

Overview

HP offers a range of solutions that protect your valuable information against the threat of downtime making your operations resilient regardless of external or internal events. HP business continuity software solutions provide disaster tolerance to keep your corporate information accessible, and available through adverse events. Any amount of system downtime can mean lost productivity, lost revenue, lost customers, and lost opportunities; HP provides proven technologies strategies, and services to reduce your exposure and vulnerability. Defend your mission-critical operations and secure your company's future with HP StorageWorks Cluster Extension.

Cluster Extension EVA (CLX EVA) offers protection against application downtime from fault, failure, or site disaster by extending a local cluster between data centers over metropolitan distance. CLX EVA reinstates critical applications at a remote site within minutes after an adverse event and integrates with your open-system clustering software (MS Cluster Service in Windows environments and HP Serviceguard for Linux in Linux environments), HP StorageWorks Continuous Access EVA to automate failover and failback between sites. This dual integration enables the cluster service to verify the status of the storage as well as the server cluster; thus allowing the correct failover and failback decisions to be made which minimize downtime, and accelerates recovery - without human intervention.

- Support for Microsoft Windows Server 2008 R2, Hyper-V
- Support for Hyper-V Live Migration

Features and Benefits

Benefits

- Accelerated application recovery with minimal transaction loss
- Disaster tolerant solutions to ensure business continuance and company survival
- Creation of disaster tolerant copies of your "critical business data"

Product Features

EVA array family support The entire EVA array family is support on either end of the DT configuration. Whether repurposing legacy units or simply adding newer generation units to an existing CLX EVA configuration, both sites are covered. See "Software Support" section for configuration requirements.

Protection against transaction data loss Because the application cluster is extended over two sites and the storage is replicated at the second site using synchronous replication methodology, data exists ubiquitously with virtually no difference in the data storage from site A to site B. No-single-point-of-failure solution to increase the availability of company and customer data

Metropolitan distance support Distance supported is determined by Continuous Access EVA relay latency parameters. In both Windows and Linux configurations, 500km or up to 20 ms roundtrip delay furnishing protection from any single site event.

Fully Automatic Failover and Failback Automated failover and failback reduces the complexity involved in a disaster recovery situation. It is protection against the risk of downtime, whether planned or unplanned.

No server reboot Disks on the Server on both the primary and secondary sites are recognized during the initial system boot in a CLX EVA environment; therefore LUN presentation and LUN mapping changes are not necessary during failover or failback - for a truly hand-free disaster tolerant solution.

Disaster Tolerance (DT) vs. Disaster Recovery (DR) Cluster Extension is the key that unlocks the critical difference between disaster recovery (DR) and disaster tolerance (DT). Most DR products pledge that operations will resume following downtime (typically unexpected). CLX EVA delivers DT - control over the possibility of downtime itself. This control

No Single Point of failure Supreme redundancy: identical configuration of established SAN infrastructure redundancies are implemented on site B.

Synchronous mode Support Continuous Access EVA offers synchronous data transfer mode between arrays and host. Synchronous data transfers offer the highest levels of data protection. With synchronous operations, both the source and destination copies are identical and concurrent at all times. Synchronous mirroring ensures that data copies are identical, to prevent critical data loss in the event of a failure or disaster. In this mode, data is written simultaneously to the mirrored cache of the local storage system and the remote storage system, in real time, before the application I/O is completed, thus ensuring the highest possible data consistency. Synchronous replication is appropriate when exact consistency is critical to the business application.

MSCS Majority Node Set Integration CLX EVA Windows uses the Microsoft Majority Node Set (MNS) and Microsoft File Share Witness (FSW) quorum feature that is available in Windows from MS Windows2003. These quorum models provide protection against split-brain situations without the single point of failure of a traditional Quorum disk. Split Brain syndrome occurs when the servers at one site of the stretched cluster lose all connection with the servers at the other site and the servers at each site form independent clusters. The serious consequence of the split-brain is corruption of business data since data will no longer be consistent.

Serviceguard Integration CLX EVA Linux uses HP Serviceguard for Linux, specialized software for protecting mission-critical

Features and Benefits

applications from a wide variety of hardware and software failures. With Serviceguard, multiple servers (nodes) and/or server partitions are organized in to an enterprise cluster that delivers highly available application services to LAN-attached clients. HP Serviceguard monitors the health of each node and rapidly responds to failures in a way that minimizes or eliminates application downtime. For more information regarding Serviceguard clusters in Linux environments please visit hp.com at: <http://www.hp.com/go/sglx>

Electronic Software Delivery

Electronic software is now available in most countries. HP recommends purchasing electronic products over physical products when available for faster delivery and the convenience of not having to manage either file away or throw away-confidential paper licenses. For more information, please contact an HP representative.

Software & Hardware Prerequisites

Cluster Extension EVA Software Support

The Cluster Extension EVA Software support details can be obtained from the following link under 'CLX-EVA Cluster Extension Streams'

http://h20272.www2.hp.com/Pages/spock2Html.aspx?htmlFile=sw_array_eva.html

Geo-cluster certification Windows: HP StorageWorks Cluster Extension EVA is Microsoft certified. Please consult the Windows Server Catalog for the Cluster Extension EVA Listings.
Linux: Linux does not offer certification testing.

Ordering Information

Product Description

HP StorageWorks Cluster Extension EVA Windows LTU

Part Number

T3667A

HP StorageWorks Cluster Extension EVA Windows e-LTU

T3667AAE

NOTE: Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

Includes one (1) License-to-Use (LTU) for use on one server connected to one or more EVA arrays. Order quantity 1 for each server that will run the Cluster Extension EVA Software in a Windows environment

HP StorageWorks Cluster Extension EVA Linux LTU

T4393A

Includes one (1) License-to-Use (LTU) for use on one server connected to one or more EVA arrays. Order quantity 1 for each server that will run the Cluster Extension EVA Software in a Linux environment

HP StorageWorks Cluster Extension is licensed per single server. One license is required for each node of the cluster that will contain CLX resources*, intended for failover and failback in the event of failure. A license is not required for the Quorum server (assuming that the CLX Resource is not installed on the Quorum server) and cluster nodes that do not have the CLX resource installed.

NOTE:* A resource is defined as the smallest unit in an application service. It describes the necessary parts to build an application service. The implementation of such resources in cluster software is vendor-specific. Some vendors do not allow accessing the chains between dependent resources. Vendor equivalent terms: HACMP: resource group; Microsoft Cluster Service: resource group; SG-LX (Serviceguard): package; VCS: service group.

For multiple cluster installation licensing, please contact your HP sales professional or authorized HP storage reseller for details.

Related Products

The following products are related to the proper operation of the EVA array. Please see product-specific QuickSpecs (attainable via the links indicated) regarding configuration and ordering information.

StorageWorks EVA

EVA Models are modular, scalable, no-single-point-of-failure storage solutions with disaster tolerance and business continuance support for storage consolidation on heterogeneous SANs. Ideal for enterprise-wide deployment and mission-critical applications, these solutions are the most extensible, resilient, and controllable storage solutions available. They offer maximum scalability, industry-leading performance, a fully integrated suite of centralized management tools, and unmatched data protection and disaster tolerant features.

Visit the following URL for product configuration and ordering information for the new HP StorageWorks 4000/6000/8000 Enterprise Virtual Arrays: <http://www.hp.com/go/eva>

or <http://h18006.www1.hp.com/storage/arrayystems.html> for general storage array product configuration and ordering information.

Ordering Information

Continuous Access EVA HP StorageWorks Continuous Access EVA is a configuration prerequisite for HP Cluster Extension implementation. Continuous Access EVA is a controller-based application that performs real-time replication between HP StorageWorks Enterprise Virtual Arrays and provides customers with the highest level of storage data protection capabilities to meet their business continuity implementation goals. Customers can achieve a competitive advantage by combining disaster-tolerant solutions and disaster-tolerant managed services into their planning and daily routines, ensuring the data's security, availability and integrity. Continuous Access EVA is sold by utilized capacity.

Please see the product URL for ordering information and part numbers:
<http://h18006.www1.hp.com/storage/software.html>

Additional information online

http://www.hp.com	HP home page
http://www.hp.com/products1/storage/index.html	StorageWorks products home page
http://www.hp.com/hps/	HP Services home page
http://welcome.hp.com/country/us/en/prodserv.html	HP Products & Services home page
http://welcome.hp.com/country/us/en/solutions.html	HP Solutions
http://www.hp.com/go/recovery	Business Continuity Consulting Services

Software Product Services

Data Replication Solution Service The Data Replication Solution Service is the most appropriate service to get a data replication solution, local and/or remote in homogeneous and heterogeneous environments, fully integrated and operational within some well defined boundaries reflecting natural limits of a fixed priced service. Requirements beyond these boundaries are going to be covered by SOW driven consulting services using this DR Solution Service as the fundamental building block for delivering more complex solutions.

HP Services professionals work closely with your staff to analyze your storage system, understand your requirements, and design and deploy the optimal Data Replication solution for your business. Choose from three service levels:

- **Level 1** offers installation and startup services for Continuous Access or Business Copy replication software or the Continuous Access Storage Appliance, including configuration checks, installation and basic configuration, and installation testing and customer orientation.
- **Level 2** provides additional services such as Project Management, solution design, basic integration into your management environment, functional testing, and knowledge transfer.
- **Level 3** provides all level 1 and 2 services, plus integration of your Data Replication solution into additional business applications.

Disaster Tolerant Management Service

<http://h20219.www2.hp.com/services/cache/10823-0-0-225-121.html>

HP Disaster Tolerant Management service helps you implement effective recovery solutions based on the HP StorageWorks Continuous Access Enterprise Virtual Array (CA EVA), a controller-based application that performs real-time Data Replication between HP StorageWorks EVAs. This complete package of tightly integrated services provides proven, low-risk disaster-tolerant solutions for even the most demanding and complex environments, with minimal disruption to your business.

HP Disaster Tolerant Management service is expressly tailored to your IT and business requirements. At the outset, HP Services professionals work closely with you to understand your requirements and assess how your solution would interact with your existing infrastructure and business processes. Following solution delivery, knowledge transfer to your IT management and staff helps ensure that your team can manage issues that are specific to your business.

Disaster Tolerant Services Package deliverables include:

- Pre-installation planning and business needs review - to help ensure a timely, effective implementation
- Configuration and deployment of customized Disaster Tolerant management stations - to provide enhanced failover and continuous management and monitoring
- System manager and operator training - to familiarize your staff with key management issues; includes extensive training on recovery from failure conditions
- Review of your technical recovery plan - to help ensure alignment with your disaster-tolerant infrastructure
- Disaster recovery test suite design - to tailor tests for your newly integrated environment
- Disaster recovery rehearsal execution - to verify that your solution performs to your expectations

Service and Support, HP Care Pack, and Warranty Information

Product Support

Product Support gives the customer access to HP's experienced technical support resources as well as access to HP's Information Services database for support on a variety of multi-vendor/multi-platform software products. Product support includes escalations and problem coordination with the appropriate engineering group. HP Services offer a variety of options to allow you to tailor your product service to meet the needs of your organization. Basic services on products can be uplifted from day one to ensure you receive the service you need when you need it.

Software product services

- Standard software support (HP Care Pack or annual support contract) 24 x 7 is available 24 hours per day, Monday through Sunday, including holidays, and access rights to new versions, software product and documentation updates.
- Installation and Startup Service (software installation, configuration, startup testing and knowledge transfer).
- Tailored support contracts based on personalized statement of work: contact your local support center via <http://www.hp.com/support/>.

Software Warranty

HP warrants only that the Software media will be free of physical defects for a period of ninety (90) days from delivery.

Software Product Services Standard Services

One year Software Support 24 x 7 (includes software technical support 24 x 7, software product and documentation updates)

Additional Services

- Installation and startup services
- DR Solutions Service
- DT Managed Service
- Extended services beyond 1 year

The following services are offered as HP Care Pack Services at the time of product order

For additional software product services information for North American HP Care Pack services, as well as orderable part numbers, please refer to the URLs listed below:

All storage services: <http://www.hp.com/hps/storage/>

Care Pack Priority Services: http://www.hp.com/hps/carepack/storage/cp_networked.html

Software Support Care Pack Services: http://www.hp.com/hps/carepack/software/cp_storage.html

Installation and Startup Service: http://www.hp.com/hps/storage/ns_replication.html

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