hp serviceguard for Linux

integrated high availability clustering
the challenge
Protect your critical Linux environment from hardware and software failures

the solution
HP Serviceguard for Linux

business benefits
• Maximizes service uptime and data integrity for your critical applications
• Integrates Linux clustering solutions into current HP-UX environments with ease
• Ensures tight solution integration and full accountability
• Simplifies the administration, management, and monitoring of cluster configurations

the power of clusters
To best meet business requirements for availability, HP has introduced a robust architecture for the Linux platform that combines multiple computers into an entity called a “cluster.” The servers (nodes) of a cluster are connected in a loosely coupled manner, each node maintaining its own separate processor(s), memory, and operating system. Special communication protocols and system processes connect these nodes together and allow them to cooperate to enable outstanding levels of availability and to support critical applications.

Clusters provide a cost-effective, flexible architecture for the demanding IT infrastructures of today and tomorrow.

hp serviceguard for Linux: ProLiant clusters
HP Serviceguard for Linux offers a completely integrated high availability clustering solution, available on a range of HP storage devices and HP ProLiant servers, that provides efficient, continuous access to critical applications, information, and services. It provides support for up to eight nodes, which are organized into a high availability (HA) enterprise cluster that delivers highly available application services to LAN-attached clients.

HP Serviceguard for Linux monitors the health of each node and quickly responds to failures affecting any of the following components:
• Application processes
• LAN media and adapters
• System memory
• System processes

Since high availability and data integrity are both primary design goals, Serviceguard for Linux clusters cannot have a single point of failure because data disks are mirrored and multiple LANs are used.

a compelling solution
Why consider HP Serviceguard for Linux for your clustering and high availability solutions?
• Industry-leading HP ProLiant servers and Smart Array Cluster Storage are now fully certified for critical Serviceguard for Linux environments.
• The total HA solution, including HP hardware, software, and support services, ensures the environment works together seamlessly.
• Experience in HA—more than 65,000 Serviceguard for HP-UX licenses have been sold worldwide.
• Our comprehensive portfolio of support services meets any customer need for a highly available IT infrastructure.
HP stretch cluster software—HP StorageWorks Cluster Extension—with Serviceguard for Linux enables disaster tolerance on XP storage, ensuring automatic failover across large geographical distances and enabling access to critical data during disasters or major site outages.

Fault-resilient ProLiant servers provide maximum redundancy across processor, disk, memory, power, cooling, and I/O subsystems. Configurations of HP Serviceguard for Linux are completely tested and qualified on the ProLiant DL380 G2 servers and DL580 G2 servers across multiple applications.

Serviceguard uses additional hardware paths and software techniques to keep the application running on the same node and make “failing over” a last resort.

Quorum service support allows the use of an external server or PC to act as an arbitrator in the event that all network connections between the cluster nodes fail. The quorum service can monitor 100 nodes or 50 heterogeneous clusters.

Reconfigure cluster nodes and packages and optimize your cluster performance without taking down the cluster.

Rolling upgrades allow software and hardware to be upgraded while the cluster remains up and running.

With workload allocation, applications can be configured to fail-over to multiple nodes to minimize impact on the surviving nodes.

Because its components are similar to those of HP Serviceguard for HP-UX, you can easily integrate Linux clusters using common components and IT knowledge. You can prepare now to take advantage of the cost and control benefits of Linux more quickly.

Both HP-UX and Linux versions of Serviceguard clusters can be administered, monitored, and managed from a single graphical console.

Serviceguard for Linux utilizes the HP StorageWorks VA and XP disk subsystems you may have in your current environment, allowing cost-effective integration of Linux high availability solutions into your HP-UX and Windows® SAN environment.

Simple script templates, designed specifically for widely used applications such as NFS, Samba, Apache, and SendMail, are available at no extra charge. Configurations based on preferred cluster parameters can be easily customized and applications quickly installed.

HP OpenView integrates Serviceguard Manager and Insight Manager to drill down to specific hardware events and root causes, delivering true end-to-end management from the hardware chassis to the business transaction.

<table>
<thead>
<tr>
<th>benefits</th>
<th>features</th>
</tr>
</thead>
<tbody>
<tr>
<td>provides disaster protection through stretch clustering</td>
<td>HP stretch cluster software—HP StorageWorks Cluster Extension—with Serviceguard for Linux enables disaster tolerance on XP storage, ensuring automatic failover across large geographical distances and enabling access to critical data during disasters or major site outages.</td>
</tr>
<tr>
<td>increases overall cluster availability</td>
<td>Fault-resilient ProLiant servers provide maximum redundancy across processor, disk, memory, power, cooling, and I/O subsystems. Configurations of HP Serviceguard for Linux are completely tested and qualified on the ProLiant DL380 G2 servers and DL580 G2 servers across multiple applications.</td>
</tr>
<tr>
<td>provides greater protection than typical failover cluster configurations</td>
<td>Serviceguard uses additional hardware paths and software techniques to keep the application running on the same node and make “failing over” a last resort.</td>
</tr>
<tr>
<td>ensures data integrity by eliminating “split-brain syndrome”</td>
<td>Quorum service support allows the use of an external server or PC to act as an arbitrator in the event that all network connections between the cluster nodes fail. The quorum service can monitor 100 nodes or 50 heterogeneous clusters.</td>
</tr>
<tr>
<td>allows you to perform online reconfigurations</td>
<td>Reconfigure cluster nodes and packages and optimize your cluster performance without taking down the cluster.</td>
</tr>
<tr>
<td>eliminates downtime for upgrades</td>
<td>Rolling upgrades allow software and hardware to be upgraded while the cluster remains up and running.</td>
</tr>
<tr>
<td>maintains performance levels</td>
<td>With workload allocation, applications can be configured to fail-over to multiple nodes to minimize impact on the surviving nodes.</td>
</tr>
<tr>
<td>accelerates your Linux capabilities ahead of the competition</td>
<td>Because its components are similar to those of HP Serviceguard for HP-UX, you can easily integrate Linux clusters using common components and IT knowledge. You can prepare now to take advantage of the cost and control benefits of Linux more quickly.</td>
</tr>
<tr>
<td>eliminates retraining with seamless cluster management</td>
<td>Both HP-UX and Linux versions of Serviceguard clusters can be administered, monitored, and managed from a single graphical console.</td>
</tr>
<tr>
<td>protects your existing storage investment</td>
<td>Serviceguard for Linux utilizes the HP StorageWorks VA and XP disk subsystems you may have in your current environment, allowing cost-effective integration of Linux high availability solutions into your HP-UX and Windows® SAN environment.</td>
</tr>
<tr>
<td>speeds deployment</td>
<td>Simple script templates, designed specifically for widely used applications such as NFS, Samba, Apache, and SendMail, are available at no extra charge. Configurations based on preferred cluster parameters can be easily customized and applications quickly installed.</td>
</tr>
<tr>
<td>delivers unsurpassed control of infrastructure and business services</td>
<td>HP OpenView integrates Serviceguard Manager and Insight Manager to drill down to specific hardware events and root causes, delivering true end-to-end management from the hardware chassis to the business transaction.</td>
</tr>
</tbody>
</table>
complete solutions

Linux is “enterprise ready” for critical applications with two HP solutions:

• The HP disaster-tolerant solution for Linux integrates Serviceguard for Linux and StorageWorks Cluster Extension software for StorageWorks XP Disk Arrays to address the need for geographically extended data centers (up to 100 km apart) to protect data availability in the event of a site failure.

• HP StorageWorks NAS 8000 using HP Serviceguard for Linux combines the reliability of HP Serviceguard and the simple management of the NAS 8000 to provide a highly available and manageable NAS solution.

support services

HP understands that ensuring a highly available Linux environment means more than just having the right technology. That’s why we’ve created a comprehensive portfolio of services and support, including consulting services, education and training services, and critical support for Linux operating systems as well as HP hardware and software products. Plus, all HP customers are protected by our unique “single point of contact” service policy: HP is solely accountable for all aspects of the solution, eliminating wasted time determining accountability among suppliers.

key offerings

• 8 x 5 phone-in support plus software updates.
• 24 x 365 phone-in support plus software updates.
• Personalized Systems Support (PSS): A comprehensive support solution that combines proactive account services with industry-leading technical assistance to help you improve operational effectiveness and successfully manage and implement change within your IT environment.
• Critical Systems Support (CSS): This portfolio of technical services is designed to minimize system problems and downtime and to help you make more effective use of technology. It provides technical expertise through an integrated combination of proactive services and fast problem resolution to meet the demands of your computing environment. Included are high availability technologies, performance analysis, change planning, security review, and system administration.
benefits of hp support services

By taking advantage of HP support services, you will realize some major benefits when running your Linux IT infrastructure:

- Tight integration and full accountability through the HP single-source-service policy
- Expertise, partnership, and hands-on assistance from your assigned high availability certified HP team
- Reduced risk and exposure to an IT crisis through robust proactive services
- Increased availability, thanks to improved stability of the computing environment and rapid problem resolution through established and proven processes
- Maximized end-user productivity due to optimization of processes and system performance

for more information

Please visit our Web site at www.hp.com/go/ha for the HP Linux High Availability program and offerings.