

Maintenance Activities due to Faulty Blade

Ericsson Service-Aware Policy Controller

OPERATING INSTRUCTIONS

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1 Introduction

This instruction explains the steps to fulfill the blade replacement after a faulty blade has been detected in a blade system.

1.1 Prerequisites

This section provides the prerequisites, which must be addressed before using the procedure.

1.1.1 Conditions

The following conditions must apply:

- The operator must be familiar with [SAPC PNF Deployment Instruction](#).
- The troubleshooting that has detected the problematic blade or blades has finished. Troubleshooting the blade and detecting the problem is not part of the scope of this document.
- The SAPC blade system is accessible. The OAM virtual IP address (VIP_OAM) is known.
- Access to the installation SLES software must be provided.





2 Procedure

There are two different scenarios depending on the blade to replace.

2.1 System Controller Blades

System controller blades are the only blades virtualized.

2.1.1 Lock CBA Node

```
SC-x:~ # cmw-node-lock SC-x
```

Further information in [SAPC Troubleshooting Guide](#).

2.1.2 Stop DHCP Services

Stop the DHCP service in both SC.

```
SC-1:~ # systemctl stop dhcpd.service
```

Repeat for the other SC

```
SC-2:~ # systemctl stop dhcpd.service
```

The SAPC cluster is now ready to procedure with the Blade replacement.

2.1.3 Blade Hardware Replacement

- Shut down the problematic blade, if it is still running despite the malfunction.
- Disconnect all interfaces and power switches from the blade. Remove the blade from the blade system.
- Insert a new blade replacing the one removed.
- Connect all interfaces and power switch on the new blade. This blade is accessible from the ILOM interface in this point.

2.1.4 Host Operating System Installation And Configuration

Follow the [SAPC PNF Deployment Instruction](#) to install the SLES12 Operating System and the updates needed. Once the updates have been applied, copy files



from the other System Controller. In the following example, the **SC-1** is considered the faulty blade.

1. Access the **SC-2** host machine. Check that you have access to Host_1 from there to copy the files.

```
InstallationServer:# ssh root@Host_2
```

```
Host_2:# ssh root@Host_1
```

```
Host_1:# exit
```

2. Copy the files. If the destination directories do not exist, create them before.

```
Host_2:# scp /mnt/images/adapt_cluster.cfg root@Host_1:/mnt/images/
```

```
Host_2:# scp /mnt/images/adapt_cluster.iso root@Host_1:/mnt/images/
```

```
Host_2:# scp /mnt/images/reboot.img root@Host_1:/mnt/images/
```

```
Host_2:# scp /mnt/images/reboot.img root@Host_1:/mnt/images/
```

```
Host_2:# scp -r /mnt/store/SAPC/host-config/ root@Host_1:/mnt/store/SAPC/host-config/
```

3. Define and boot the Virtual Machine.

```
Host_2:# ssh root@Host_1
```

```
Host_1:# virsh define /mnt/store/SAPC/host-config/VM/vms/sc01.xml
```

```
Host_1:# qemu-img create -f qcow2 /mnt/images/originalImage/sapc_sc-1_cxp9030138.qcow2 100G
```

```
Host_1:# cat /mnt/store/SAPC/host-config/VM/vms/sc01.xml | grep "<name>"
```

```
<name>SC-1.Host_1</name>
```

```
Host_1:# virsh start SC-1.Host_1 --console
```

4. Wait for the **SC-1** to synchronize.

```
Host_1:# ssh root@192.168.100.126
```

```
SC-1:# drbd-overview
```

The output must have the following line **Connected Primary/Secondary UpToDate/UpToDate** like in the example:



```
0:drbd0/0 Connected Primary/Secondary UpToDate/UpToDate C
r----- lvm-pv:  lde-cluster-vg 41.87g 23.09g
```

2.1.5 Start DHCP Service

Start the DHCP service in both SC.

```
SC-1:~ # systemctl start dhcpd.service
```

Repeat for the other SC

```
SC-2:~ # systemctl start dhcpd.service
```

2.1.6 Unlock CBA Node

```
SC-x:~ # cmw-node-unlock SC-x
```

Further information in [SAPC Troubleshooting Guide](#).

2.2 Payload Blades

2.2.1 Stop SAPC Components

If the faulty blade is powered off, skip this step. In case it is running, stop all processes.

```
— SC-x:~ # sapcPcrfProc status PL-x
```

— If the payload is running, then execute the following.

```
SC-x:~ # sapcPcrfProc stop PL-x
```

The PL-x is the blade that is going to be replaced.

2.2.2 Lock CBA Node

```
SC-x:~ # cmw-node-lock PL-x
```

Further information in [SAPC Troubleshooting Guide](#).

2.2.3 Blade Hardware Replacement

- Shut down the problematic blade, if it is still running despite the malfunction.
- Disconnect all interfaces and power switches from the blade. Remove the blade from the blade system.
- Insert a new blade replacing the one removed.



- Connect all interfaces but **do not power on the blade**. This blade is accessible from the ILOM interface in this point.

2.2.4 Prepare The Blade Before Power On

Attention!

Depending on the payload number, this step changes.

PL-3 PL-4

PL-3 and PL-4 are fixed traffic processors, so add the MAC addresses of the new blade to the **cluster.conf** file. To obtain the MAC addresses, create the **PL_interfaces** file as it is described in the [SAPC PNF Deployment Instruction](#). Use the values of that file to edit the **/cluster/etc/cluster.conf** file and reload the values.

```
SC-1:# vi /cluster/etc/cluster.conf

# PL-x
interface x eth0 ethernet 74:c9:9a:4f:65:44
interface x eth1 ethernet 74:c9:9a:4f:65:45
interface x eth2 ethernet 74:c9:9a:4f:65:40
interface x eth3 ethernet 74:c9:9a:4f:65:41
```

```
SC-1:# cluster config -r -a
```

PL-5 Onwards

Scale in the payload because it was scaled out during the deployment of the SAPC.

```
SC-1:# sapcScaleIn <PL-X>
```

2.2.5 Power On The Blade

Now it is time to power on the blade. Follow the [SAPC PNF Scale Out](#) procedure.

2.2.6 Unlock CBA Node

```
SC-x:~ # cmw-node-unlock PL-x
```

Further information in [SAPC Troubleshooting Guide](#).



Glossary

CBA

Component Based Architecture

CLI

Command-Line Interface

ILOM

Integrated Lights Out Manager

PL

Pay Load

SAPC

Service Aware Policy Controller

SC

System Controller

SLES

SUSE Linux Enterprise Server

VM

Virtual Machine