



# High Availability Clusters for SAP in Linux Environments

## Key Benefits

### Provide Superior Protection

- Protects your entire SAP stack including HANA with high availability clustering, continuous data replication, and disaster recovery functionality
- Enables single- and multi-site clusters using existing servers and storage

### Make Clusters Easy

- Intuitive, wizard-driven GUI simplifies installation, configuration and management
- Supports physical, virtual or cloud environments and a wide range of storage architectures

### Save Money

- Eliminates the cost, complexity and single point of failure risk of SAN storage
- Reduces data transfer costs in cloud environments
- Efficient replication engine minimizes network traffic—without hardware accelerators or compression devices.
- Saves labor cost by automating data replication tasks using an intuitive management console

Enterprises need their business-critical SAP system to continue to operate through hardware failures, administrator errors, routine maintenance and site-wide disasters. Even brief periods of downtime for business critical SAP systems can have devastating consequences, including production and supply chain interruption, delivery delays, lost sales, payroll delays, customer service degradation, contractual liabilities and regulatory fines. However, SAP offers little or no native support for clustering, replication or recovery functions and custom-developed Linux-based solutions can be expensive, complicated, and error-prone.

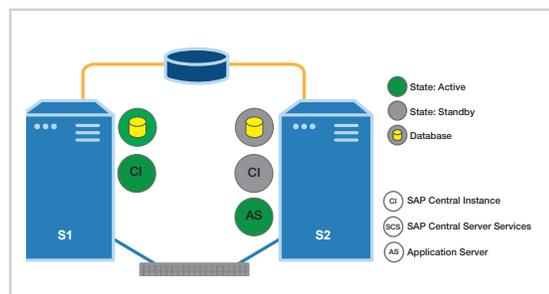
SIOS Protection Suite™ for Linux software provides comprehensive SAP protection, including high availability, data replication, and disaster recovery in an easy, cost-efficient solution. SIOS software supports both JAVA and ABAP versions of SAP servers running on either Red Hat Enterprise Linux or SUSE Linux Enterprise Server, and accommodates a wide range of storage architectures.

## Easy Configuration Lets You Build a Cluster in Minutes

SIOS software provides an intuitive, wizard-based interface that makes configuration and implementation of your SAP cluster easy.

## Continuous Monitoring of the Entire SAP Environment

Unlike traditional clustering software that only checks that the server is alive, SIOS Protection Suite software monitors the health of the system and provides application aware high availability to ensure maximum uptime. SIOS software verifies that SAP is running, file shares or NFS exports are available, databases are mounted and available, and clients are able to connect. SIOS software actively monitors: servers, operating systems, SAP Primary Application Server (PAS) Instance, ABAP SAP Central Service (ASCS) Instance, back-end databases (Oracle, DB2, MaxDB, MySQL and PostgreSQL), SAP HANA, the SAP Central Services Instance (SCS), volumes or file systems, file shares or NFS mounts, IP and virtual IP, Enqueue and message servers, and Logical Volumes (LVM).



## Automatic or Manual Failover

SIOS clusters can also stop and restart the application both locally and on another cluster server at either the same site or at another geographic location.

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When the SIOS software detects a problem, it automatically initiates one of three configurable recovery actions that will maximize uptime and protection for applications and data: it may attempt a restart on the same server; switchover to a standby server; or alert a system administrator. It performs both local recovery or complete failover quickly and easily.

## Eliminate Planned Downtime

In addition to protecting against unplanned outages and downtime, you can use SIOS Protection Suite to eliminate downtime associated with planned maintenance by manually migrating services and client connections between systems.

## SAN or SANless Clusters

SIOS Protection Suite for Linux offers two options for continuous data availability – SAN-based or SANless clusters. Use SIOS Protection Suite to create a SANless cluster by replicating from local storage on the active SAP Server to local storage on a standby server, using real time, block-level replication that can operate in either synchronous or asynchronous mode. In the event of a failure on the active server, SIOS software moves SAP operation to the standby server, providing high availability without a costly SAN.

SIOS software lets you configure standby servers that are either local or remote over a LAN or WAN. With real-time replication, SIOS software delivers immediate recovery from a local system failure, because an identical copy of the data is maintained on the backup server. It also allows the creation of multiple real-time copies through one-to-many replication.

## SAP HANA Protection

SIOS Protection Suite for Linux can be used to control SAP HANA System Replication, which replicates all data to a secondary SAP HANA node. In this SAP HANA scale-up configuration, data is constantly pre-loaded on the secondary SAP HANA node.

## About SIOS

SIOS delivers innovative software solutions that provide application availability and disaster protection for Windows and Linux environments.

### Clusters Your Way.™

Essential to any cluster solution, SIOS SAN and #SANLess clustering software provides the flexibility to build clusters your way to protect your choice of Windows or Linux environment – and any configuration (or combination) of physical, virtual and cloud (public, private, and hybrid) storage – without sacrificing performance or availability. SIOS provides unique SANless clustering software that eliminates both the cost and the single-point-of-failure risk of traditional SAN-based cluster solutions.

Founded in 1999, SIOS Technology Corp., is headquartered in San Mateo, California, and has offices throughout the United States, United Kingdom, and Japan.

## SAP Disaster Recovery

Disaster recovery and DR testing in SAP environments can be time consuming and result in significant data loss because the SAP databases need to be restored from the latest available backup. SIOS Protection Suite software eliminates these challenges by quickly and easily resuming SAP operations in the event of a disaster without data loss.

The SIOS software makes DR testing easy by allowing administrators to move SAP to the DR site for testing and to move it back to the primary site when testing is done. It also lets you leave SAP in service in the primary site while completing DR testing with no impact to your production network by unlocking the target data, bringing SAP into service on the backup system to verify recovery.

SIOS Protection Suite software makes SAP/Linux clusters easy to use and easy to own.

