

# Add Active-Active Geographical Redundancy to a Live SAPC

Ericsson Service-Aware Policy Controller

Operating Instructions

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# Contents

<b>1</b>	<b>Add Active-Active Geographical Redundancy Description</b>	<b>1</b>
1.1	Add Active-Active Geographical Redundancy Prerequisites	1
<b>2</b>	<b>Add Active-Active Geographical Redundancy Procedure</b>	<b>3</b>
2.1	Procedure in Mated SAPC (SAPC2)	3
2.2	Procedure in Live SAPC (SAPC1)	3
2.3	Start Mated SAPC (SAPC2) in Active-Active Geographical Redundancy	5





# 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)

#### Steps

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.

#### Results

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)

#### Steps

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.processe  
d  
/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

### Steps

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.