

Active-Standby Geographical Redundancy

Ericsson Service-Aware Policy Controller

USER GUIDE

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Abstract

The purpose of this document is to provide a guideline to manage Geographical Redundancy in the SAPC



Contents

1	Active-Standby Geographical Redundancy Introduction	1
2	Active-Standby Geographical Redundancy	3
2.1	Procedures and States	3
2.2	Recommended Operating Conditions	4
3	Active-Standby Geographical Redundancy Procedures	5
3.1	Preconditions	5
3.2	Start Geographical Redundancy	5
3.3	Temporarily Disable Geographical Redundancy	5
3.4	Monitor Geographical Redundancy State	5
3.5	Check Geographical Redundancy Configuration	6
3.6	Change Preferred Role in Geographical Redundancy	6
3.7	Return Active State to Preferred Node	6
3.8	Maintenance Activities	6
4	Active-Standby Geographical Redundancy Fault Management	9





1 Active-Standby Geographical Redundancy Introduction

The purpose of this document is to provide a guideline for configuring the SAPC for **Active-Standby geographical redundancy**. This can be managed using NETCONF or the ECLI to manipulate the MIB.



2 Active-Standby Geographical Redundancy

2.1 Procedures and States

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

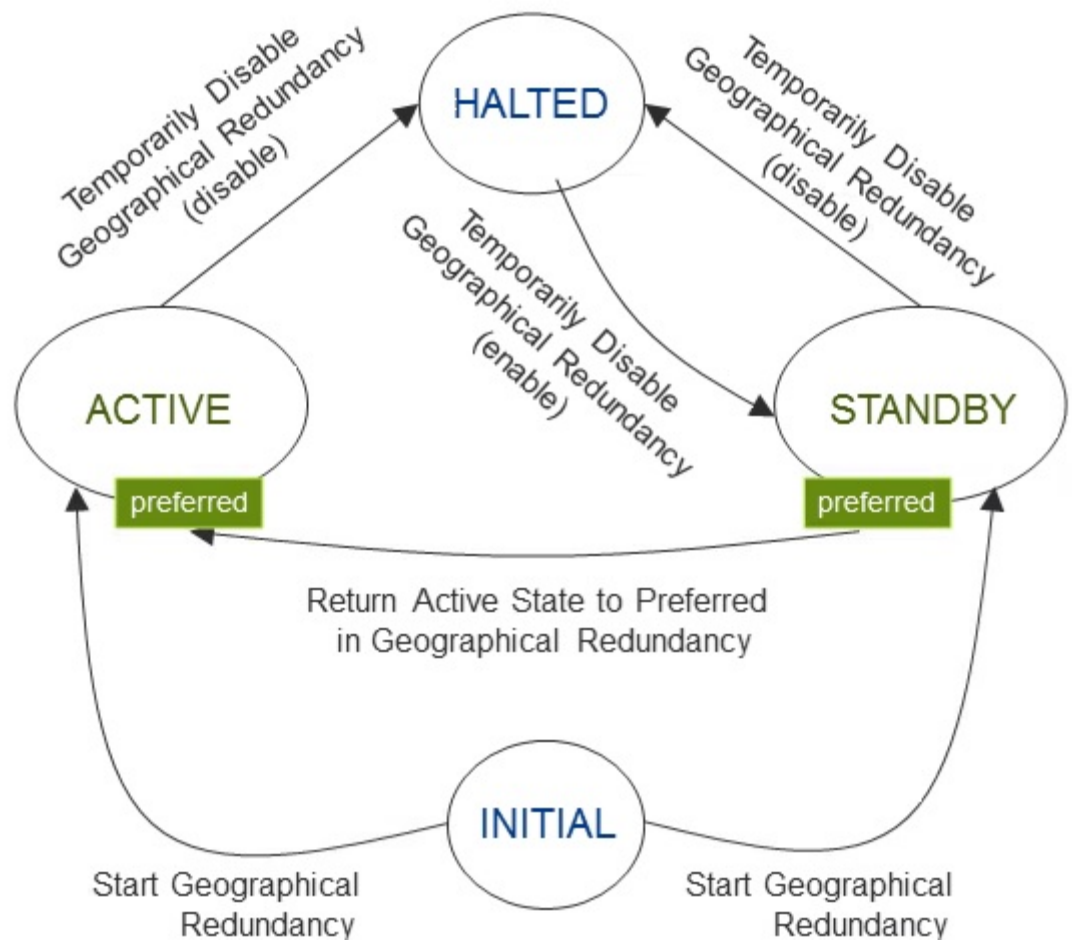


Figure 1 State transitions because of geographical redundancy OAM procedures

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

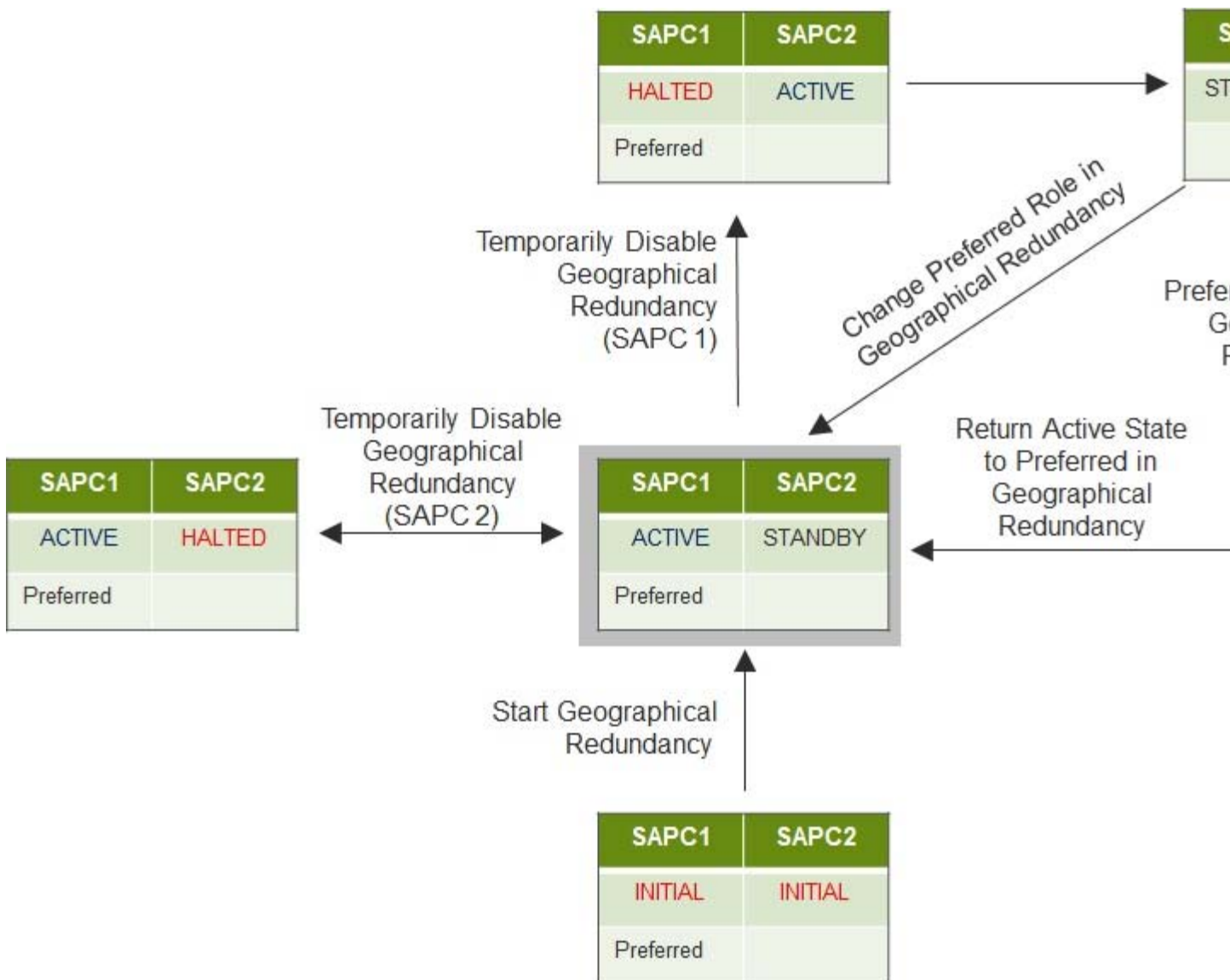


Figure 2 State transitions in both SAPC peers because of geographical redundancy OAM procedures

2.2 Recommended Operating Conditions

Ericsson recommends setting Preferred SAPC as Active state. If there is a failure in the Preferred Active SAPC, the Standby SAPC transitions to Active and takes over. Then the preferred SAPC does not process traffic. To return traffic processing to the Preferred SAPC, follow the procedure in Change Preferred Role in Active-Standby Geographical Redundancy.



3 Active-Standby 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-Standby Geographical Redundancy](#).

3.3 Temporarily Disable Geographical Redundancy

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

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 either in Active or Standby state.

To monitor geographical redundancy state, do the following:

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:

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)>show  
Configuration
```

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-Standby Geographical Redundancy](#).

3.7 Return Active State to Preferred Node

To return Active state to Preferred SAPC, follow [Return Active State to Preferred in Active-Standby Geographical Redundancy](#).

3.8 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 in Standby state. To do so follow these steps:

1. Configure the desired SAPC as `Non Preferred` if not configured yet, following [Change Preferred Role in Active-Standby Geographical Redundancy](#).
2. On this SAPC temporarily disable geographical redundancy by following [Temporarily Disable Active-Standby Geographical Redundancy](#). This procedure stops the DBS replication and changes the state to `Halted`. If the other SAPC was in Standby state, it will pass to Active state.
3. On the other SAPC (it should be in Active state), execute the following command to disable DBS replication:

```
>immcfg -a isEnabled=0 dbsNetsharedConfigId=1
```
4. Perform the maintenance task on the `Halted` SAPC.



5. On the Active SAPC, enable again the DBS replication by executing:

```
>immcfg -a isEnabled=1 dbsNetsharedConfigId=1
```

6. On the Halted SAPC, enable again the geographical redundancy following the procedure [Enable Active-Standby Geographical Redundancy](#) documented at [Temporarily Disable Active-Standby Geographical Redundancy](#).
7. Execute the following command and wait until all payload processors (PLs) show idle state in both SAPC:

```
>clurun.sh -c netshared_state_dump
```

8. Repeat steps from 1 to 7 on the other SAPC if needed.
9. If desired, restore preferred roles by following [Change Preferred Role in Active-Standby Geographical Redundancy](#).





4 Active-Standby 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