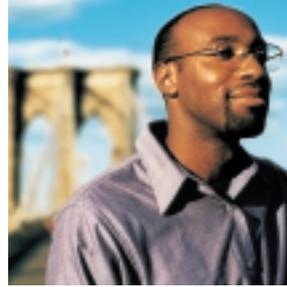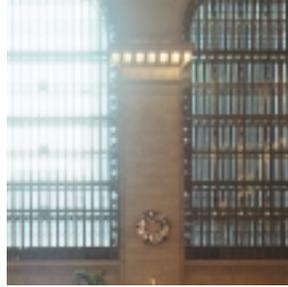# HP Parallel Database Clusters on Linux

High availability for business critical database environments

Enterprise data centers today are faced with unrelenting pressure to deliver more feature rich applications, with fewer human and capital resources, and of course — with less downtime. HP Adaptive Enterprise solutions, like HP Parallel Database Clusters (PDC), allow you to optimize resources which enable you to meet these growing business demands. The PDC leverages Oracle9*i* Real Application Clusters (RAC) technology to provide a scale-out environment that can dynamically grow, and provide the highest level of availability all on industry-standard components and Linux so you achieve real cost savings.

The HP PDC are multi-node shared storage clusters, specifically designed, and optimized for Oracle9*i* RAC databases, and are built around the industry-leading HP ProLiant servers featuring Intel® Xeon processors, award-winning HP StorageWorks Fibre Channel SANs, and Linux Red Hat Enterprise Server AS.

Only HP Parallel Database Clusters include:

- Complete, lab tested, real-world proven, and benchmark stressed (TPC-C, OASB) configurations

- Single source for all hardware and software (excluding Oracle licenses)

- Reliable and repeatable deployment processes evolved from years of partnership with Oracle

- Support specialists who work with Oracle9*i* RAC on a daily basis

- Deployment options from 'do-it-yourself' to factory 'pre-installed' and everywhere in between

Server node options

The PDC supports select ProLiant 2, 4 and 8-way processor platforms, the most popular being the award-winning ProLiant DL380 server. Key features include:

- Intel Xeon 3.06GHz processors with 1MB L3 cache and 512K L2 Cache

- 3 full-length PCI-X expansion slots: 2 hot plug 100MHz and 1 133MHz

- Optional redundant power and cooling

- Advanced ECC and Online Spare Memory capabilities, expandable to 12 GB

- 2 embedded NC7781 Gigabit Ethernet NIC ports

- Embedded Wide Ultra3 Smart Array 5i Plus RAID controller

- HP Integrated Lights-Out (iLO) Management standard on system board

Shared storage options

The PDC supports two HP StorageWorks Fibre Channel SAN options:

• The HP StorageWorks Modular SAN Array 1000 is a 2 GB Fibre Channel solution for entry-level to midrange database requirements. Designed to reduce the complexity, expense, and risk, it is a low-cost, high-performance solution. It is fully SAN compatible for seamless integration into a larger SAN environment.

• The HP StorageWorks Enterprise Virtual Array (EVA) 3000 and 5000 are end-to-end Fibre Channel arrays designed for the data center where maximum storage utilization and scalability are required. The EVA meets database demands for consistently high transaction I/O and MB data rate performance, seamless capacity expansion, instantaneous replication, and simplified storage administration.

Redundant IO option

HP StorageWorks Secure Path is multi-path management software that maintains continuous data access and no-single-point-of-failure (NSPoF) from server to storage. In the event that a path failure is detected, Secure Path redirects all IO to an alternative path. For Linux systems connected to the HP Enterprise Virtual Array, Secure Path can dynamically balance the workload among available paths to optimize performance.

A range of deployment options

The range of deployment options for the Parallel Database Cluster can meet any customer's requirements. All are based on the PDC Cluster Kit for Linux — which has been proven to save days of researching and hours of troubleshooting by automating the deployment process. This kit is offered worldwide through standard HP resellers, HP Services and directly from HP.

The PDC Cluster Kit for Linux (p/n 308225-B21) includes:

• A detailed installation and administration guide

• Installation tools including scripts and validation tests (varies by model)

• Entitlement to PDC specialized support escalation for installation issues

Based on the PDC Cluster Kit the following options are available for deployment:

• Choose a *pre-installed offering* for the fastest time to deployment. These solutions are offered by a select set of qualified integration partners. You can elect hardware-only, or hardware and software integration.

"HP was hands-down a much better choice for us, due to HP's close collaboration with Oracle, extensive Linux experience, great HP ProLiant servers, and mature — and affordable — HP StorageWorks solutions. HP provided a turnkey system."
— Jorge Borbolla, Chief Information Officer, AutoTradeCenter

• Elect to *'do-it-yourself'* with confidence. Purchase the Cluster Kit and PDC components from any authorized HP reseller and become an expert. If you encounter any installation issues contact HP Support. They'll verify all hardware is functional and, if necessary, escalate to the PDC Support Specialists.

• Opt for a *custom solution* implemented by HP Consulting and Integration Services (Custom Systems in Asia Pacific) where special options are required.

For more information

No matter what your requirements, HP can help you implement an Oracle Real Application Cluster environment on Red Hat Linux. For the latest technical and ordering information, please visit **www.hp.com/solutions/highavailability/oracle** or e-mail **rac_contact@hp.com**

www.hp.com/solutions/highavailability/oracle

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