

Overview

Models

PDC/O5000 Cluster Kit for Windows® 2000 - Enhanced	224398-B22
PDC/O5000 Cluster Kit for Windows NT® - Enhanced	177927-B22

Introduction

Compaq Parallel Database Cluster solutions provide high availability, scalability, and manageability for applications and data in a business-critical environment. The Compaq Parallel Database Cluster Model PDC/O5000 for Oracle8i Parallel Server is a hardware and software configuration specifically designed and tested for use with the Oracle Server and Oracle Parallel Server option in support of database opportunities such as data warehousing, web Back-end databases, custom database application development, packaged applications and database migration from other platforms.

Description

The Compaq Parallel Database Cluster Model PDC/O5000 for Oracle Parallel Server (PDC/O5000) allows a two to six node cluster of Microsoft® Windows-based Compaq servers to simultaneously share a single Oracle database. Certified Oracle 8 Parallel Server option Release 8.0.5 / 8.0.6, and for Oracle8i Parallel Server option Release 8.1.5/ 8.1.6/8.1.7, the PDC/O5000 cluster integrates Compaq's unique Operating System Dependent (OSD) software modules with Compaq's industry standard, fault-resilient hardware:

- Compaq ProLiant Servers (Please refer to the PDC/O5000 Certification Matrix for supported ProLiant Server models in the PDC/O5000 configurations)
- PDC/O5000 supports the StorageWorks Modular Array MA8000 and Enterprise Modular Array EMA12000 (MA8000/EMA12000) by Compaq. The PDC/O5000 also supports the Compaq RAID Array 8000 and Enterprise Storage Array 12000(RA8000/ESA12000) Storage Subsystems as shared storage
- PDC/O5000 support Ethernet as dedicated cluster Interconnects

Compaq provides an Enhanced Cluster Kit for the PDC/O5000 configurations, which contains the Compaq OSD modules for Oracle8i Parallel Server, SecurePath Multipath Software, and an administrator guide.

QuickSpecs

Compaq Parallel Database Cluster Model PDC/O5000 for Oracle8i Parallel Server

Product Highlights

Maximum Availability, Minimum Cost

The PDC/O5000 exploits fully redundant and optimized Compaq ProLiant servers and other highly reliable, industry-standard hardware. It provides significantly improved uptime and lower operating costs than multiple single-server or proprietary database implementations.

The PDC/O5000 configurations have been certified with Compaq StorageWorks Modular Array MA8000 and Enterprise Modular array EMA12000 (MA8000/EMA12000). All MA8000/EMA12000 models provide redundant cooling, N+1 power redundancy and environmental monitoring. Drives and most solution components are hot swappable. The MA8000/EMA12000 FC redundant architecture eliminates single points-of-failure from server to storage in clustered or single server configurations. For additional protection, Dual Host Bus Adapter (HBA) failover software is available on many platforms.

The PDC/O5000 configurations have also been certified with Compaq RAID Array 8000 and Enterprise Storage Array 12000 Storage Subsystems as shared storage. All the active components of the Compaq RAID Array 8000 and Enterprise Storage Array 12000 Storage Subsystem are redundant and hot replaceable which provides high system availability and No Single Point of Failure. Additionally, Dual HBA fail-over support through the use of Secure Path software provides redundant data paths from the host to ensure No single Point of Failure.

Increased Throughput and Simplified Management with Oracle Software

All nodes within the PDC/O5000 Cluster share a single Oracle database. Oracle Parallel Server software increases throughput to the Oracle database by coordinating each server's access to the data and allows the entire cluster to be managed from a single workstation-providing increased performance and simplified management of the database.

Automatic online recovery

In the event of a node failure, the remaining nodes can continue to have access to the database. Meanwhile, users on the failed node can switch to another node and continue processing. The remaining nodes automatically recover all of the transactions performed by the applications before the failure occurred, ensuring data integrity.

Data integrity and database consistency

Each copy of the Oracle database is allocated its own mirrored, multi-segment redo logs that store transactions not yet written to the database. If a node or an Oracle copy fails, the remaining nodes use the redo log from the failed node to bring the database back to a consistent state.

Hardware Configuration Elements

- Compaq ProLiant Servers (two to six nodes of the same model. (Please refer to the PDC/O5000 Certification Matrix for supported ProLiant Server models in the PDC/O5000 configurations)
- StorageWorks Modular Array MA8000 and Enterprise Modular array EMA12000 (MA8000/EMA12000) or Compaq RAID Array 8000 and Enterprise Storage Array 12000 Storage Subsystems
- 100BaseTX Ethernet Interconnect.

Components

Servers

The PDC/O5000 supports 2 to -6 nodes of Compaq ProLiant server. Please refer to the PDC/O5000 Certification Matrix for supported ProLiant Server models in the PDC/O5000 configurations.

Note that all the ProLiant servers in the PDC/O5000 Cluster must be identically configured, including:

- Minimum memory: Each ProLiant server in the PDC/O5000 Cluster must have a minimum of 256 MB of memory and a minimum of 512 KB L2 cache per processor.
- Balanced servers: The servers within a PDC/O5000 cluster must be balanced. That is, each server must have the same type and number of processors, the same amount of primary and secondary cache, and the same type and amount of memory.
- Server mixes are currently not supported in the PDC/O5000 Cluster configuration

Storage

The PDC/O5000 configurations have been certified with StorageWorks Modular Array MA8000 and Enterprise Modular Array EMA12000 (MA8000/EMA12000). MA8000/EMA12000 transitions the RA8000/ESA12000 storage solutions to the new StorageWorks packaging, maintains the support of the HSG80 controller (and associated features) and adds the benefits of universal drive support, higher density of drives per enclosure, flexible configurations and higher capacity per cabinet. All MA8000/EMA12000 models provide redundant cooling, N+1 power redundancy and environmental monitoring. Drives and most solution components are hot swappable. Each solution can be configured with dual redundant controllers that can operate in dual active mode. Each controller has a pair of FC host ports. In the event of a path failure, the controllers can automatically failover to the remaining path.

The MA8000/EMA12000 FC redundant architecture eliminates single points-of-failure from server to storage in clustered or single server configurations. For additional protection, Dual Host Bus Adapter (HBA) failover software is available on many platforms.

The PDC/O5000 configurations have also been certified with Compaq RAID Array 8000 and Enterprise Storage Array 12000 Storage Subsystems as shared storage. All the active components of the Compaq RAID Array 8000 and Enterprise Storage Array 12000 Storage Subsystem are redundant and hot replaceable which provides high system availability and No Single Point of Failure. Additionally, Dual HBA fail-over support through the use of Secure Path software provides redundant data paths from the host to ensure No single Point of Failure.

For additional information on the RA8000/ESA12000 Storage Subsystem please see:
<http://www.compaq.com/products/storageworks/RA8000/RA8000index.html>.

NOTE: This Web site is available in English only.

Cluster Interconnect

The PDC/O5000 cluster supports the following cluster interconnects:

- Ethernet PCI adapters in conjunction with a 100BaseTX Ethernet hub/switch
- OR
- ServerNet I Interconnect with ServerNet Switches

Cluster Kits

The PDC/O5000 requires the Compaq PDC/O5000 Cluster Kit. Compaq provides separate PDC/O5000 Cluster Kits for Microsoft Windows NT® and Microsoft Windows 2000® Advanced Server.

Compaq Cluster Kit Part #224398-B22: PDC/O5000 Ethernet Cluster Kit for Windows 2000: The OSD software in the PDC/O5000 Cluster Kit for Windows 2000 Advances Server and Data Center Server supports OPS Version 8.1.7 for Ethernet cluster interconnect

Compaq Cluster Kit Part #177927-B22: PDC/O5000 Ethernet Cluster Kit for Windows NT: The OSD software in the PDC/O5000 for Windows NT Cluster Kit supports OPS Version 8.0.5, 8.0.6, 8.1.5, 8.1.6, and 8.1.7 for Ethernet cluster interconnect.

The PDC/O5000 Cluster Kits also contain:

- Compaq's OSD software components
- Multi-path software (Secure Path) - StorageWorks Secure Path is a high availability software product providing continuous data access for the StorageWorks MA8000/EMA12000 or the RA8000/ESA12000. Secure Path effectively eliminates controllers, disk drives, interconnect hardware and host bus adapters as single points of failure.
- User installation and Administrators Guide for Cluster Specific components, including site preparation Information

Supported Operating Systems

The PDC/O5000 supports Microsoft Windows NT or Microsoft Windows 2000 Advanced server or Data Center Server.

Components

Service and Support

Compaq Customer Services organization has participated in the definition and delivery of supporting services for the PDC/O5000 product. Please call 1-800-289-9052 to request the details on available services for the hardware, the software and the clusters.

Compaq also offers the initial Oracle Parallel Database Cluster Installation & Configuration Service, which can be procured by ordering the Compaq Part # QR-SMPDC-BZ. Additional information about the initial Oracle Parallel Database Cluster Installation & Configuration Service is available at:

http://h18005.www1.hp.com/services/available/av_opsinstall.html.

NOTE: This Web site is available in English only.

Compaq servers and storage systems are protected by Compaq Services including a three-year limited warranty, 7 x 24 hardware technical phone support and on-line support through CompuServe, Prodigy, America Online and the Internet. For more information on support offerings for your Compaq hardware, contact your Compaq Authorized Service Provider.

NOTE: Certain restrictions and exclusions apply. Consult the Compaq Customer Support Center at 1-800-345-1518 for details.

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