

# Active-Active Geographical Redundancy

Ericsson Service-Aware Policy Controller

User Guide

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# 1 Active-Active Geographical Redundancy Introduction

This instruction provides a guideline for configuring the SAPC for **Active-Active geographical redundancy**. This can be managed using NETCONF or the ECLI to manipulate the MIB.



## 2 Active-Active Geographical Redundancy

### 2.1 Procedures and States

The following figure shows the different state transitions because of geographical redundancy OAM procedures:

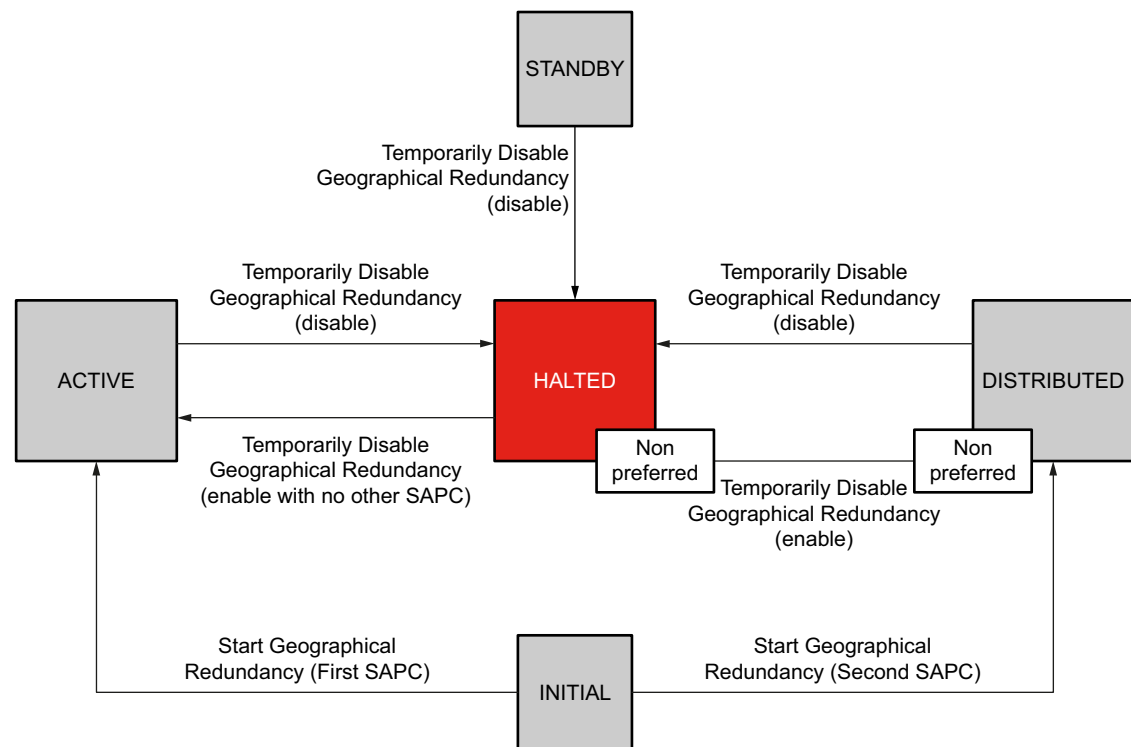


Figure 1 State transitions because of geographical redundancy OAM procedures

The following figure shows the different state transitions taking into account both SAPC peers:

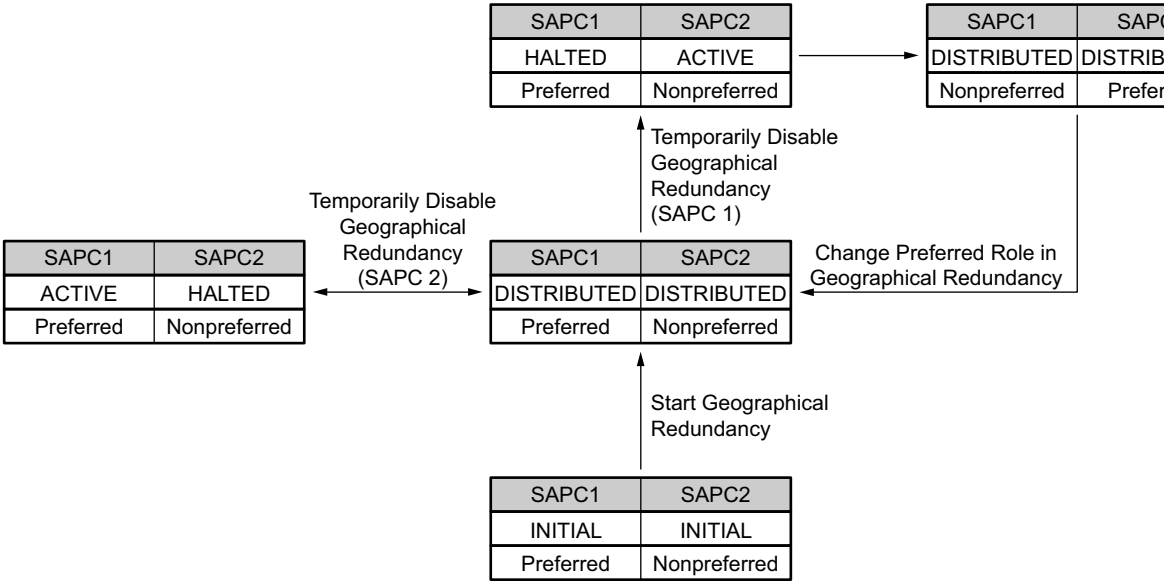


Figure 2 State transitions in both SAPC peers because of geographical redundancy OAM procedures



## 3 Active-Active Geographical Redundancy Procedures

### 3.1 Preconditions

The following conditions must be fulfilled before the data presented in this document is configured in an operational network:

- CBA components are installed.
- The SAPC product software has been installed.
- Understand Geographical Redundancy functionality.

### 3.2 Start Geographical Redundancy

To start geographical redundancy in the two SAPC peers, follow [Start Active-Active Geographical Redundancy](#).

### 3.3 Temporarily Disable Geographical Redundancy

To temporarily disable geographical redundancy, follow [Temporarily Disable Active-Active Geographical Redundancy](#).

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#### Warning!

Check the state of the other SAPC before ordering a stop operation. If the other SAPC is already in Halted state, nothing prevents ordering a stop operation to the local SAPC.

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### 3.4 Monitor Geographical Redundancy State

This procedure retrieves the geographical redundancy state of the SAPC. During normal operation, it is expected that the SAPC is in `Distributed` state.

To monitor geographical redundancy state, do the following:

#### Steps

1. Connect to the SAPC and open an `Ericsson Command-Line Interface (CLI)` session.





2. Navigate to class `GeoRedManager` object:

```
>dn ManagedElementId=1,PolicyControlFunction=1,GeoRedManager=1
```

3. Execute action **show**:

```
(ManagedElement=1,PolicyControlFunction=1,GeoRedManager=1)>  
show
```

4. Verify the values of `currentState` and `previousState` attributes.

## 3.5 Check Geographical Redundancy Configuration

To check geographical redundancy configuration, do the following:

### Steps

1. Connect to the SAPC and open an Ericsson Command-Line Interface (CLI) session.

2. Navigate to class `GeoRedManager` object:

```
>dn ManagedElementId=1,PolicyControlFunction=1,GeoRedManager=1
```

3. Execute action **showConfiguration**:

```
(ManagedElement=1,PolicyControlFunction=1,GeoRedManager=1)>  
showConfiguration
```

4. Verify the values of `Local IP`, `Peer IP`, and `Role` attributes.

## 3.6 Change Preferred Role in Geographical Redundancy

To change Preferred role in geographical redundancy, follow [Change Preferred Role in Active-Active Geographical Redundancy](#).

## 3.7 Maintenance Activities

To perform low-level maintenance activities on one of both SAPC other than upgrading the version (such as hardware replacements), it is recommended to disable the geographical redundancy and halt the SAPC to be maintained. If the maintenance task is to be performed in both SAPC, it is preferable to start with the one configured as `Non Preferred`. To do so follow these steps:

### Steps

1. On the desired SAPC temporarily disable geographical redundancy by following [Temporarily Disable Active-Active Geographical Redundancy](#). This procedure stops the DBS replication and changes the state to `Hal ted`. The other SAPC passes to `Active` state.



2. On the other SAPC (it should be in Active state), execute the following command to disable DBS replication:  
  
**>immcfg -a isEnabled=0 dbsNetsharedConfigId=1**
3. Perform the maintenance task on the Halted SAPC.
4. On the Active SAPC, enable again the DBS replication by executing:  
  
**>immcfg -a isEnabled=1 dbsNetsharedConfigId=1**
5. On the Halted SAPC, enable again the geographical redundancy following the procedure [Enable Active-Active Geographical Redundancy](#) documented at [Temporarily Disable Active-Active Geographical Redundancy](#).
6. Execute the following command and wait until all payload processors (PLs) show idle state in both SAPC:  
  
**>clurun.sh -c netshared\_state\_dump**
7. Repeat steps from 1 to 7 on the other SAPC if needed.
8. If desired, modify preferred roles by following [Change Preferred Role in Active-Active Geographical Redundancy](#).



## 4 Active-Active Geographical Redundancy Fault Management

The following is the list of alarms related to Geographical Redundancy:

- Policy Control, Geographical Redundancy Unable To Reach Peer

The DBS ones are the following:

- DBS, NR, Configuration Invalid
- DBS, NR, Connection Lost
- DBS, NR, Initial Synchronization Needed
- DBS, NR, Out Of Sync
- DBS, NR, Redundancy Disabled
- DBS, NR, Synchronization Needed