

# Add Active-Active Geographical Redundancy to a Live SAPC

Ericsson Service-Aware Policy Controller

OPERATING INSTRUCTION

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Add Active-Active Geographical Redundancy to a Live SAPC



# 1 Add Active-Active Geographical Redundancy Description

This document describes how to add Active-Active Geographical Redundancy to a live SAPC, that is, how to add a second SAPC to a standalone system. It also describes how to make the introduction of the second SAPC from a network point of view.

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## Warning!

Only PNF deployments support Active-Active Geographical Redundancy.

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This document is valid only for PNF deployments.

## 1.1 Add Active-Active Geographical Redundancy Prerequisites

The following sections describe the documents, conditions, and tools required before the procedure.

### Interconnection SAPC1 and SAPC2

- Customer Network supplies an external network for data replication between SAPC1 and SAPC2
- Active-Active Geographical Redundancy Network Configuration Guidedescribes the infrastructure requirements.

### Geographical Redundancy Licenses

- Upgrade the Installed Licenses with an extra License Key File for SAPC1.
- Order a complete License Key File for SAPC2.

### Documents

Before starting this procedure, ensure that you have read the following documents:

- Personal Health and Safety Information
- System Safety Information
- Application-specific documents describing the configuration to be used in the new SAPC.



Check also the following documents:

- [Active-Active Geographical Redundancy User Guide](#)

For the installation of the new SAPC (required only on the new site, SAPC2):

- [SAPC PNF Deployment Instruction](#).



## 2 Add Active-Active Geographical Redundancy Procedure

This section describes the installation procedure step-by-step. Some steps must be coordinated between the two SAPC while others can be performed independently. If coordination is required, it is clearly stated in the relevant step.

### 2.1 Procedure in Mated SAPC (SAPC2)

1. Follow the installation instructions for the SAPC2 contained in [SAPC PNF Deployment Instruction](#) to configure the Mated SAPC as non-preferred because live SAPC has to be configured as preferred.

Once the configuration is applied, the SAPC2 is in Initial State. That means that it is ready to be started after the live SAPC has been configured as Active-Active Geographical Redundancy SAPC.

### 2.2 Procedure in Live SAPC (SAPC1)

1. Add Geographical Redundancy license in SAPC1.
  - Install license key file following [Install License Key File](#).
  - Check the license information following [View License Information](#).
2. Add the replication template in the BSP 8100, following the BSP 8100 Configuration section in [SAPC PNF Deployment Instruction](#).

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#### Attention!

At this stage, this step only applies to BSP.

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3. Access to the <OAM-VIP> and then the SC-1.

```
InstallationServer:# ssh root@<OAM-VIP>
```

```
SC-<X>:# ssh root@SC-1
```

4. Copy the following file:

```
SC-1:# cp /cluster/storage/no-backup/adapt/adapt_cluster.cfg.p  
rocessed /cluster/storage/no-backup/adapt/adapt_cluster.cfg
```



5. Update write permissions:  
SC-1:# `chmod u+w /cluster/storage/no-backup/adapt/adapt_cluster.cfg`
6. Modify the `adapt_cluster.cfg` as follows:
  - a. Create **ALB** to configure new network to be used for replication purpose, add the corresponding values in the **[Network]** section. For further details, refer to *Adapt Cluster Tool*.
  - b. Add **[GeoRed]** section. For further details, refer to *Adapt Cluster Tool*:

**[GeoRed]**

**LOCAL\_REP\_VIP** = <VIP-Replication SAPC1> <ALB for Replication>. VIP address and ALB in the local cluster for data replication. For further information, refer to *Active-Active Geographical Redundancy Network Configuration Guide*.

**PEER\_REP\_IP** = <VIP-Replication SAPC2>. VIP address in the remote cluster for data replication. For further information, refer to *Active-Active Geographical Redundancy Network Configuration Guide*.

**LOCAL\_APP\_VIP** = <VIP-Traffic SAPC1> <ALB for Traffic>. VIP address and ALB in the local cluster for geographical redundancy supervision and control in the Traffic Channel link. For further information, refer to *Active-Active Geographical Redundancy Network Configuration Guide*.

**PEER\_APP\_IP** = <VIP-Traffic SAPC2>. VIP address in the remote cluster for geographical redundancy supervision and control in the Traffic Channel link. For further information, refer to *Active-Active Geographical Redundancy Network Configuration Guide*.

**ACT\_ACT** = **true**. To select Active-Active Geographical redundancy solution.

**PREFERRED** = 1. This SAPC is configured as preferred.

**Note:** The SAPC configured as preferred maintains the database to resolve some fault situations where is not possible to know which of the SAPC clusters holds the most up-to-date database.

7. Execute the customizing tool command.
  - SC-1:# `adapt_cluster -f /cluster/storage/no-backup/adapt/adapt_cluster.cfg geored`

Once the tool finishes, the Geographical Redundancy configuration is applied.





8. To check that everything has been successful, the following file must contain the same info as `adapt_cluster.cfg`
  - SC-1: `# cat /cluster/storage/no-backup/adapt/adapt_cluster.cfg.processed_expansion`
9. Once the configuration is applied, the SAPC1 is working as preferred SAPC in Active state. Consider that SAPC1 arises several alarms (DBS, NR, Synchronization Needed and DBS, NR, Connection Lost) until the SAPC2 starts as non-preferred SAPC.

## 2.3 Start Mated SAPC (SAPC2) in Active-Active Geographical Redundancy

1. To start SAPC2, follow the Start Active-Active Geographical Redundancy procedure.
2. Once SAPC2 is fully replicated and ready to process traffic, update the neighbor peers configuration with the new SAPC2 VIP addresses for traffic management and provisioning.