



SAP HANA Database – Scaleout with Standby Host

- SAP HANA Appliance Software SPS 04

Target Audience

- Consultants
- Administrators

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Contents

1	INTRODUCTION.....	2
2	STANDBY HOST	2
3	FAILOVER	3
4	SETTING UP A STANDBY HOST.....	3
5	SAP HANA GUIDES.....	4

SAP HANA Database – Scaleout with Standby Host

1 Introduction

This section provides an overview of how to ensure high operational availability of your SAP HANA database.

By defining steps to preserve your database in the event of catastrophes such as power outages, hardware failure, or even the destruction of your entire data center, you are in a stronger position to ensure a specified level of database availability.

We recommend that you develop a high availability solution that is tailored to the individual requirements of your business, and that you plan your hardware acquisition and deployment accordingly.

For technical guidance when developing a high availability strategy or when implementing a specific product or feature, contact the appropriate source of information, such as your SAP consultant, your hardware vendor, or the SAP Competence Center.



The information presented here provides only a general overview and is not intended to be a substitute for the documentation specific to your production operations.

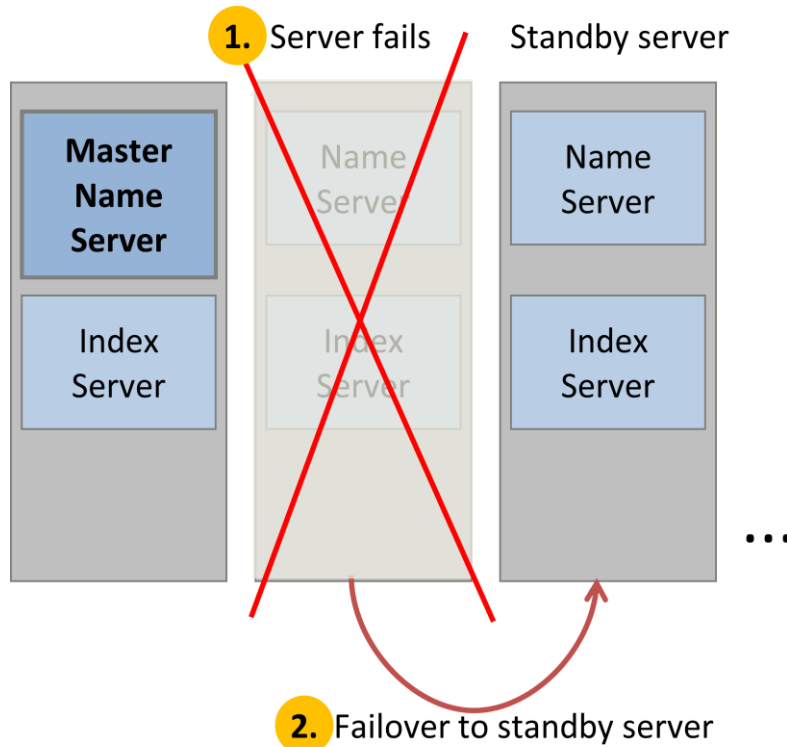
2 Standby Host

In a distributed system, some of the servers are designated as worker hosts, and other servers are designated as standby hosts. Multiple servers can be grouped together to allow a dedicated standby host to be assigned to each group. You can assign multiple standby hosts to each group.

SAP HANA database supports cold standby hosts, where a standby host is kept ready for the event that a failover situation occurs during production operation. A standby host is not used for database processing. All the database processes run on the standby host, but they are idle and do not allow SQL connections. It is not possible to configure individual services on a standby host; all the services are configured together.

3 Failover

The graphic below illustrates what happens in a failover situation.



If the system detects a failover situation, the work of the services on the failed server is reassigned to the services running on the standby host. The failed volume and all the included tables are reassigned and loaded into memory in accordance with the strategy that you have defined for your system. This reassignment can be done without moving any data, because all the persistencies of the servers are stored on a shared disk. Data and logs need to be stored on shared storage, where every server has access to the same disks.

Your high availability strategy needs to ensure that the standby host can be activated if a failover situation actually occurs.

Before a failover is performed, the system waits for a few seconds to check whether or not the service can be restarted. During this time, the status is displayed as 'Waiting'. This procedure can take up to a minute. In all, failover detection and loading may take several minutes to complete.

4 Setting Up a Standby Host

One or more of the database servers in a landscape can be defined as standby hosts. This is done during landscape installation.



The number of standby servers defined during installation cannot subsequently be reduced. Standby hosts can be added after installation.

To view the configuration in the SAP HANA studio, choose Landscape -> Configuration.

To display the configuration, use the Monitoring view

`SYS.M_LANDSCAPE_HOST_CONFIGURATION`.

This view shows current configuration and indicates whether a failover situation exists.

To change the configuration, use the stored procedure
`SYS.UPDATE_LANDSCAPE_CONFIGURATION`.

Configuration is performed for the name server and the index server. The statistics server and the tenant services are not configured individually, as they are always failed over together with the index server.

When the name server configuration is changed, the new configuration is activated when the service is restarted or in a failover situation.

More Information

For more information about setting up a standby host, refer to the section *Adding a Host to the System* in the [SAP HANA Database - Server Installation and Update Guide](#). Also refer to the section Concepts → Distributed System for concepts about distributed SAP HANA database systems.

5 SAP HANA Guides

For more information about SAP HANA landscape, security, installation and administration, see the resources listed in the table below.

Topic	Guide/Tool	Quick Link
SAP HANA Landscape, Deployment & Installation	<i>SAP HANA Knowledge Center on SAP Service Marketplace</i>	https://service.sap.com/hana → SAP HANA Master Guide → SAP HANA Installation Guide
SAP HANA Administration & Security	<i>SAP HANA Knowledge Center on SAP Help Portal</i>	http://help.sap.com/hana → SAP HANA Technical Operations Manual → SAP HANA Security Guide