Data Sheet
Enterprise Linux

# SUSE® Linux Enterprise High Availability Extension 11

**Businesses today run 24 hours a day, 365 days a year. To keep your businesses running, you need to provide your employees highly available services—non-stop, continuous access to critical business systems and data. But you also need to watch your expenses and carefully manage your budget. You need SUSE® Linux Enterprise High Availability Extension.**

## Background

In order to contain costs, many organizations began using commodity off-the-shelf (COTS) hardware and open source software to meet their diverse and growing computing needs. However, one potential risk you face when using these systems for mission-critical workloads is unplanned downtime caused by component failures. In order to ensure the continuous operation of core business services, you need to protect your workloads from systems failure, while increasing services availability, either through greater reliability, redundancy or fast fail-over to standby systems.

## Product Overview

SUSE Linux Enterprise High Availability Extension provides the most modern and complete open source solution for ensuring services availability. It is an affordable, integrated suite of robust open sourc clustering technologies that enables you to implement highly available physical and virtual Linux clusters. Used with SUSE Linux Enterprise Server, it helps you maintain business continuity, protect data integrity and reduce unplanned downtime for your mission-critical Linux workloads. By using SUSE Linux Enterprise High Availability Extension, you can safely depend on commodity hardware.

## Key Features and Benefits

SUSE Linux Enterprise High Availability Extension delivers all of the essential monitoring, messaging and cluster resource management functionality of proprietary third-party solutions, but at a more affordable price. Based on an innovative, highly flexible policy engine, it supports a wide range of physical and virtual clustering scenarios, and its adherence to open standards ensures interoperability.

### FLEXIBLE, POLICY-DRIVEN CLUSTERING SOLUTION

SUSE Linux Enterprise High Availability Extension supports the Corosync cluster engine and OpenAIS—the leading standards-based communication protocol for server and storage clustering. Also included is Pacemaker, a highly scalable cluster resource manager with a flexible policy engine that supports n-node clusters. Using Corosync, OpenAIS and Pacemaker, you can continuously monitor the health of your resources, manage dependencies, and automatically stop and start services based on configurable rules and policies.

### RESOURCE AGENTS FOR APPLICATIONS

SUSE Linux Enterprise High Availability Extension includes resource agents for many third-party and open source applications at no additional charge. Included are scripts for monitoring third-party applications such as SAP, Oracle, IBM DB2, WebSphere, Informix and VMware. Also included are scripts for popular open source services, such as Apache, MySQL, NFS, PostgreSQL, Tomcat, KVM and Xen. With these components, you can rapidly set up many highly available data center services. For the complete list of resource agents, please visit: **www.suse.com/products/highavailability**

### CONTINUOUS DATA REPLICATION

SUSE Linux Enterprise High Availability Extension includes support for distributed replicated block devices with DRBD, a leading open source networked disk-management tool. Using DRBD, you can build single partitions from multiple disks that mirror each other and make data highly available. You can also quickly restore clustered services by taking advantage of its fast data resynchronization capabilities. DRBD supports both synchronous and asynchronous mirroring, and in the event of an outage, it automatically resynchronizes the temporarily unavailable node to the latest version of data, without interfering with the running

service. Also included is Relax and Recover (ReaR), a popular open source node recovery framework for quick bare-metal restorations.

### CLUSTER-AWARE FILE SYSTEM AND VOLUME MANAGEMENT

SUSE Linux Enterprise High Availability Extension includes the latest version of OCFS2, which is now a shared-disk POSIX-compliant generic cluster file system. Using OCFS2, you can cluster a wide range of applications through cluster-aware POSIX locking, as well as resize clusters and add new nodes. Also included is support for cLVM2, a clustered logical volume manager. cLVM2 provides a more convenient, single, cluster-wide view of storage. Clustering extensions to the standard LVM2 toolset allow you to use existing LVM2 commands to safely and simply manage shared storage, eliminating the need to learn a new set of tools.

### VIRTUALIZATION AWARE

The clustering technologies in SUSE Linux Enterprise High Availability Extension support physical and virtual environments equally well. The cluster resource manager in SUSE Linux Enterprise High Availability Extension recognizes, monitors and manages services running within virtual servers created with KVM and Xen, as well as services running in physical servers. Virtual servers can be clustered together or with physical servers, and physical servers can be clustered with each other, extending high availability from virtual to physical workloads. The combination of SUSE Linux Enterprise Server, with integrated KVM and Xen, and SUSE Linux Enterprise High Availability Extension gives you unprecedented flexibility to improve services availability and increase resource utilization at the same time.

### USER-FRIENDLY MANAGEMENT TOOLS

SUSE Linux Enterprise High Availability Extension includes both a powerful unified command-line interface and a web-based graphical user interface for easily installing, configuring and managing clustered Linux servers. Also included are YaST2 modules that simplify the configuration of distributed storage systems and high-availability solutions, while improving productivity.

### GEO CLUSTERING

Geo Clustering for SUSE Linux Enterprise High Availability Extension enables you to deploy physical and virtual Linux clusters between Data Centers located anywhere in the world. By extending the capabilities of SUSE Linux Enterprise High Availability Extension across unlimited distances, it maximizes an organization's tolerance to regional catastrophic events. The solution provides rules-based failover for automatic and manual transfer of workloads to another cluster outside of the affected area, so you can meet your service level agreements, while maintaining compliance with corporate policies and external regulations. To receive technical support and maintenance for geographical clustered Linux servers, a separate Geo Clustering for SUSE Linux Enterprise High Availability Extension subscription is required, in addition to active SUSE Linux Enterprise Server and SUSE Linux Enterprise High Availability Extension subscriptions.

### NEW IN SERVICE PACK 3

- **Blackbox monitoring:** *monitor and manage services without the need to install software on the service side*
- **Better usability:** *improvements to the web interface, history explorer, command line shell, and the policy engine*
- **Storage stack:** *improved performance for DRBD and cLVM2, robustness and cluster integration for SBD*

## Supported Platforms

SUSE Linux Enterprise Server 11 for x86, x86_64, Itanium, IBM Power and IBM System z

## Pricing

For current pricing, please visit: **www.suse.com/products/highavailability/howtobuy.html**

## More Information

For more information about SUSE Linux Enterprise High Availability Extension, contact your partner or sales representative, or visit **www.suse.com/products/highavailability**. For release notes, please visit: **www.suse.com/releasenotes/x86_64/SLE-HA/11-SP3/**

www.suse.com

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