QuickSpecs

Overview

HP Serviceguard for Linux is high availability clustering software designed to protect applications and services from planned and unplanned downtime. Serviceguard for Linux ensures 24x7 application availability by packaging an application or service with its associated resources, and moving that package to other servers as needed. Packages can be moved automatically when Serviceguard detects a failure in a resource, or manually in order to perform system maintenance or upgrades. By monitoring the health of each server (node) within a cluster, Serviceguard for Linux quickly responds to failures such as those that affect processes, memory, LAN media and adapters, disk, operating environments, and more. Serviceguard for Linux also includes many out-of-the-box features that ensure scalability and allow intricate control over cluster configuration, and optimizes in-house expertise for businesses already running Serviceguard for HP-UX. Application Integration Toolkits are also available, and serve to quickly integrate complex applications into a Serviceguard for Linux cluster. The Application Integration Toolkit portfolio includes an Oracle Database Toolkit, an extension for SAP as well as many others like the Serviceguard Toolkit for NFS and The Serviceguard Contributed Toolkit Suite which are available at no charge. In addition to high availability within a data center, the Serviceguard Solutions for Linux offers a powerful and comprehensive suite of disaster recovery solutions. The disaster recovery solutions portfolio is made up of Extended Distance Cluster, Metrocluster and Continentalclusters and brings in more than 20 years of proven legacy from HP-UX to the Linux/x86 market. All of these solution components can be configured and managed using the Serviceguard Manager, an intuitive and easy to use Graphical User Interface.

The following is a quick summary of HP Serviceguard for Linux features and support. For the most recent list of Linux distributions & kernels, servers and storage supported with Serviceguard for Linux, please always refer to the Serviceguard for Linux Certification Matrix, available at: http://www.hp.com/info/sglx.

- Supported Linux Distributions:
    - Red Hat EL 5 (X86_64)
    - Red Hat EL 6 (X86_64)
    - SLES 11 SP1, SP2 & SP3 (X86_64)
- Supported Server Platforms
    - All HP ProLiant Gen8 and G7 Rack Mount (DL) and BladeSystems (BL)
    - HP ProLiant ML110 G7 Server
    - HP ProLiant ML310e Gen8, ML310e Gen8 v2 Servers
    - HP ProLiant ML350e, ML350p Gen8 Server
- Supported Virtual Machines
    - SG/LX in VMware ESX and ESXi guests
    - Red Hat Kernel based Virtual Machines (KVM) guests (Only with iSCSI shared storage)
- Application Integration Toolkits
    - Serviceguard Toolkit for Oracle Database for Linux
    - Serviceguard Extension for SAP for Linux (SGeSAP/LX)
    - Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux
    - Serviceguard Toolkit for EnterpriseDB PPAS for Linux
    - Network File System (NFS) Toolkit available from: http://www.hp.com/go/softwaredepot/ha at no charge
    - Contributed Application Integration Toolkits available from: http://www.hp.com/go/softwaredepot/ha at no charge:
    - The Contributed Toolkit Suite includes:
        - Apache
        - MySQL
        - NFS
        - PostgreSQL
        - Samba
        - Tomcat
        - Sendmail
- Disaster Recovery
    - Serviceguard Extended Distance Cluster for Linux (XDC)

Overview

  - ○ Metrocluster for Linux
  - ○ Continentalclusters for Linux
- Software updates are distributed by HP Services to customers with support contracts
- For additional information on HP Serviceguard for Linux, visit: http://www.hp.com/go/sglx.

What's New

- HP Serviceguard for Linux A.11.20 portfolio addresses the customer demand for enterprise-class support of Linux high availability environments while at the same time providing many ease-of-use features and a broader support base for the integration toolkits in both physical and virtual environment. With the Serviceguard Solutions 11.20.10 update release many new capabilities have been introduced from Serviceguard Solution for HP-UX to extend the same mission critical experience and robustness to the Linux portfolio as well.
- Support for RedHat Enterprise Linux 5.9 & 6.4
- Automate and accelerate SAP Sybase ASE and SAP Sybase Replication Server for Linux
  - ○ Simplify integration of SAP Sybase ASE and SAP Sybase Replication Server in Serviceguard environment that allows start, stop and monitoring of Sybase ASE and Sybase Replication Server instances
- Automate and accelerate EnterpriseDB Postgres Plus Advanced Server(PPAS)
  - ○ Simplify integration of EnterpriseDB PPAS database in Serviceguard environment that allows start, stop, and monitoring of EnterpriseDB PPAS instances
- Cluster Verification
  - ○ Verify whether packages in the cluster are able to fail over and the cluster is configured correctly with a single, easy-to-use command that can also be automated to further reduce unplanned failures due to human errors
- Greater choice of storage
  - ○ Certified with HP StoreVirtual Storage with iSCSI
- Greater choice of file system
  - ○ Certified with XFS and ext4 file systems
- Support for Virtualization
  - ○ VMware ESXi 5.1 and KVM
- Enhanced Disaster Recovery Capability with Metrocluster 3PAR Remote Copy
  - ○ Actively monitor Remote Copy volume group, configured as a service, state to send notifications (e.g., email) during state change
- Remote replication with Symmetrix Remote Data Facility (SRDF)
  - ○ Remote data replication across EMC Symmetrix arrays with synchronous or asynchronous SRDF

Models

How to order HP Serviceguard for Linux

The following products are ordered through an HP Sales Representative or HP Distributor:

- HP Serviceguard for Linux x86
- HP Serviceguard Oracle Toolkit for Linux x86
- HP Serviceguard Extension for SAP for Linux x86
- HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux
- HP Serviceguard Toolkit for EnterpriseDB PPAS for Linux

In addition, the following are available free of charge

- Serviceguard Toolkit for NFS for Linux
- Serviceguard Contributed Toolkit Suite for Linux
- Serviceguard Manager

Overview

The software is ordered with a new system order or is added to an existing server running Red Hat Linux. Physical and electronic delivery methods are offered. Physical delivery requires the software media to be ordered separately. Electronic delivery includes a software download.

A Per Core License (PCL) is offered for the 2P tier (2 processors or 2 sockets) or the 4-8P tier (4 to 8 processors or 4 to 8 sockets). One license is required for each active core running Red Hat Linux OS.

A license purchase includes 1 year of 24x7 Technical Support and Software Updates Service. Implementation Services are available for separate order.

Upgrade from previous versions

Trade-in credit is available to current support customers running older versions of Serviceguard for Linux software.

HP Serviceguard for Linux A.11.20.10 High Availability Clustering Software

HP Serviceguard for Linux on HP ProLiant Servers - Physical Media Kit	BB070AA

NOTE: This kit contains media only.

HP Serviceguard for Linux for 2 Socket HP ProLiant Servers - Flexible-Quantity License	BB070AC

Licensed per Processor Core
NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard for Linux for 2 Socket HP ProLiant Servers - Single Quantity License	BB072AC

Licensed per Processor Core
NOTE: This is a physical license, stockable, each license certificate delivering a single per core license.

HP Serviceguard for Linux for 2 Socket HP ProLiant Servers - Flexible-Quantity License E-Delivery	BB070ACE

Licensed per Processor Core

HP Serviceguard for Linux for 4 to 8 Socket HP ProLiant Servers - Flexible-Quantity License	BB071AC

Licensed per Processor Core
NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard for Linux for 4 to 8 Socket HP ProLiant Servers - Single Quantity License	BB073AC

Licensed per Processor Core
NOTE: This is a physical license, stockable, each license certificate delivering a single per core license.

HP Serviceguard for Linux for 4 to 8 Socket HP ProLiant Servers - Flexible-Quantity License E-Delivery	BB071ACE

Licensed per Processor Core

HP Serviceguard for Linux Trade in license for 2 Socket HP ProLiant servers	BB070ACN
HP Serviceguard for Linux Trade in license for 4 to 8 Socket HP ProLiant servers	BB071ACN

HP Serviceguard Toolkit for Oracle Database for Linux A.05.01.01.00

HP Serviceguard Toolkit for Oracle Database for Linux - Physical Media Kit	BB074AA

NOTE: Simplifies integration of an Oracle database (non-RAC) into a Serviceguard for Linux cluster.
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Toolkit for Oracle Database for Linux License for 2 Socket HP ProLiant Servers	BB074AC

Licensed per Processor Core
NOTE: Includes media and One Year 24x7 Software Support & Updates.

HP Serviceguard Toolkit for Oracle Database for Linux License for 4 to 8 Socket HP ProLiant Servers	BB075AC

Licensed per Processor Core
NOTE: Includes media and One Year 24x7 Software Support & Updates.

HP Serviceguard Toolkit for Oracle Database for Linux License for 2 Socket HP ProLiant Servers E-Delivery	BB074ACE

Licensed per Processor Core

Overview

HP Serviceguard Toolkit for Oracle Database for Linux License for 4 to 8 Socket HP ProLiant Servers E-Delivery	BB075ACE
Licensed per Processor Core	
HP Serviceguard Toolkit for Oracle Database for Linux Trade in License for 2 Socket HP ProLiant Servers	BB074ACN
Licensed per Processor Core	
HP Serviceguard Toolkit for Oracle Database for Linux Trade in License for 4 to 8 Socket HP ProLiant Servers	BB075ACN
Licensed per Processor Core	

HP Serviceguard Extension for SAP for Linux A.06.00.00
NOTE: Simplifies integration of a SAP instances and database into a Serviceguard for Linux cluster.
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Extension for SAP for Linux - Physical Media Kit	BB076AA
HP Serviceguard Extension for SAP for Linux License for 2 Socket HP ProLiant Servers	BB076AC
Licensed per Processor Core	
HP Serviceguard Extension for SAP for Linux License for 4 to 8 Socket HP ProLiant Servers	BB077AC
Licensed per Processor Core	
HP Serviceguard Extension for SAP for Linux License for 2 Socket HP ProLiant Servers E-Delivery	BB076ACE
Licensed per Processor Core	
HP Serviceguard Extension for SAP for Linux License for 4 to 8 Socket HP ProLiant Servers E-Delivery	BB077ACE
Licensed per Processor Core	
HP Serviceguard Extension for SAP for Linux Trade in License for 2 Socket HP ProLiant Servers	BB076ACN
Licensed per Processor Core	
HP Serviceguard Extension for SAP for Linux Trade in License for 4 to 8 Socket HP ProLiant Servers	BB077ACN
Licensed per Processor Core	

HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux A.01.00.00
NOTE: Simplifies integration of SAP Sybase ASE and Sybase Replication Server database into a Serviceguard for Linux cluster.
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux- Physical Media Kit	BB088AA
HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux License for 2 socket HP ProLiant Servers	BB089AC
Flexible Quantity License	
NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.	
HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux License for 2 socket HP ProLiant Servers E-Delivery	BB089ACE
HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux LTU for 4 and 8 socket HP ProLiant Servers	BB090AC
Flexible Quantity License	
NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.	

HP Serviceguard Toolkit for SAP Sybase ASE and SAP Sybase Replication Server for Linux LTU for 4 and 8 socket HP ProLiant Servers E-Delivery

HP Serviceguard Toolkit for EnterpriseDB PPAS A.01.00.00
NOTE: Simplifies integration of EnterpriseDB PPAS database into a Serviceguard for Linux cluster.
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Toolkit for Enterprise DB PPAS for Linux - Physical Media Kit	BB091AA
HP Serviceguard Toolkit for Enterprise DB PPAS for Linux LTU for 2 socket HP ProLiant Servers	BB092AC
Flexible Quantity License	
NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.	

Overview

HP Serviceguard Toolkit for Enterprise DB PPAS for Linux LTU for 2 socket HP ProLiant Servers E-Delivery	BB092ACE
HP Serviceguard Toolkit for Enterprise DB PPAS for Linux LTU for 4 and 8 socket HP ProLiant Servers Flexible Quantity License	BB093AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Toolkit for Enterprise DB PPAS for Linux LTU for 4 and 8 socket ProLiant Servers E-Delivery	BB093ACE

HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux
NOTE: Automatic, bi-directional failover for applications across data centers while ensuring data currency through integration with Continuous Access replication software for HP P9000/XP storage arrays
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux Media Kit	BB078AA
HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 2 socket HP ProLiant servers - Flexible Quantity License	BB078AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 2 socket HP ProLiant servers - E-Delivery.	BB078ACE
HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 4 to 8 socket HP ProLiant servers - Flexible Quantity License	BB079AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 4 to 8 socket HP ProLiant servers - E-Delivery.	BB079ACE

HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux
NOTE: Automatic, bi-directional failover for applications across data centers while ensuring data currency through integration with Continuous Access replication software for HP 6000/EVA storage arrays
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux Media Kit	BB080AA
HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 2 socket HP ProLiant servers - Flexible Quantity License	BB080AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 2 socket HP ProLiant servers - E-Delivery.	BB080ACE
HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 4 to 8 socket HP ProLiant servers - Flexible Quantity License	BB081AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 4 to 8 socket HP ProLiant servers - E-Delivery.	BB081ACE

HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux
NOTE: Automatic, bi-directional failover for applications across data centers while ensuring data currency through integration with Continuous Access replication software for HP 3PAR storage arrays
NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux Media Kit	BB082AA
HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 2 socket HP ProLiant servers - Flexible Quantity License	BB082AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 2 socket HP ProLiant servers - E-Delivery.	BB082ACE
HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 4 to 8 socket HP ProLiant servers - Flexible Quantity License	BB083AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

Overview

HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 4 to 8 socket HP ProLiant servers - E-Delivery.	BB083ACE

HP Serviceguard Metrocluster with EMC Symmetrix Remote Data Facility (SRDF) for Linux

NOTE: Automatic, bi-directional failover for applications across data centers while ensuring data currency through integration with EMC SRDF

NOTE: Requires HP Serviceguard for Linux.

HP Serviceguard Metrocluster for Linux EMC SRDF x86 Media	BB084AA
HP Serviceguard Metrocluster for Linux EMC SRDF x86 2 socket 1y 24x7 Flex PCL LTU - Flexible Quantity License	BB084AC
HP Serviceguard Metrocluster for Linux EMC SRDF x86 4 to 8P socket 1y 24x7 Flex PCL LTU - - Flexible Quantity License	BB085AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per socket licenses.

HP Serviceguard Metrocluster for Linux EMC SRDF x86 2 socket 1y 24x7 PCL E-LTU - E-Delivery	BB084ACE
HP Serviceguard Metrocluster for Linux EMC SRDF x86 4 to 8 socket 1y 24x7 PCL E-LTU - E-Delivery	BB085ACE

NOTE: This part number can be used to purchase one license certificate delivering multiple per socket licenses

HP Serviceguard Continentalclusters for Linux

NOTE: Automated, push button failover between Serviceguard clusters across data centers and can work with both storage array based replication or software replication

NOTE: Requires HP Serviceguard for Linux and Metrocluster for Linux (when used with any of the following storage array based replication 3PAR Remote Copy, Continuous Access XP P9000, Continuous Access EVA /P6000, EMC SRDF)

HP Serviceguard Continentalclusters for Linux Media Kit	BB086AA
HP Serviceguard Continentalclusters for Linux for 2 socket HP ProLiant servers - Flexible Quantity License	BB086AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Continentalclusters for Linux for 2 socket HP ProLiant servers - E-Delivery	BB086ACE
HP Serviceguard Continentalclusters for Linux for 4 to 8 socket HP ProLiant servers - Flexible Quantity License	BB087AC

NOTE: This part number can be used to purchase one license certificate delivering multiple per core licenses.

HP Serviceguard Continentalclusters for Linux for 4 to 8 socket HP ProLiant servers - E-Delivery	BB087ACE
HP Serviceguard Toolkit for NFS for Linux	T1442BA
NOTE: Requires HP Serviceguard for Linux	(No charge)

Available from: http://www.hp.com/go/softwaredepot/ha:

HP Serviceguard for Linux Contributed Application Integration Toolkits	SGLXTOOLS

NOTE: Requires HP Serviceguard for Linux.

Available from: http://www.hp.com/go/softwaredepot/ha:

The following toolkits are part of the Contributed Toolkit Suite

- Apache
- MySQL
- NFS
- PostgreSQL
- Samba
- Tomcat
- Sendmail

Product Highlights

HP Serviceguard for Linux Benefits

Stay available
- robust detection of faults in hardware and software
- protects application access from local failures and full site outages
- ensures data integrity with advanced features that protect critical assets
- automatic restoration within seconds
- effortless deployment of applications into a cluster

Stay maintainable
- online rolling upgrades reduce planned downtime for maintenance and upgrades
- Use Live application Detach (LAD) feature to upgrade Serviceguard software or maintain heart beat network elements without application downtime
- application integration toolkits quickly integrate complex applications into a high availability environment
- common code-base with Serviceguard for HP-UX leverages in-house expertise
- intuitive cluster management included at no charge
- full range of support and services for the entire solution deliver a single point of support and accountability

Stay flexible
- Serviceguard Manager provides easy to use HP SIM based Graphical User Interface for cluster configuration and administration cluster nodes physical & virtual servers supported as cluster nodes
- Monitor any critical resource configured as a modular package using any generic or custom monitoring mechanism

Stay scalable
- emerging open-source standards used to ensure interoperability of cluster components
- out-of-the-box enterprise features grow with your business
- package dependencies & package balancing enable intricate control over cluster behavior

HP Serviceguard for Linux Capabilities

Increase overall cluster availability with fault resilient ProLiant
HP ProLiant quality and innovations provide maximum redundancy and fault-resilience across processor, disk, memory, power, cooling and I/O subsystems. Configurations of HP Serviceguard for Linux are completely tested and qualified on HP servers across multiple applications.

Improved application environment failover with support of virtualization technologies
HP Serviceguard for Linux supports key virtual machine offerings on ProLiant server platforms to ensure the utmost availability and flexibility for application environments.

Greater protection over typical failover cluster configurations
HP Serviceguard for Linux uses additional hardware paths and software techniques to keep the application running on the same node and failing over to a new node as a last resort.

Ensure data integrity by eliminating "split-brain syndrome"
Cluster arbitration is essential to ensure the highest level of availability and data integrity. HP offers two alternatives for this requirement, one of which is required for a 2-node configuration and recommended for 3- or 4-node configurations to cover multiple failures. One method is through cluster lock LUN, which utilizes a shared LUN to provide a tie-break (arbitration) mechanism in the event a failure causes a 50%

Product Highlights

split in the cluster. The other method is through a Quorum Service, which runs on a separate PC or server and can arbitrate up to 50 clusters/100 cluster nodes. A single Quorum Service can provide arbitration service to both Linux and HP-UX clusters. This is particularly valuable in split-site configurations, with the Quorum Service at a third site, to ensure a cluster can create quorum in the event of a site failure.

Perform online reconfigurations	Reconfigure cluster nodes and packages and optimize your cluster performance without taking down the cluster.
Eliminate downtime for Serviceguard software upgrade using Live Application Detach	Use Live Application Detach (LAD) to do maintenance of the Serviceguard cluster infrastructure (including the heartbeat network) with near zero downtime
Cluster Verification	Verify whether packages in the cluster are able to fail over and the cluster is configured correctly with a single, easy-to-use command that can also be automated to further reduce unplanned failures due to human errors
Reduce downtime for application software or OS upgrade using Online Rolling Upgrade	Allows software and hardware upgrades while the cluster remains up and running.
Workload allocation maintains performance levels	Applications can be configured to fail over to multiple nodes to minimize impact on the surviving nodes.
Accelerate your Linux capabilities ahead of the competition	With operational features almost exactly the same as HP Serviceguard for HP-UX, you can easily integrate Linux clusters with common components and IT knowledge. You can prepare now to take advantage of the cost and control benefits of Linux more quickly.
Protect your existing storage investment	Serviceguard for Linux supports the HP 3PAR P6000/EVA, and EMC VNX and Clariion families of storage environments, allowing cost-effective integration into your existing multi-OS SAN infrastructure.
Leverage open standards	Rather than developing proprietary solutions which limit customer choice, HP Serviceguard for Linux supports emerging open-source standards to ensure interoperability of cluster components.
Full solution support	As solid as the cluster itself, HP is solely accountable to you for all aspects of the solution, eliminating wasted time determining accountability among suppliers.
Rigorous testing, qualification, and support	HP conducts extreme stress and destructive testing based on best practices and standards to ensure that Serviceguard for Linux clusters will maintain the highest levels of availability for your mission critical applications.

Product Highlights

Maintain highest levels of quality service	HP offers a comprehensive portfolio of support services to meet any level of service agreement you require.
Intuitive, graphical interface provides multi-OS support through a common console	HP Serviceguard Manager is a web-based, HP System Management Homepage (HP SMH) plug-in tool, which allows users to visually configure, monitor, manage and administer a cluster and its components (e.g. nodes, packages). Intuitive color-coded icons will help quickly identify problems with the cluster so users can quickly react and resolve issues. HP Serviceguard Manager is also integrated with HP System Insight Manager (HP SIM) to enable management of multiple clusters running on Linux or HP-UX from a single browser. For more details see the Serviceguard Manager Capabilities section of this document.
Application solutions available	● HP Serviceguard Toolkit for Oracle Database for Linux provides the necessary scripts for database failover to quickly integrate Oracle into a Serviceguard for Linux cluster. ● HP Serviceguard Extension for SAP for Linux (SGeSAP/LX) automates and accelerates SAP application failover while ensuring that transactions are not lost and data is not compromised
Proven disaster recovery offerings	The Serviceguard Solutions portfolio offers a comprehensive suite of disaster recovery solutions with Extended Distance Cluster for Linux, Metrocluster for Linux and Continentalclusters for Linux. These products are seamlessly integrated with Serviceguard and can be configured and managed through the Serviceguard Manager GUI.
Toolkits for common applications speed deployment	Simple script templates for HP ProLiant designed specifically for widely used applications like NFS, Samba, Apache, MySQL, PostgreSQL, Tomcat and SendMail are available at no extra charge from: http://www.hp.com/go/softwaredepot/ha. Customers can easily customize configurations based on preferred cluster parameters and quickly install applications. The Serviceguard Developer's Toolbox program enables ISVs to work with HP to create and validate application toolkits. Information on this program is available at: http://www.hp.com/go/dsppha. Additional applications can be supported through simple custom shell scripts developed in-house via scripting or through the configuration capability of Serviceguard Manager or through HP Consulting.
Unsurpassed control of infrastructure and business services at all levels	HP offers a set of integrated management solutions to manage networks, systems, and clusters at different levels. At the enterprise level, HP offers OpenView to manage a multi-vendor environment. At the multi-system level, System Insight Manager is used to manage HP servers, storage, clients, printers, and other networked devices. At the single system level, System Management Homepage is used to consolidate and simplify system management for HP servers running HP-UX, Linux, and Microsoft Windows operating systems. For cluster management, Serviceguard Manager is used to configure, administer, and monitor a Serviceguard cluster running on HP-UX or Linux.

Product Highlights

HP Serviceguard Manager Capabilities

HP Serviceguard Manager is a new web-based, HP System Management Homepage (HP SMH) plug-in application that allows you to monitor and administer a Serviceguard cluster from any system with a browser.

- Configuration capabilities
  - Cluster create/modify/delete
  - Package create/modify/delete
  - Operation Log (Progress messages) for configuration and administration operations
- Role-based access
  - Management of cluster and package access policies
  - Enable configuration and administration for non-root user
- Administration functions enable users to perform tasks including:
  - Run, halt, or move one or more packages (each of which is a logical group of applications and their resources)
  - Change node switching and package switching on one or more packages
- Easy-to-understand confirmation dialogues are provided to inform users about the consequences of administrative actions. Users are shown the specific Serviceguard command used and progress messages that track the ongoing administrative operation.
- Monitoring functions enable users to act on changing status:
  - Color-coded, graphically-intuitive icons visually present online status and configuration information for a cluster and its components (e.g. member nodes and packages)
- Property sheets provide detailed information about clusters, nodes and packages monitored
- Auto-Refresh provides automatic updates, including the property sheets, and can be enabled or disabled
- Manage cluster remotely from any system with a browser
- Comprehensive online help is available
- Ease of use minimizes training to remotely manage clusters from any system with a browser
- Ability to view consolidated cluster log (Syslog) and package logs.
- Integrated with HP System Insight Manager (HP SIM) to enable management of multiple clusters running on Linux and HP-UX from a single browser

Supported with:

- Serviceguard version A.11.17.01 or later
- Serviceguard OPS Edition A.11.17.01 or later
- Earlier versions of Serviceguard use Serviceguard Manager A.05.01 available at: http://www.hp.com.go/softwaredepot/ha
- Internet Explorer 6.0 or higher
- Mozilla 1.5 or higher

HP Serviceguard Disaster Recovery Solutions

HP Serviceguard Extended Distance Cluster for Linux (XDC) XDC Linux provides failover capabilities for mission-critical data and applications up to 100 kilometers, ensuring that customers' businesses remain running in the event of a system failure or disaster. It is designed to protect applications from a wide variety of software and hardware failures, monitoring the health of each server (node) and quickly responding to failures including system processes, system memory, LAN media and adapters, and application processes. XDC employs software RAID mirroring to replicate data and is a special configuration of Serviceguard for Linux and not a separately orderable product. Only Serviceguard for Linux licenses are required to implement this

Features

- Automated recovery point objective (RPO) timer
- Automatic, bi-directional data and application failover up to 100 km

Product Highlights

- Software-based mirroring
- Cluster enablement of the MD (multi device) driver
- Integrated with Serviceguard for Linux
- Open source components

Benefits

- Gives customers more flexibility by enabling them to define the time period for acceptable data loss
- Enables both sites to run applications concurrently, better utilizing all resources
- Compatible with all Fibre Channel storage arrays supported by Serviceguard for Linux
- Added protection against data corruption by the MD driver
- Integration with Serviceguard for Linux enables key features such as rolling upgrades and workload balancing
- Accountability from one vendor
- Leverages non-proprietary, industry-standard technologies, enabling use of existing in-house expertise

HP Serviceguard Metrocluster for Linux

Metrocluster for Linux provides automatic, bi-directional failover and failback across data centers up to 300km apart. Both data centers protected by Metrocluster can be active, protected and capable of providing application failover for each other. Metrocluster for Linux is integrated with storage array based replication technologies to ensure currency and integrity of data. Metrocluster for Linux implements the following solutions:

- HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux
- HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux
- HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux
- HP Serviceguard Metrocluster with EMC Symmetrix Remote Data Facility (SRDF) for Linux

Each of the above is a separately licensed product and requires Serviceguard for Linux as a prerequisite. Depending on the storage array being used, the corresponding data replication software has to be purchased separately.

Features

- Fully integrated with HP Serviceguard Solution for Linux portfolio
- Supports both synchronous and asynchronous replication modes (depending on storage array data replication software used)
- Configure and manage through the Serviceguard Manager GUI

Benefits

- Integrates with disk array based data replication to ensure data currency and disaster recovery for any application
- Both data centers can be active, protected and capable of providing application failover for each other
- Turns your disaster recovery infrastructure into a productive asset in planned downtime scenarios

HP Serviceguard Continentalclusters for Linux

HP Serviceguard Continentalclusters is the most flexible Serviceguard Disaster Recovery Solution in the portfolio. Continentalclusters offers automated, push button failover across unlimited distances. Unlike XDC and Metrocluster for Linux with their single-cluster architectures, Continentalclusters uses multiple clusters to provide application recovery. Applications run in the active/standby mode with application data

Product Highlights

replicated between data centers by either storage array-based data replication products or software based data replication.

NOTE: Requires HP Serviceguard for Linux and Metrocluster for Linux (when used with any of the following storage array based replication 3PAR Remote Copy, Continuous Access XP P9000, Continuous Access EVA /P6000, EMC SRDF)

Features

- Cluster to cluster failover with mutual recovery
- Push button recovery - initiates a failover when you deem fit
- Fully integrated with HP Serviceguard Solution for Linux portfolio
- Supports HP P9000/XP Continuous Access, HP P6000/EVA Continuous Access and HP 3PAR Remote Copy, EMC Symmetrix Remote Data Facility (SRDF)

Benefits

- Flexible disaster recovery without any distance limitations
- Provides the ability to monitor a Serviceguard cluster and failover mission-critical services to another cluster if the monitored cluster should become unavailable
- Mutual recovery allows for mission-critical services to run on both clusters, with each cluster configured to recover the mission-critical services of the other

Technical Specifications

HP Serviceguard for Linux Supported Configurations

NOTE: This is a list of supported configurations at time of writing. Please refer to the Serviceguard for Linux Certification Matrix at http://www.hp.com/go/sglx for the most up-to-date list of supported configurations and important notes and caveats.

Memory requirements	Serviceguard requires approximately 15.5 MB of lockable memory.

Cluster arbitration requirements	• Cluster arbitration is essential to ensure the highest level of availability and data integrity. HP offers two alternatives for this requirement, one of which is required for a 2-node configuration and recommended for 3- or 4-node configurations to cover multiple failures. • Cluster Lock LUN - Utilizes a shared LUN to provide a tie-break (arbitration) mechanism in the event a failure causes a 50% split in the cluster. Cluster Lock LUN requires a dedicated LUN with a minimum size of 100K. • Quorum Service: Runs on a separate PC or server and can arbitrate up to 150 clusters/300 cluster nodes. One Quorum Service provides arbitration service to Linux and HP-UX clusters. This is particularly valuable in split-site configurations, with the Quorum Service at a third site, to ensure a cluster can create quorum in the event of a site failure. The node on which the Quorum Service is running must have network connectivity to the clusters for which it is providing services. Ensure that the connection with each node is independent of the cluster heartbeat connection so that both are not likely to fail at the same time. The Quorum Service in a Linux environment can manage up to 150 clusters and 300 nodes. The Quorum Service and clustered nodes may be on different subnets. You can create the Quorum Service to be a package, so it is highly available. The package must run outside the cluster that the quorum server serves. • Run on any HP PC or server certified for SUSE or Red Hat EL 3 or above. • Minimum memory requirements 128 MB • Locks up to 16 MB of memory. • Single quorum service for a maximum of 300 nodes; up to 150 heterogeneous clusters.

Cluster Types	• Active/Active • Active/Standby • Rotating Standby

Linux Distributions	• Red Hat Enterprise Linux 6(includes AP) Kernel Versions
	   ○ RHEL6.1
	   ○ RHEL6.2
	   ○ RHEL6.3
	   ○ RHEL6.4
	• Red Hat Enterprise Linux 5 (includes AP) Kernel Versions
	   ○ RHEL5.7
	   ○ RHEL5.8
	   ○ RHEL5.9
	• SUSE Linux Enterprise Server 11
	   ○ SLES 11 SP1
	   ○ SLES 11 SP2
	   ○ SLES 11 SP3

Technical Specifications

Hypervisors	- VMware ESX and ESXi - Red Hat Enterprise Linux (RHEL) 6 - Kernel-based Virtual Machine (KVM)

HP ProLiant Servers

- **HP ProLiant BladeSystem**
  - All HP ProLiantGen8 and G7 Server Blades
- **HP ProLiant DL**
  - All HP ProLiant Gen8 and G7 Rack Mount servers
- **HP ProLiant ML**
  - ML110 G7
  - ML310e Gen8, ML310e Gen8 v2
  - ML350e Gen8
  - ML350p Gen8

Fibre Channel Storage

- HP Storage 3PAR Utility Storage Family
  - HP P10000 3PAR Storage Systems
  - HP 3PAR F-Class Storage Systems
  - HP 3PAR T-Class Storage Systems
  - HP 3PAR StoreServ 7200
  - HP 3PAR StoreServ 7400
- HP XP P9500 Storage
- HP XP Storage
  - XP10000, XP12000
  - XP20000, XP24000
- HP Storage P6000 Enterprise Virtual Arrays
  - HP EVA P6300 FC
  - HP EVA P6500 FC
  - HP EVA 4400
  - HP EVA 6400
  - HP EVA 8400
- HP MSA 2040
- HP Storage P2000 G3 MSA (Fiber Channel only)
- EMC Symmetrix VMAX
  - EMC Symmetrix VMAX 10K
  - EMC Symmetrix VMAX 20K
  - EMC Symmetrix VMAX 40K
  - EMC Symmetrix VMAXe
- EMC Symmetrix
  - Symmetrix DMX-3, DMX -4
- EMC VNX (only as block storage)
  - VNX5xxx
  - VNX7xxx
- EMC CLARiiON
  - CLARiiON CX/AX
- HDS, Hitachi
  - Hitachi Universal Storage Platform VM, V, VSP
  - TagmaStore USP11000, USP600, USP100, NSC55
- NetApp - NFS (filer) option only
  - FAS 2000 Series
  - FAS 3000 Series

Technical Specifications

- ○ FAS 6000 Series
- ● IBM SAN Volume Controller (SVC) supported with following conditions
  - ○ SCSI-3 Persistent Reservation (PR) support is must
  - ○ Only FC and FCoE are supported
  - ○ iSCSI is not supported

iSCSI Storage	● HP StoreVirtual Storage ● HP Storage 3PAR Utility Storage Family Arrays ● MSA2040
Fibre Channel switches	Switches and hubs supported on selected disk array **NOTE:** Please contact your HP Storage representative for the latest firmware revision for switch connectivity support on Linux.
Fibre Channel host bus adapters	**NOTE:** For a complete and up-to-date list of supported options on certified servers, please reference the individual QuickSpecs for each server. HP Serviceguard for Linux supports all Fibre Channel HBA's which would be listed in each supported server's QuickSpecs.
Networking	HP Serviceguard for Linux recommends redundant networks, even though these are not shown in the diagrams. The redundant client network connections allow local failover from one NIC to another in case of failure in the network path. These connections must be on the same subnet. This is implemented using Channel Bonding. Failover from one NIC to another prevents a package, or the entire system, from failing over to another system. This minimizes impact to the application and to the users.

Implementation Service Information

HP offers an installation and start up service that will address Linux customer needs to create a basic HP Serviceguard for Linux cluster configuration. It is very useful for customers who are familiar with high availability concepts and clustering technology.

- ● U7J40E HP Serviceguard for Linux Startup Service (Fixed Care Pack)
- ● HA124A1#5U5 HP Serviceguard for Linux Startup Service (Flex Care Pack)

For needs that go beyond the scope of this start up service, HP provides more comprehensive implementation and deployment offerings for specific business needs:

- ● UW811E HP Serviceguard for Linux Implementation Service (Fixed Care Pack)
- ● HA115A1#5SW HP Serviceguard for Linux Implementation Service (Flex Care Pack)
- ● HA132A1 HP Serviceguard Implementation Service - Custom (Upfront)
- ● HA132AE HP Serviceguard Implementation Service - Custom (Per Event)

Support Information

NOTE: HP offers a number of software support services. HP Worldwide Customer Service contact numbers are available at: http://www.hp.com/country/us/en/wwcontact.html. For U.S. customers, indicate "Serviceguard Linux" when prompted for the product name.

- ● **Support for HP ProLiant x86 Servers:** Serviceguard for Linux software products for HP ProLiant include one year of 24 x 7 HP Software Technical Support and Update Service with Care Pack uplifts to 3 - 5 years of coverage available. This service provides access to HP technical resources for assistance in resolving software implementation or operations problems. The service also

Technical Specifications

provides access to software updates and reference manuals either in electronic form or on physical media as they are made available from HP. With this service, Serviceguard for Linux customers will benefit from expedited problem resolution as well as proactive notification and delivery of software updates. Customers must register for this one year 24 x 7 support at www.hp.com/software/licensing For more information about this service, see: http://www.hp.com/services/swsupport. To initiate support, Customers may need to contact HP to register their product

- **Warranty**: HP will replace defective delivery media for a period of 90 days from the date of purchase. This warranty applies to all Serviceguard for Linux products.

HP Serviceguard for Linux A.11.20.00 High Availability Clustering Software

HP Serviceguard for Linux for 2 Socket HP ProLiant Servers - Flexible-Quantity License	BB070AC
HP Serviceguard for Linux for 2 Socket HP ProLiant Servers - Single Quantity License	BB072AC
HP Serviceguard for Linux for 2 Socket HP ProLiant Servers - Flexible-Quantity License E-Delivery	BB070ACE

Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#1W3
	3 Year Next Day Proactive Care w/DMR	H1K91A3#1W3
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#1W3
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#1W3
	3 Year 6 hour CTR Proactive Care	H1K94A3#1W3
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#1W3
	3 Year SW Support 24x7	HA107A3#1W3
	3 Year Support Plus 24	HA110A3#1W3
	3 Year Support Plus 24 w/DMR	HG930A3#1W3
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#1W3
	4 Year Next Day Proactive Care w/DMR	H1K91A4#1W3
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#1W3
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#1W3
	4 Year 6 hour CTR Proactive Care	H1K94A4#1W3
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#1W3
	4 Year SW Support 24x7	HA107A4#1W3
	4 Year Support Plus 24	HA110A4#1W3
	4 Year Support Plus 24 w/DMR	HG930A4#1W3
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#1W3
	5 Year Next Day Proactive Care w/DMR	H1K91A5#1W3
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#1W3
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#1W3
	5 Year 6 hour CTR Proactive Care	H1K94A5#1W3
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#1W3
	5 Year SW Support 24x7	HA107A5#1W3
	5 Year Support Plus 24	HA110A5#1W3
	5 Year Support Plus 24 w/DMR	HG930A5#1W3
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 x86 2P 1 year 24x7 Software Support Service	U6X34E
	HP 3 year x86 2P 1 year 24x7 Proactive care Software Service	U6X35E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server x86 2P 1 year 24x7 Software Support	U6X36E
	HP 4 year x86 2P 1 year 24x7 Proactive care Software Service	U6X37E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server x86 2P 1 year 24x7 Software Support	U6X38E
	HP 5 year x86 2P 1 year 24x7 Proactive care Software Service	U6X39E

HP Serviceguard for Linux for 4 to 8 Socket HP ProLiant Servers - Flexible-Quantity License		BB071AC
HP Serviceguard for Linux for 4 to 8 Socket HP ProLiant Servers - Single Quantity License		BB073AC
HP Serviceguard for Linux for 4 to 8 Socket HP ProLiant Servers - Flexible-Quantity License E-Delivery		BB071ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#1W4
	3 Year Next Day Proactive Care w/DMR	H1K91A3#1W4
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#1W4
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#1W4
	3 Year 6 hour CTR Proactive Care	H1K94A3#1W4
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#1W4
	3 Year SW Support 24x7	HA107A3#1W4
	3 Year Support Plus 24	HA110A3#1W4
	3 Year Support Plus 24 w/DMR	HG930A3#1W4
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#1W4
	4 Year Next Day Proactive Care w/DMR	H1K91A4#1W4
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#1W4
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#1W4
	4 Year 6 hour CTR Proactive Care	H1K94A4#1W4
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#1W4
	4 Year SW Support 24x7	HA107A4#1W4
	4 Year Support Plus 24	HA110A4#1W4
	4 Year Support Plus 24 w/DMR	HG930A4#1W4
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#1W4
	5 Year Next Day Proactive Care w/DMR	H1K91A5#1W4
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#1W4
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#1W4
	5 Year 6 hour CTR Proactive Care	H1K94A5#1W4
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#1W4
	5 Year SW Support 24x7	HA107A5#1W4
	5 Year Support Plus 24	HA110A5#1W4
	5 Year Support Plus 24 w/DMR	HG930A5#1W4
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 x86 4-8P 1 year 24x7 Software Support Service	U6X40E
	HP 3 year x86 4-8P 1 year 24x7 Proactive care Software Service	U6X41E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server x86 4-8P 1 year 24x7 Software Support	U6X42E
	HP 4 year x86 4-8P 1 year 24x7 Proactive care Software Service	U6X43E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server x86 4-8P 1 year 24x7 Software Support	U6 X44E
	HP 5 year x86 4-8P 1 year 24x7 Proactive care Software Service	U6X45E

HP Serviceguard Toolkit for Oracle Database for Linux A.05.01.00.00

	HP Serviceguard Toolkit for Oracle Database for Linux License for 2 Socket HP ProLiant Servers	BB074AC
	HP Serviceguard Toolkit for Oracle Database for Linux License for 2 Socket HP ProLiant Servers	BB074ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#1W5
	3 Year Next Day Proactive Care w/DMR	H1K91A3#1W5
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#1W5
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#1W5
	3 Year 6 hour CTR Proactive Care	H1K94A3#1W5
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#1W5
	3 Year SW Support 24x7	HA107A3#1W5
	3 Year Support Plus 24	HA110A3#1W5
	3 Year Support Plus 24 w/DMR	HG930A3#1W5
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#1W5
	4 Year Next Day Proactive Care w/DMR	H1K91A4#1W5
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#1W5
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#1W5
	4 Year 6 hour CTR Proactive Care	H1K94A4#1W5
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#1W5
	4 Year SW Support 24x7	HA107A4#1W5
	4 Year Support Plus 24	HA110A4#1W5
	4 Year Support Plus 24 w/DMR	HG930A4#1W5
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#1W5
	5 Year Next Day Proactive Care w/DMR	H1K91A5#1W5
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#1W5
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#1W5
	5 Year 6 hour CTR Proactive Care	H1K94A5#1W5
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#1W5
	5 Year SW Support 24x7	HA107A5#1W5
	5 Year Support Plus 24	HA110A5#1W5
	5 Year Support Plus 24 w/DMR	HG930A5#1W5
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 Oracle x86 2P 1 year 24x7 Software Support Service	U6X46E
	HP 3 year Oracle x86 2P 1 year 24x7 Proactive care Software Service	U6X47E

Technical Specifications

Fixed 4 Year Proactive Care and	HP 4 year 24x7 Server Oracle x86 2P 1 year 24x7 Software Support	U6X48E
Software support Services	HP 4 year Oracle x86 2P 1 year 24x7 Proactive care Software Service	U6X49E
Fixed 5 Year Proactive Care and	HP 5 year 24x7 Server Oracle x86 2P 1 year 24x7 Software Support	U6X50E
Software support Services	HP 5 year Oracle x86 2P 1 year 24x7 Proactive care Software Service	U6X51

HP Serviceguard Toolkit for Oracle Database for Linux License for 4 to 8 Socket HP ProLiant Servers		BB075AC
HP Serviceguard Toolkit for Oracle Database for Linux License for 4 to 8 Socket HP ProLiant Servers		BB075ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#1W6
	3 Year Next Day Proactive Care w/DMR	H1K91A3#1W6
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#1W6
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#1W6
	3 Year 6 hour CTR Proactive Care	H1K94A3#1W6
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#1W6
	3 Year SW Support 24x7	HA107A3#1W6
	3 Year Support Plus 24	HA110A3#1W6
	3 Year Support Plus 24 w/DMR	HG930A3#1W6
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#1W6
	4 Year Next Day Proactive Care w/DMR	H1K91A4#1W6
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#1W6
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#1W6
	4 Year 6 hour CTR Proactive Care	H1K94A4#1W6
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#1W6
	4 Year SW Support 24x7	HA107A4#1W6
	4 Year Support Plus 24	HA110A4#1W6
	4 Year Support Plus 24 w/DMR	HG930A4#1W6
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#1W6
	5 Year Next Day Proactive Care w/DMR	H1K91A5#1W6
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#1W6
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#1W6
	5 Year 6 hour CTR Proactive Care	H1K94A5#1W6
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#1W6
	5 Year SW Support 24x7	HA107A5#1W6
	5 Year Support Plus 24	HA110A5#1W6
	5 Year Support Plus 24 w/DMR	HG930A5#1W6
Fixed 3 Year Proactive Care and	HP 3 year 24x7 x86 4-8P 1 year 24x7 Software Support Service	U6X52E
Software support Services	HP 3 year x86 4-8P 1 year 24x7 Proactive care Software Service	U6X53E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server x86 4-8P 1 year 24x7 Software Support	U6X54E
	HP 4 year x86 4-8P 1 year 24x7 Proactive care Software Service	U6X55E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server Oracle x86 4-8P 1 year 24x7 Software Support	U6X56E
	HP 5 year Oracle x86 4-8P 1 year 24x7 Proactive care Software Service	U6X57E

HP Serviceguard Extension for SAP for Linux for 2 Socket HP ProLiant Servers		BB076AC
HP Serviceguard Extension for SAP for Linux for 2 Socket HP ProLiant Servers		BB076ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#1W7
	3 Year Next Day Proactive Care w/DMR	H1K91A3#1W7
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#1W7
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#1W7
	3 Year 6 hour CTR Proactive Care	H1K94A3#1W7
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#1W7
	3 Year SW Support 24x7	HA107A3#1W7
	3 Year Support Plus 24	HA110A3#1W7
	3 Year Support Plus 24 w/DMR	HG930A3#1W7
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#1W7
	4 Year Next Day Proactive Care w/DMR	H1K91A4#1W7
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#1W7
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#1W7
	4 Year 6 hour CTR Proactive Care	H1K94A4#1W7
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#1W7
	4 Year SW Support 24x7	HA107A4#1W7
	4 Year Support Plus 24	HA110A4#1W7
	4 Year Support Plus 24 w/DMR	HG930A4#1W7
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#1W7
	5 Year Next Day Proactive Care w/DMR	H1K91A5#1W7
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#1W7
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#1W7
	5 Year 6 hour CTR Proactive Care	H1K94A5#1W7
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#1W7
	5 Year SW Support 24x7	HA107A5#1W7
	5 Year Support Plus 24	HA110A5#1W7
	5 Year Support Plus 24 w/DMR	HG930A5#1W7
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 SAP x86 2P 1 year 24x7 Software Support Service	U6X58E
	HP 3 year SAP x86 2P 1 year 24x7 Proactive care Software Service	U6X59E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server SAP x86 2P 1 year 24x7 Software Support	U6X60E
	HP 4 year SAP x86 2P 1 year 24x7 Proactive care Software Service	U6X61E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server SAP x86 2P 1 year 24x7 Software Support	U6X62E
	HP 5 year SAP x86 2P 1 year 24x7 Proactive care Software Service	U6X63E

HP Serviceguard Extension for SAP for Linux for 4 to 8 Socket HP ProLiant Servers		**BB077AC**
HP Serviceguard Extension for SAP for Linux for 4 to 8 Socket HP ProLiant Servers		**BB077ACE**
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#1W8
	3 Year Next Day Proactive Care w/DMR	H1K91A3#1W8
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#1W8
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#1W8
	3 Year 6 hour CTR Proactive Care	H1K94A3#1W8
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#1W8
	3 Year SW Support 24x7	HA107A3#1W8
	3 Year Support Plus 24	HA110A3#1W8
	3 Year Support Plus 24 w/DMR	HG930A3#1W8
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#1W8
	4 Year Next Day Proactive Care w/DMR	H1K91A4#1W8
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#1W8
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#1W8
	4 Year 6 hour CTR Proactive Care	H1K94A4#1W8
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#1W8
	4 Year SW Support 24x7	HA107A4#1W8
	4 Year Support Plus 24	HA110A4#1W8
	4 Year Support Plus 24 w/DMR	HG930A4#1W8
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#1W8
	5 Year Next Day Proactive Care w/DMR	H1K91A5#1W8
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#1W8
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#1W8
	5 Year 6 hour CTR Proactive Care	H1K94A5#1W8
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#1W8
	5 Year SW Support 24x7	HA107A5#1W8
	5 Year Support Plus 24	HA110A5#1W8
	5 Year Support Plus 24 w/DMR	HG930A5#1W8
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 SAP x86 4-8P 1 year 24x7 Software Support Service	U6X64E
	HP 3 year SAP x86 4-8P 1 year 24x7 Proactive care Software Service	U6X65E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server SAP x86 4-8P 1 year 24x7 Software Support	U6X66E
	HP 4 year SAP x86 4-8P 1 year 24x7 Proactive care Software Service	U6X67E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server SAP x86 4-8P 1 year 24x7 Software Support	U6X68E
	HP 5 year SAP x86 4-8P 1 year 24x7 Proactive care Software Service	U6X69E

HP Serviceguard Toolkit for SAP Sybase ASE and SAP Replication Server for Linux for 2 Socket HP ProLiant Servers		BB089AC
HP Serviceguard Toolkit for SAP Sybase ASE and SAP Replication Server for Linux for 2 Socket HP ProLiant Servers		BB089ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RYG
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RYG
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RYG
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RYG
	3 Year 6 hour CTR Proactive Care	H1K94A3#RYG
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RYG
	3 Year SW Support 24x7	HA107A3#RYG
	3 Year Support Plus 24	HA110A3#RYG
	3 Year Support Plus 24 w/DMR	HG930A3#RYG
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RYG
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RYG
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RYG
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RYG
	4 Year 6 hour CTR Proactive Care	H1K94A4#RYG
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RYG
	4 Year SW Support 24x7	HA107A4#RYG
	4 Year Support Plus 24	HA110A4#RYG
	4 Year Support Plus 24 w/DMR	HG930A4#RYG
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RYG
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RYG
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RYG
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RYG
	5 Year 6 hour CTR Proactive Care	H1K94A5#RYG
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RYG
	5 Year SW Support 24x7	HA107A5#RYG
	5 Year Support Plus 24	HA110A5#RYG
	5 Year Support Plus 24 w/DMR	HG930A5#RYG
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 Sybase 2P 1 year 24x7 Software Support Service	U7G26E
	HP 3 year Sybase 2P 1 year 24x7 Proactive care Software Service	U7G27E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Sybase 2P 1 year 24x7 Software Support Service	U7G28E
	HP 4 year Sybase 2P 1 year 24x7 Proactive care Software Service	U7G29E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Sybase 2P 1 year 24x7 Software Support	U7G30E
	HP 5 year Sybase 2P 1 year 24x7 Proactive care Software Service	U7G31E

HP Serviceguard Toolkit for SAP Sybase ASE and SAP Replication Server for Linux for 4-8 Socket HP ProLiant Servers		BB090AC
HP Serviceguard Toolkit for SAP Sybase ASE and SAP Replication Server for Linux for 4-8 Socket HP ProLiant Servers		BB090ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RYJ
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RYJ
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RYJ
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RYJ
	3 Year 6 hour CTR Proactive Care	H1K94A3#RYJ
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RYJ
	3 Year SW Support 24x7	HA107A3#RYJ
	3 Year Support Plus 24	HA110A3#RYJ
	3 Year Support Plus 24 w/DMR	HG930A3#RYJ
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RYJ
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RYJ
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RYJ
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RYJ
	4 Year 6 hour CTR Proactive Care	H1K94A4#RYJ
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RYJ
	4 Year SW Support 24x7	HA107A4#RYJ
	4 Year Support Plus 24	HA110A4#RYJ
	4 Year Support Plus 24 w/DMR	HG930A4#RYJ
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RYJ
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RYJ
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RYJ
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RYJ
	5 Year 6 hour CTR Proactive Care	H1K94A5#RYJ
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RYJ
	5 Year SW Support 24x7	HA107A5#RYJ
	5 Year Support Plus 24	HA110A5#RYJ
	5 Year Support Plus 24 w/DMR	HG930A5#RYJ
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 Sybase 4-8P 1 year 24x7 Software Support Service	U7G32E
	HP 3 year Sybase 4-8P 1 year 24x7 Proactive care Software Service	U7G33E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Sybase 4-8P 1 year 24x7 Software Support Service	U7G34E
	HP 4 year Sybase 4-8P 1 year 24x7 Proactive care Software Service	U7G35E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Sybase 4-8P 1 year 24x7 Software Support	U7G36E
	HP 5 year Sybase 4-8P 1 year 24x7 Proactive care Software Service	U7G37E

HP Serviceguard Toolkit for EnterpriseDB PPAS for Linux for 2 Socket HP ProLiant Servers		**BB092AC**
HP Serviceguard Toolkit for EnterpriseDB PPAS for Linux for 2 Socket HP ProLiant Servers		**BB092ACE**
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RYK
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RYK
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RYK
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RYK
	3 Year 6 hour CTR Proactive Care	H1K94A3#RYK
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RYK
	3 Year SW Support 24x7	HA107A3#RYK
	3 Year Support Plus 24	HA110A3#RYK
	3 Year Support Plus 24 w/DMR	HG930A3#RYK
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RYK
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RYK
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RYK
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RYK
	4 Year 6 hour CTR Proactive Care	H1K94A4#RYK
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RYK
	4 Year SW Support 24x7	HA107A4#RYK
	4 Year Support Plus 24	HA110A4#RYK
	4 Year Support Plus 24 w/DMR	HG930A4#RYK
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RYK
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RYK
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RYK
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RYK
	5 Year 6 hour CTR Proactive Care	H1K94A5#RYK
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RYK
	5 Year SW Support 24x7	HA107A5#RYK
	5 Year Support Plus 24	HA110A5#RYK
	5 Year Support Plus 24 w/DMR	HG930A5#RYK
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 EDB 2P 1 year 24x7 Software Support Service	U7G38E
	HP 3 year EDB 2P 1 year 24x7 Proactive care Software Service	U7G39E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 EDB 2P 1 year 24x7 Software Support Service	U7G40E
	HP 4 year EDB 2P 1 year 24x7 Proactive care Software Service	U7G41E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 EDB 2P 1 year 24x7 Software Support	U7G42E
	HP 5 year EDB 2P 1 year 24x7 Proactive care Software Service	U7G43E

HP Serviceguard Toolkit for EnterpriseDB PPAS for Linux for 4-8 Socket HP ProLiant Servers		BB093AC
HP Serviceguard Toolkit for EnterpriseDB PPAS for Linux for 4-8 Socket HP ProLiant Servers		BB093ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RYL
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RYL
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RYL
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RYL
	3 Year 6 hour CTR Proactive Care	H1K94A3#RYL
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RYL
	3 Year SW Support 24x7	HA107A3#RYL
	3 Year Support Plus 24	HA110A3#RYL
	3 Year Support Plus 24 w/DMR	HG930A3#RYL
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RYL
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RYL
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RYL
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RYL
	4 Year 6 hour CTR Proactive Care	H1K94A4#RYL
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RYL
	4 Year SW Support 24x7	HA107A4#RYL
	4 Year Support Plus 24	HA110A4#RYL
	4 Year Support Plus 24 w/DMR	HG930A4#RYL
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RYL
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RYL
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RYL
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RYL
	5 Year 6 hour CTR Proactive Care	H1K94A5#RYL
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RYL
	5 Year SW Support 24x7	HA107A5#RYL
	5 Year Support Plus 24	HA110A5#RYL
	5 Year Support Plus 24 w/DMR	HG930A5#RYL
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 EDB 4-8P 1 year 24x7 Software Support Service	U7G44E
	HP 3 year EDB 4-8P 1 year 24x7 Proactive care Software Service	U7G45E

Technical Specifications

Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 EDB 4-8P 1 year 24x7 Software Support Service	U7G46E
	HP 4 year EDB 4-8P 1 year 24x7 Proactive care Software Service	U7G47E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 EDB 4-8P 1 year 24x7 Software Support	U7G48E
	HP 5 year EDB 4-8P 1 year 24x7 Proactive care Software Service	U7G49E

HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 2 socket HP ProLiant servers - Flexible Quantity License		BB078AC
HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 2 socket HP ProLiant servers - E-Delivery.		BB078ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RDW
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RDW
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RDW
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RDW
	3 Year 6 hour CTR Proactive Care	H1K94A3#RDW
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RDW
	3 Year SW Support 24x7	HA107A3#RDW
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RDW
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RDW
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RDW
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RDW
	4 Year 6 hour CTR Proactive Care	H1K94A4#RDW
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RDW
	4 Year SW Support 24x7	HA107A4#RDW
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RDW
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RDW
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RDW
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RDW
	5 Year 6 hour CTR Proactive Care	H1K94A5#RDW
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RDW
	5 Year SW Support 24x7	HA107A5#RDW
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 MC CA XP 2P 1 year 24x7 Software Support Service	U7E62E
	HP 3 year MC CA XP 2P 1 year 24x7 Proactive care Software Service	U7E63E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 MC CA XP 2P 1 year 24x7 Software Support	U7E64E
	HP 4 year MC CA XP 2P 1 year 24x7 Proactive care Software Service	U7E65E

Technical Specifications

Fixed 5 Year Proactive Care and	HP 5 year 24x7 MC CA XP 2P 1 year 24x7 Software Support	U7E66E
Software support Services	HP 5 year SAP MC CA XP 1 year 24x7 Proactive care Software Service	U7E67E

HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 4 to 8 socket HP ProLiant servers - Flexible Quantity License		BB079AC
HP Serviceguard Metrocluster with Continuous Access P9000/XP for Linux for 4 to 8 socket HP ProLiant servers - E-Delivery.		BB079ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RDX
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RDX
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RDX
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RDX
	3 Year 6 hour CTR Proactive Care	H1K94A3#RDX
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RDX
	3 Year SW Support 24x7	HA107A3#RDX
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RDX
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RDX
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RDX
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RDX
	4 Year 6 hour CTR Proactive Care	H1K94A4#RDX
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RDX
	4 Year SW Support 24x7	HA107A4#RDX
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RDX
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RDX
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RDX
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RDX
	5 Year 6 hour CTR Proactive Care	H1K94A5#RDX
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RDX
	5 Year SW Support 24x7	HA107A5#RDX
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 MC CA XP 4-8P 1 year 24x7 Software Support Service	U7E68E
	HP 3 year MC CA XP 4-8P 1 year 24x7 Proactive care Software Service	U7E69E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 MC CA XP 4-8P 1 year 24x7 Software Support	U7E70E
	HP 4 year MC CA XP 4-8P 1 year 24x7 Proactive care Software Service	U7E71E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 MC CA XP 4-8P 1 year 24x7 Software Support	U7E72E
	HP 5 year MC CA XP 4-8P 1 year 24x7 Proactive care Software Service	U7E73E

Technical Specifications

HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 2 socket HP ProLiant servers - Flexible Quantity License		BB080AC
HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 2 socket HP ProLiant servers - E-Delivery		BB080ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RDY
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RDY
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RDY
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RDY
	3 Year 6 hour CTR Proactive Care	H1K94A3#RDY
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RDY
	3 Year SW Support 24x7	HA107A3#RDY
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RDY
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RDY
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RDY
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RDY
	4 Year 6 hour CTR Proactive Care	H1K94A4#RDY
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RDY
	4 Year SW Support 24x7	HA107A4#RDY
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RDY
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RDY
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RDY
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RDY
	5 Year 6 hour CTR Proactive Care	H1K94A5#RDY
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RDY
	5 Year SW Support 24x7	HA107A5#RDY
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 MC CA EVA 2P 1 year 24x7 Software Support Service	U7E74E
	HP 3 year MC CA EVA 2P 1 year 24x7 Proactive care Software Service	U7E75E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 MC CA EVA 2P 1 year 24x7 Software Support	U7E76E
	HP 4 year MC CA EVA 2P 1 year 24x7 Proactive care Software Service	U7E77E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 MC CA EVA 2P 1 year 24x7 Software Support	U7E78E
	HP 5 year MC CA EVA 2P 1 year 24x7 Proactive care Software Service	U7E79E

HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 4-8 socket HP ProLiant servers - Flexible Quantity License		BB081AC
HP Serviceguard Metrocluster with Continuous Access P6000/EVA for Linux for 4-8 socket HP ProLiant servers - E-Delivery		BB081ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RDZ
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RDZ
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RDZ

Technical Specifications

	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RDZ
	3 Year 6 hour CTR Proactive Care	H1K94A3#RDZ
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RDZ
	3 Year SW Support 24x7	HA107A3#RDZ
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RDZ
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RDZ
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RDZ
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RDZ
	4 Year 6 hour CTR Proactive Care	H1K94A4#RDZ
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RDZ
	4 Year SW Support 24x7	HA107A4#RDZ
Flexible Upfront 5 Year Proactive and Support Plus Service	5 Year Next Day Proactive Care	H1K90A5#RDZ
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RDZ
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RDZ
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RDZ
	5 Year 6 hour CTR Proactive Care	H1K94A5#RDZ
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RDZ
	5 Year SW Support 24x7	HA107A5#RDZ
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 MC CA EVA 4-8P 1 year 24x7 Software Support Service	U7E80E
	HP 3 year MC CA EVA 4-8P 1 year 24x7 Proactive care Software Service	U7E81E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 MC CA EVA 4-8P 1 year 24x7 Software Support	U7E82E
	HP 4 year MC CA EVA 4-8P 1 year 24x7 Proactive care Software Service	U7E83E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 MC CA EVA 4-8P 1 year 24x7 Software Support	U7E84E
	HP 5 year MC CA EVA 4-8P 1 year 24x7 Proactive care Software Service	U7E85E

HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 2 socket HP ProLiant servers - Flexible Quantity License		BB082AC
HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 2 socket HP ProLiant servers - E-Delivery		BB082ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RE0
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RE0
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RE0
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RE0
	3 Year 6 hour CTR Proactive Care	H1K94A3#RE0
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RE0
	3 Year SW Support 24x7	HA107A3#RE0
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RE0
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RE0
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RE0
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RE0

Technical Specifications

	4 Year 6 hour CTR Proactive Care	H1K94A4#RE0
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RE0
	4 Year SW Support 24x7	HA107A4#RE0
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RE0
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RE0
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RE0
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RE0
	5 Year 6 hour CTR Proactive Care	H1K94A5#RE0
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RE0
	5 Year SW Support 24x7	HA107A5#RE0
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 MC 3PAR RC 2P 1 year 24x7 Software Support Service	U7E86E
	HP 3 year MC 3PAR RC 2P 1 year 24x7 Proactive care Software Service	U7E87E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 MC 3PAR RC 2P 1 year 24x7 Software Support	U7E88E
	HP 4 year MC 3PAR RC 2P 1 year 24x7 Proactive care Software Service	U7E89E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 MC 3PAR RC 2P 1 year 24x7 Software Support	U7E90E
	HP 5 year MC 3PAR RC 1 year 24x7 Proactive care Software Service	U7E91E

HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 4 to 8 socket HP ProLiant servers - Flexible Quantity License		BB083AC
HP Serviceguard Metrocluster with 3PAR Remote Copy for Linux for 4 to 8 socket HP ProLiant servers - E-Delivery		BB083ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RE1
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RE1
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RE1
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RE1
	3 Year 6 hour CTR Proactive Care	H1K94A3#RE1
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RE1
	3 Year SW Support 24x7	HA107A3#RE1
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RE1
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RE1
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RE1
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RE1
	4 Year 6 hour CTR Proactive Care	H1K94A4#RE1
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RE1
	4 Year SW Support 24x7	HA107A4#RE1
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RE1
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RE1
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RE1
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RE1

Technical Specifications

	5 Year 6 hour CTR Proactive Care	H1K94A5#RE1
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RE1
	5 Year SW Support 24x7	HA107A5#RE1
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 MC 3PAR RC 4-8P 1 year 24x7 Software Support Service	U7E92E
	HP 3 year MC 3PAR RC 4-8P 1 year 24x7 Proactive care Software Service	U7E93E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 MC 3PAR RC 4-8P 1 year 24x7 Software Support	U7E94E
	HP 4 year MC 3PAR RC 4-8P 1 year 24x7 Proactive care Software Service	U7E95E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 MC 3PAR RC 4-8P 1 year 24x7 Software Support	U7E96E
	HP 5 year MC 3PAR RC 4-8P 1 year 24x7 Proactive care Software Service	U7E97E

HP Serviceguard Metrocluster for Linux EMC SRDF x86 2 socket 1y 24x7 PCL		BB084AC
HP Serviceguard Metrocluster for Linux EMC SRDF x86 2 socket 1y 24x7 PCL E-Delivery		BB084ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RE2
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RE2
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RE2
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RE2
	3 Year 6 hour CTR Proactive Care	H1K94A3#RE2
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RE2
	3 Year SW Support 24x7	HA107A3#RE2
	3 Year Support Plus 24	HA110A3#RE2
	3 Year Support Plus 24 w/DMR	HG930A3#RE2
Flexible Upfront 4 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RE2
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RE2
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RE2
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RE2
	4 Year 6 hour CTR Proactive Care	H1K94A4#RE2
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RE2
	4 Year SW Support 24x7	HA107A4#RE2
	4 Year Support Plus 24	HA110A4#RE2
	4 Year Support Plus 24 w/DMR	HG930A4#RE2
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RE2
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RE2
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RE2
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RE2
	5 Year 6 hour CTR Proactive Care	H1K94A5#RE2
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RE2
	5 Year SW Support 24x7	HA107A5#RE2
	5 Year Support Plus 24	HA110A5#RE2

Technical Specifications

	5 Year Support Plus 24 w/DMR	HG930A5#RE2
Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 x86 EMC 2P 1 year 24x7 Software Support	U7E98E
	HP 3 year x86 EMC 2P 1 year 24x7 Proactive care Software Support	U7E99E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server x86 EMC 2P 1 year 24x7 Software Support	U7F00E
	HP 4 year x86 EMC 2P 1 year 24x7 Proactive care Software Support	U7F01E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server x86 EMC 2P 1 year 24x7 Software Support	U7F02E
	HP 5 year x86 EMC 2P 1 year 24x7 Proactive care Software Support	U7F03E
HP Serviceguard Metrocluster for Linux EMC SRDF x86 4 to 8 socket 1y 24x7 PCL E-LTU		BB085AC
HP Serviceguard Metrocluster for Linux EMC SRDF x86 4 to 8 socket 1y 24x7 PCL E-Delivery		BB085ACE
Flexible Upfront 3 Year Proactive and Support Plus Services	3 Year Next Day Proactive Care	H1K90A3#RE3
	3 Year Next Day Proactive Care w/DMR	H1K91A3#RE3
	3 Year 4 hour 24x7 Proactive Care	H1K92A3#RE3
	3 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A3#RE3
	3 Year 6 hour CTR Proactive Care	H1K94A3#RE3
	3 Year 6 hour CTR Proactive Care w/DMR	H1K95A3#RE3
	3 Year SW Support 24x7	HA107A3#RE3
	3 Year Support Plus 24	HA110A3#RE3
	3 Year Support Plus 24 w/DMR	HG930A3#RE3
Flexible Upfront 3 Year Proactive and Support Plus Services	4 Year Next Day Proactive Care	H1K90A4#RE3
	4 Year Next Day Proactive Care w/DMR	H1K91A4#RE3
	4 Year 4 hour 24x7 Proactive Care	H1K92A4#RE3
	4 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A4#RE3
	4 Year 6 hour CTR Proactive Care	H1K94A4#RE3
	4 Year 6 hour CTR Proactive Care w/DMR	H1K95A4#RE3
	4 Year SW Support 24x7	HA107A4#RE3
	4 Year Support Plus 24	HA110A4#RE3
	4 Year Support Plus 24 w/DMR	HG930A4#RE3
Flexible Upfront 5 Year Proactive and Support Plus Services	5 Year Next Day Proactive Care	H1K90A5#RE3
	5 Year Next Day Proactive Care w/DMR	H1K91A5#RE3
	5 Year 4 hour 24x7 Proactive Care	H1K92A5#RE3
	5 Year 4 hour 24x7 Proactive Care w/DMR	H1K93A5#RE3
	5 Year 6 hour CTR Proactive Care	H1K94A5#RE3
	5 Year 6 hour CTR Proactive Care w/DMR	H1K95A5#RE3
	5 Year SW Support 24x7	HA107A5#RE3
	5 Year Support Plus 24	HA110A5#RE3
	5 Year Support Plus 24 w/DMR	HG930A5#RE3

Technical Specifications

Fixed 3 Year Proactive Care and Software support Services	HP 3 year 24x7 x86 EMC 4-8P 1 year 24x7 Software Support	U7F04E
	HP 3 year x86 EMC 4-8P 1 year 24x7 Proactive care Software Support	U7F05E
Fixed 4 Year Proactive Care and Software support Services	HP 4 year 24x7 Server x86 EMC 4-8P 1 year 24x7 Software Support	U7F06E
	HP 4 year x86 EMC 4-8P 1 year 24x7 Proactive care Software Support	U7F07E
Fixed 5 Year Proactive Care and Software support Services	HP 5 year 24x7 Server x86 EMC 4-8P 1 year 24x7 Software Support	U7F08E
	HP 5 year x86 EMC 4-8P 1 year 24x7 Proactive care Software Support	U7F09E
HP Serviceguard Audit (HP-UX and Linux)	HP Serviceguard Audit Service is ideal for assuring optimal configuration of current Serviceguard Metrocluster environment	HA332A1

Cluster Topologies

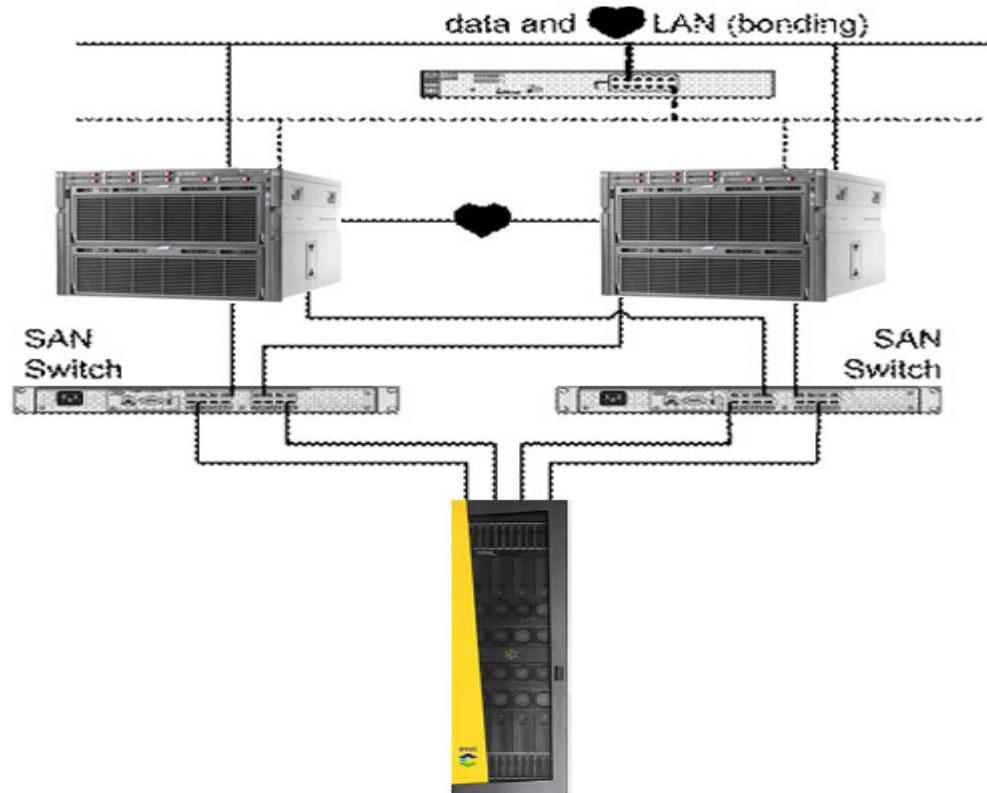**Fibre Channel configuration topology**

- Up to 16 nodes on a Fibre Channel configuration
- A quorum service or cluster lock LUN is only required for 2-node configurations, it is optional for 3- to 4-node configurations.
- LAN connection to switches, white papers are available on the ProCurve section of the HP Web site (http://www.hp.com/rnd/index.htm), describing how to set up the LAN environment for the best availability.
- The key items that need to be in the servers are the correct number and type of LAN connections and the Fibre Channel host bus adapters (HBAs).

In a Fibre Channel storage system, the host port interconnects act as an internal switch to provide data-path redundancy. The below diagrams show a dual-controller Fibre Channel system in a switch attach configuration in which host port interconnects are typically enabled in order to provide fault tolerance. When the host port interconnects are enabled, port 0 on each controller is cross-connected to port1 on the other controller. This provides redundancy in the event of failover by making volumes owned by either controller accessible from either controller.
Please refer to 3PAR documentation for complete connectivity details.

Figure 1: HP's recommended cluster configuration for Fibre Channel using a dual-controller Fibre Channel system in a switch attach configuration.

Technical Specifications

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.