the CUDB.
2. Find the license(s) that need(s) to be adjusted with a correct `Used Capacity` value. As help, look for the installed licenses on the system, and see valid license Ids in *Function Specification Resource Activation*, Reference [3].
3. Set the `Used Capacity` value for the license by following the description in Section 5 on page 9.





4 Deployments

Dynamic Activation can be deployed in four different setups. The license counter value is set differently, depending on the deployment setup:

- Redundant Load Sharing Systems, see Section 4.1 on page 7.
- Active-Cold Standby Systems, see Section 4.2 on page 7.
- Load Sharing Systems, see Section 4.3 on page 7.
- Multi Purpose Systems, see Section 4.4 on page 8.

4.1 Redundant Load Sharing Systems

In a redundant load sharing deployment scenario, both systems are active, that is, carrying traffic at the same time.

Each system contains identical functionality and capacity. The systems must be ordered separately with the option value of **Type of EDA System** as `main` for the first system, and `redundant load sharing` for the rest.

Note: All Dynamic Activation systems should be updated with number of migrated subscribers.

4.2 Active-Cold Standby Systems

In this deployment scenario, only one system is active for traffic at a given time.

Each system contains identical functionality and capacity. The systems must be ordered separately with different option value of **Type of EDA System**. The value should be `main` for the active system and `cold stand-by` for the standby system.

Note: All Dynamic Activation systems should be updated with number of migrated subscribers.

4.3 Load Sharing Systems

In this deployment scenario, both systems are active for traffic and each system is targeted for a subset of the entire network.

The sub-networks are often divided based on geographic or administrative areas. In case one system goes down, service is not available for the according sub-network.



Each system contains identical functionality. The total capacity of the two systems is equal or greater than the total network traffic demand. The systems must be ordered separately with the option value of **Type of EDA System** as `main` for the first system and `load sharing` for the rest.

Note: The license counter for each Dynamic Activation system should be set to the same amount as the migrated number of subscribers for the network subset connected to it.

4.4 Multi Purpose Systems

Each system in this deployment scenario consists of its own specific functionality and capacity. The systems must be ordered separately with the option value of `Type of EDA System` as `main`.

Note: The license counter for each Dynamic Activation system should be set to the same amount as the migrated number of subscribers for the network element connected to it.



5 Setting the Used Capacity Value

Attention!

Do not change the name of a cluster that is synchronized with other clusters. Otherwise it causes license-counter-mismatch problems.

First, find out how many clusters that are configured to sync licenses, by checking the file: `/home/syncuser/config/sync.properties`

Different possibilities exist:

File is empty - meaning there is no synchronization. If this is the case, see details in Section 5.1 on page 10.

```
THIS_CLUSTER_NAME=
CL1_VIP_OAM_IP=
CL2_VIP_OAM_IP=
JMX_USER=
JMX_PASSWORD=
JMX_CONNECT_STRING=
EXPORT_DIRECTORY=
IMPORT_DIRECTORY=
LOG_DIRECTORY=
DEBUG=
```

File contains one additional system - meaning there is a synchronization between two clusters. If this is the case, see details in Section 5.2 on page 10.

```
THIS_CLUSTER_NAME=CLUSTER_1
CL1_VIP_OAM_IP=<Vip_Ip_to_2nd_cluster>
CL2_VIP_OAM_IP=
JMX_USER=<user-name>
JMX_PASSWORD=<passwd>
JMX_CONNECT_STRING=
EXPORT_DIRECTORY=
IMPORT_DIRECTORY=
LOG_DIRECTORY=
DEBUG=
```

File contains two additional systems - meaning there is a synchronization between three clusters. If this is the case, see details in Section 5.2 on page 10.



```
THIS_CLUSTER_NAME=CLUSTER_1
CL1_VIP_OAM_IP=<Vip_Ip_to_2nd_cluster>
CL2_VIP_OAM_IP=<Vip_Ip_to_3rd_cluster>
JMX_USER=<user-name>
JMX_PASSWORD=<passwd>
JMX_CONNECT_STRING=
EXPORT_DIRECTORY=
IMPORT_DIRECTORY=
LOG_DIRECTORY=
DEBUG=
```

5.1 Non-Synced System

1. Login as an administrator on one of the Payload (PL) nodes.
2. Change the directory to /opt/dve/tools/licenseclient/:

```
$ cd /opt/dve/tools/licenseclient
```

3. List all installed licenses and their License Item values:

```
$ ./licenseclient.sh list -c=service:jmx:rmi://localho
st:8995/jndi/rmi://localhost:8100/connector -u=admin
-p=<pwd for admin>
```

4. Set the Used Capacity field of the License Item, one at the time, to the wanted value.

Note: Make sure to set the right capacity value. To change to a lower value than already set, contact [Ericsson support](#).

```
$ ./licenseclient.sh setusedcapacity -c=service:jmx:rm
i://localhost:8995/jndi/rmi://localhost:8100/connector
-u=admin -p=<pwd for admin> -li=<id of license>
-lc=<wanted used capacity>
```

5. Repeat step 4 for each type of service and installed license.
6. Verify that all licenses have a correct value for Used Capacity:

```
$ ./licenseclient.sh list -c=service:jmx:rmi://localho
st:8995/jndi/rmi://localhost:8100/connector -u=admin
-p=<pwd for admin>
```

5.2 Synced System

Note: Step 1 - Step 3 are performed for all clusters in the system, one by one.

1. Login as an administrator on one of the Payload (PL) nodes.
2. Change the directory to /opt/dve/tools/licenseclient/:

```
$ cd /opt/dve/tools/licenseclient
```



3. List all installed licenses and their License Item values:

```
$ ./licenseclient.sh list -c=service:jmx:rmi://localhost:8995/jndi/rmi://localhost:8100/connector -u=admin
-p=<pwd for admin>
```

The cluster license counter is a sum of all internal license (per license) counter values, on all clusters in the system. If there is a one + two system, the sum is three values. GUI value = THIS_CLUSTER_NAME clusters internal value + cluster two internal value + cluster three internal value. The cluster values are synced every 60 minutes. The current value for that cluster is OVERWRITTEN. Thus, changing this value will not be persistent.

Note: The Internal value of the clusters must always be changed.

To change the values, list the current internal values from all the clusters inside the configuration, and, on each cluster check the internal value per license by issuing the following command from one of the PL nodes:

```
$ /opt/dve/tools/licenseclient/licenseclient.sh
listinternalcapacity -u=admin -p=<pwd for admin>
```

Correct the faulty internal value for one of the clusters.

Note: The sum of all internal values should be the expected total value of the synchronized systems.

Example Output:

Cluster 1	Cluster 2	Cluster 3
CXC4011624/16 0	CXC4011624/16 0	CXC4011624/16 0
CXC4011624/30 0	CXC4011624/30 0	CXC4011624/30 0
CXC4011624/17 0	CXC4011624/17 0	CXC4011624/17 0
CXC4011624/23 4	CXC4011624/23 4	CXC4011624/23 4
CXC4011624/24 4	CXC4011624/24 4	CXC4011624/24 4
CXC4011624/22 0	CXC4011624/22 0	CXC4011624/22 0
CXC4011624/15 0	CXC4011624/15 0	CXC4011624/15 0
CXC4011624/7 0	CXC4011624/7 0	CXC4011624/7 0
CXC4011624/8 0	CXC4011624/8 0	CXC4011624/8 0
CXC4011624/9 0	CXC4011624/9 0	CXC4011624/9 0
CXC4011624/29 0	CXC4011624/29 0	CXC4011624/29 0
CXC4011624/1 0	CXC4011624/1 0	CXC4011624/1 0
CXC4011624/34 0	CXC4011624/34 0	CXC4011624/34 0
CXC4011624/35 0	CXC4011624/35 0	CXC4011624/35 0
CXC4011624/36 0	CXC4011624/36 0	CXC4011624/36 0
CXC4011624/37 0	CXC4011624/37 0	CXC4011624/37 0
CXC4011624/2 0	CXC4011624/2 0	CXC4011624/2 0
CXC4011624/3 0	CXC4011624/3 0	CXC4011624/3 0
CXC4011624/4 0	CXC4011624/4 0	CXC4011624/4 0
CXC4011624/5 12	CXC4011624/5 12	CXC4011624/5 12
CXC4011624/6 0	CXC4011624/6 0	CXC4011624/6 0
CXC4011624/10 0	CXC4011624/10 0	CXC4011624/10 0
CXC4011624/13 0	CXC4011624/13 0	CXC4011624/13 0
CXC4011624/14 0	CXC4011624/14 0	CXC4011624/14 0
CXC4011624/21 0	CXC4011624/21 0	CXC4011624/21 0

The faulty one in the example above is the one having license 5 and counter 12: CXC4011624/5 | 12. The total amount of counters in this case, and that is shown in the Dynamic Activation GUI is 36. To change this value to a total



value of 40, in for example cluster 1, change the counter from 12 to 16. This means that cluster 1 will be CXC4011624/5|16, cluster 2 CXC4011624/5|12, and cluster 3 CXC4011624/5|12.

4. Set the Used Capacity field of the License Item, one at the time, to the correct value.

Note: Make sure to set the right capacity value. To change to a lower value than already set, contact [Ericsson support](#).

```
$ ./licenseclient.sh setusedcapacity -c=service:jmx:rmi://localhost:8995/jndi/rmi://localhost:8100/connector
-u=admin -p=<pwd for admin> -li=<id of license>
-lc=<wanted used capacity>
```

5. Repeat step 4 for each type of service and installed license.
6. Verify that all licenses have a correct value for Used Capacity:

```
$ ./licenseclient.sh list -c=service:jmx:rmi://localhost:8995/jndi/rmi://localhost:8100/connector -u=admin
-p=<pwd for admin>
```




Glossary

For information, refer to *Glossary of Terms and Acronyms*, Reference [1].





Reference List

Ericsson Documents

- [1] *Glossary of Terms and Acronyms*, 0033-CSH 109 628 Uen
- [2] *Library Overview*, 18/1553-CSH 109 628 Uen
- [3] *Function Specification Resource Activation*, 3/155 17-CSH 109 628 Uen