

Oracle Solaris Cluster Frequently Asked Questions

Overview

Oracle Solaris Cluster is the enterprise high availability and disaster recovery solution for Oracle Solaris.

Built for business critical clouds

Oracle Solaris Cluster extends Oracle Solaris to provide the infrastructure required for deploying mission critical workloads in virtualized cloud environment. It does support Oracle Solaris Zones and Oracle VM for SPARC and can be configured to offer protection at the application level or at the zone / VM level with policy-based recovery behavior and reliable management of multi-tier dependencies. It does also provide administrative isolation for multi-tenant environments and offers ease of operation in combination with Oracle Enterprise Manager.

Best availability for enterprise application

Tightly coupled with Oracle Solaris, Oracle Solaris Cluster detects systems failures instantly and consistently, providing faster failure notification, application failover and significantly reducing overall service recovery time thus drastically reducing application outages.

Oracle Solaris Cluster provides out-of-the box support for a large number of applications and databases from Oracle and main stream ISVs, avoiding any development and scripting tasks, facilitating immediate deployment in traditional systems or virtual environments. The Oracle Solaris Cluster graphical agent toolkit enables adding support for custom applications with minimal effort.

Oracle Solaris Cluster does also include built-in multi-site, multi-cluster support, offering reliable protection from disaster through automated application failover and coordination with application-, storage-, host-based replication solutions.

Engineered for Oracle

Oracle Solaris Cluster delivers its best with the complete Oracle stack. It is thoroughly tested with Oracle Sun servers, storage systems, networking components and applications. It is pre-engineered with SuperCluster for multi-tier applications and database deployment and included in Oracle Optimized Solutions for leading Oracle applications – PeopleSoft, Siebel CRM, E-Business Suite

General

What is Oracle Solaris Cluster software?

Oracle Solaris Cluster framework extends high availability features of Oracle Solaris - it includes Oracle Solaris Cluster, Oracle Solaris Cluster Geographic Edition, developer tools and support for commercial and open-source applications through Oracle Solaris Cluster agents. The integrated software provides High Availability and Disaster Recovery for local, campus, metropolitan and worldwide clusters in physical and virtual environments.

How does Oracle Solaris Cluster work?

By tightly coupling Sun servers, storage and networking solutions, Oracle Solaris Cluster provides the maximum level of service availability and performance for a cluster system.

The servers (nodes) in a cluster communicate through private interconnects. These interconnects carry important cluster information (data as well as a cluster "heartbeat"). This heartbeat lets the servers in the cluster monitor the health of the other servers within the cluster, ensuring that each server is "alive". If one of the servers goes offline and its heartbeat disappears, the rest of the devices in the cluster isolate the server and "fail-over" any application or data from the failing node to another node. This fail-over process is quick and transparent to users of the application. By exploiting the redundancy in the cluster, Oracle Solaris Cluster ensures the highest levels of availability.

A typical Oracle Solaris Cluster configuration has the following components:

Hardware Components:

- Servers with local storage (storage devices hosted by one node).
- Shared storage (storage devices hosted by more than one node).
- Cluster Interconnects for private communication among the cluster nodes.
- Public Network Interfaces for connectivity to the outside

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world.

- Administrative Workstation for managing the cluster.

Software Components:

- Oracle Solaris running on each cluster node.
- Oracle Solaris Cluster software running on each cluster node.

Data Services - applications and their corresponding Oracle Solaris Cluster agents that monitor the health of the applications and manage their life-cycle (start, stop and failover) running on one or more cluster nodes.

What is Oracle Solaris Cluster Geographic Edition?

Oracle Solaris Cluster Geographic Edition is a feature part of Oracle Solaris Cluster that enables a multi-site disaster recovery solution that manages the availability of application services and data across geographically dispersed Oracle Solaris Clusters. In the event that a primary cluster goes down, system administrators are informed immediately. It enables them to automatically start up business applications with replicated data on the secondary Oracle Solaris Cluster.

What is an Oracle Solaris Cluster agent?

An Oracle Solaris Cluster agent is a k-sh script, a C-program, or a binary that manages the availability of an application. The agent starts, stops, and monitors the health of the application, and takes corrective action to regain application availability upon failure. Applications do not need to be modified to benefit from the enhanced availability offered by the Oracle Solaris Cluster agent. Applications can run either directly on Solaris on a physical system, in Oracle VM Server for SPARC, in dynamic domains or within Oracle Solaris Containers.

The Oracle Solaris Cluster development team, as well as other third-party software vendors, have created tailored agents for popular applications and databases such as Oracle RAC and Single Instance databases, Oracle Weblogic, Siebel, PeopleSoft, E-buisness suite, SAP, Sybase, MySQL, Apache and many others.

If your application does not have an available tailored agent, you can create your own using the Oracle Solaris Cluster agent builder (included with the Oracle Solaris Cluster software).

This agent builder has an easy to use "wizard" graphical user interface, which leads the user through the steps of creating an

agent. After the user completes the agent building process, a ready-to-use agent is available for immediate use (the whole process takes only a few minutes from start to finish).

What is the difference between "Oracle Solaris Cluster", "Oracle Solaris Cluster Geographic Edition" and "Oracle Solaris Cluster, Enterprise Edition"?

Oracle Solaris Cluster, Enterprise Edition license encompasses both Oracle Solaris Cluster and Oracle Solaris Cluster Geographic Edition functionalities as well as the Oracle Solaris Cluster agents.

Why is Oracle Solaris Cluster the best HA solution on Oracle Solaris?

Oracle Solaris Cluster is designed for, and integrated more deeply and broadly with Oracle Solaris and Oracle Sun servers than any other solution in the industry.

Tightly coupled with the Oracle Solaris operating system at the kernel level, Oracle Solaris Cluster detects failure without delay. It provides much faster failure notification, application failover, and reconfiguration time; and significantly reduces services recovery time. For customers looking for the highest level of security for their mission-critical applications, Oracle Solaris Cluster offers a qualified HA solution that supports Oracle Solaris Trusted Extensions.

Oracle Solaris Cluster is designed to take advantage of the built-in reliability features found in Oracle Solaris, such as its Predictive Self Healing framework. It supports applications controlled by the Service Management Facility and deployed in Oracle Solaris Zones, as well as the ability to use Oracle Solaris ZFS as a failover and boot file system.

Oracle Solaris Cluster continuously includes new Oracle Sun server, storage, and connectivity solutions to its configuration matrix. Each new configuration is tested and certified through Oracle Solaris Cluster automated test environment (SCATE), an advanced distributed test development and execution framework for a highly reliable solution that can be deployed with confidence.

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What is the difference between Oracle Solaris Cluster 3.3 5/11 and Oracle Solaris Cluster 4.0?

Oracle Solaris Cluster 4.0 is the first release available on Oracle Solaris 11. It is closely integrated with Oracle Solaris 11 and it supports the Oracle Solaris 11 life-cycle management with a new packaging system (IPS) and the new Automated Installer. It supports the subset of servers, storage, data management, replication technologies and applications that are available on Oracle Solaris 11 and could be qualified with Oracle Solaris Cluster. Qualifications of additional components are being run on an ongoing basis. Please check with your sales representatives if you have questions whether your configuration is qualified.

Oracle Solaris Cluster 4.0

What are the new features with the Oracle Solaris Cluster 4.0 release?

- Oracle Solaris Cluster 4.0 introduces support for Oracle Solaris 11, the first cloud OS.
- Oracle Solaris Cluster 4.0 uses the new Oracle Solaris Image Packaging System (IPS) to simplify software delivery and facilitate lifecycle management.
- Oracle Solaris Cluster 4.0 supports Oracle Solaris 11's automated installer to provide integrated automated system provisioning.
- Oracle Solaris Cluster 4.0 extends Oracle Solaris zones on Oracle Solaris 11 with high availability and disaster recovery support
- With Oracle Solaris zone cluster customers can create virtual clusters to deploy multiple applications or multi-tiered workloads onto a single physical cluster configuration. Applications can be run in their own specific zone cluster and can be moved to another server on demand or failed over in case of failure following their application specific pre-defined procedures as well as load and priority balancing policies.

- With Oracle Solaris Cluster failover zones the individual zones can be moved to another server on demand or failed over in case of failure. Customers may use failover zones to manage Oracle Solaris 10 or Oracle Solaris 11 native zones. This can facilitate migration of Oracle Solaris 10 zones or systems to Oracle Solaris 11 by providing the same high availability infrastructure support than on Oracle Solaris 10.
- Oracle Solaris Cluster 4.0 includes built-in support for Oracle Solaris 11 services such as Apache, Apache Tomcat, DHCP, DNS, NFS, as well as additional Oracle software such as Oracle Database 11.2.0.3 (single instance and Oracle Real Application Clusters (RAC) and WebLogic Server. System administrators can easily add increased application availability, as well as simplified service deployment and management. Oracle Solaris Cluster 4.0 offers reliable protection from disaster for traditional or virtualized workloads on Oracle Solaris 11 through automated application failover and coordination with replication solutions such as StorageTek Availability Suite 4.0, Oracle Data Guard and a script-based plug-in.

Oracle Solaris Cluster 3.3 5/11 (Oracle Solaris 10)

What were the new features announced with Oracle Solaris Cluster 3.3 5/11 release?

Flexibility

- Sun ZFS storage appliance as a NAS device
- Oracle Automatic Storage Management Cluster File System (Oracle ACFS)

Diagnosability

- Extended cluster validation tool

Virtualization

- New Oracle Solaris Containers cluster options for file systems and dependencies

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- Out-of-the box support in Oracle Solaris Containers cluster for all currently available applications agents

Application Integration

- New supported application and database versions

Disaster Recovery

- Oracle Data Guard replication with Oracle Database single instance in geo clusters
- Storage-based replication options for Oracle Solaris ZFS with EMC SRDF and Hitachi Universal Replicator with campus and geo clusters
- New topology: Three-data-center (3DC) configuration

Ease of Use

- Configuration wizards for Oracle 11g Release 2 HA for Oracle/Oracle RAC

Security

- Full support of Oracle Solaris Trusted Extensions

For more information about the new features with Oracle Solaris Cluster 3.3 5/11, read the “What’s New document” available [here](#).

Systems Requirements

Is non Sun Storage supported with Oracle Solaris Cluster ?

Oracle’s Solaris Cluster Storage Partner Program provides customers with expanded choices of supported third-party storage arrays with Oracle Solaris Cluster. The following partners are Oracle Solaris Cluster certified: 3PAR, Compellent, EMC, Engenio, Fijitsu, Hitachi Data Systems, HP, IBM, NEC, NetApp, and Pillar Data Systems. You can access all Interoperability Matrices from [here](#).

Are there any differences between Oracle Solaris Cluster software running with Oracle Solaris on SPARC based systems and x86 based systems?

No, there are no differences in functionality. All Oracle Solaris Cluster software features are available for Oracle Solaris Cluster software on both processor technologies. However, there are differences in supported applications, their Oracle Solaris Cluster agents and supported hardware (storage, interconnect, ...).

Can I install Oracle Solaris Cluster on any x86 system?

You can install Oracle Solaris Cluster on Oracle x86 systems that are certified with Oracle Solaris Cluster. The list of supported Oracle servers is available in the System Requirements Document [here](#).

Licensing

What is the Oracle Solaris Cluster product licensing model?

Oracle Solaris Cluster, Enterprise Edition

The Oracle Solaris Cluster pricing and licensing model, aligned with the Oracle software licensing model, consists of a single non-version specific part. This license includes the right-to-use all functionalities included in both

- Oracle Solaris Cluster: the core High Availability functionality and its integration with applications (aka agents) supported by Oracle Solaris Cluster
- Oracle Solaris Cluster Geographic Edition: the Disaster Recovery features offered on top of Oracle Solaris Cluster

Oracle Processor Core Calculation

The number of required Oracle Solaris Cluster licenses shall be determined by multiplying the total number of cores of the processors by a core processor licensing factor specified in the [Oracle Processor Core Factor Table](#). All cores on all multicore chips are to be aggregated before multiplying by the appropriate core processor licensing factor and all fractions of a number are to be rounded up to the next whole number.

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Can customers evaluate Oracle Solaris Cluster 4.0 or Oracle Solaris Cluster 3.3 5/11?

Yes, customers interested in evaluating Oracle Solaris Cluster can download the software on the Oracle Technical Network ([here](#)) for evaluation and development.

Services and Support

I've purchased Oracle Solaris Cluster, Enterprise Edition and would need training and assistance to install and operate Oracle Solaris Cluster?

Services

For assistance to install and operate Oracle Solaris Cluster Oracle Advanced Customer Service Expert Services are available to deliver a comprehensive software installation performed by server and storage experts using Oracle best practices. Installation by Oracle services is not a requirement but it is recommended as it does provide expert design, documentation and testing, helping to meet the high-availability requirements for your deployments.

For more information, read the [Advanced Customer Service Expert Services](#) brochure.

Support

Premier Support helps lower the total cost and risk of owning your Oracle solutions, improve the return from your IT investment, and optimize the business value of your IT solutions.

[Oracle Premier Support for Software](#) is available for Oracle Solaris Cluster.

Training

Learning paths identify the required courses for a desired training goal or certification level. Select the course to obtain the training that would enable you to administer and manage a highly available computing environment effectively.

The following courses are available for Oracle Solaris Cluster:

-Oracle Solaris Cluster Administration, 5-Day

-Oracle Solaris Cluster Advanced Administration, 5-day

For more information visit the [Oracle Solaris Cluster Learning Path](#).

Certification

An Oracle certification is widely viewed as one of the most valued benchmarks in the marketplace. It gives you a competitive edge, differentiates your expertise with validated learning, and provides increased professional credibility.

[Oracle Solaris Cluster Software Certification Overview](#)

Features

What are the applications pre-integrated with Oracle Solaris Cluster (e.g. for which Oracle Solaris Cluster Agents are available)?

Please refer to the [Oracle Solaris Cluster Features](#) document

More Resources

Where can I find documentation about Oracle Solaris Cluster?

Visit the **Oracle Solaris Cluster Overview Documentation**:

•[Oracle Solaris Cluster 4.0](#)

•[Oracle Solaris Cluster 3.3 5/11](#)

for an Introduction to Oracle Solaris Cluster, key concepts and Architecture.

And also, the **Oracle Solaris Cluster Documentation Center**:

•[Oracle Solaris Cluster 4.0](#)

•[Oracle Solaris Cluster 3.3 5/11](#)

to access Concepts Guide, Release Notes, etc...

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Where can I find more technical information about Oracle Solaris Cluster such as white papers, How-To Guides?

Visit the [Oracle Solaris Cluster Technical Resources page](#) on the Oracle Technology Network web site.

How can I get more news about Oracle Solaris Cluster and other Oracle Solaris products?

Catch the latest news and information from our social media sites:

Blog	http://blogs.oracle.com/solaris http://blogs.oracle.com/otngarage
Facebook	http://www.facebook.com/oraclesolaris http://www.facebook.com/otngarage
Twitter	http://www.twitter.com/ORCL_Solaris http://www.twitter.com/OTN_Garage
LinkedIn	http://www.linkedin.com/groups/Oracle-Solaris-Insider-3951282
YouTube	http://www.youtube.com/oraclesolaris



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