

# Unprecedented disaster tolerance

Business continuity solutions from HP, AT&T, Nortel Networks, and Oracle®



Through collaborative partnerships with AT&T, Nortel Networks, and Oracle, HP delivers an integrated, tested solution that provides continuous application availability and unprecedented disaster tolerance: Extended Cluster for RAC. This solution connects multiple data centers over distances up to 100 kilometers into a single, virtual resource that provides continuous, reliable access to your critical data and applications—even if a data center goes off line.



## The business of IT

IT management shoulders the responsibility of managing and mitigating risk within the IT environment. These obligations have traditionally been addressed by duplicating critical computing components, eliminating single points of failure, and establishing secondary data centers to back up the primary facility.

Although this approach satisfies the demand of risk management, it underutilizes valuable resources. To repair this problem, HP has developed solutions specifically designed to reduce risk while capitalizing on IT investments.

In collaboration with other industry leaders—AT&T, Nortel Networks, and Oracle—HP introduced the Extended Cluster for RAC, integrating several innovative technologies into one highly available, disaster-tolerant solution.

- **HP Virtual Server Environment (VSE)** combines distributed IT components into a single, homogeneous resource pool. Within the framework of an Adaptive Enterprise, VSE enables server, storage, network, and other infrastructure resources to be shared dynamically across an IT organization, so supply automatically meets demand in real time.
- **Oracle Real Application Clusters** allow multiple users to access a single logical database distributed across multiple servers, with all nodes able to execute transactions in the same data repository.
- **HP Serviceguard** groups multiple servers into a cluster, providing highly available application services and protecting data integrity. Within this enterprise cluster, Serviceguard monitors the health and status of software and hardware. If a threshold is exceeded or a failure occurs, Serviceguard automatically fails over mission-critical applications from the failed node (server) to an alternate active node.

- **HP Serviceguard Extension for RAC** applies the functionality of HP Serviceguard to shared Oracle data repositories distributed across multiple data centers.

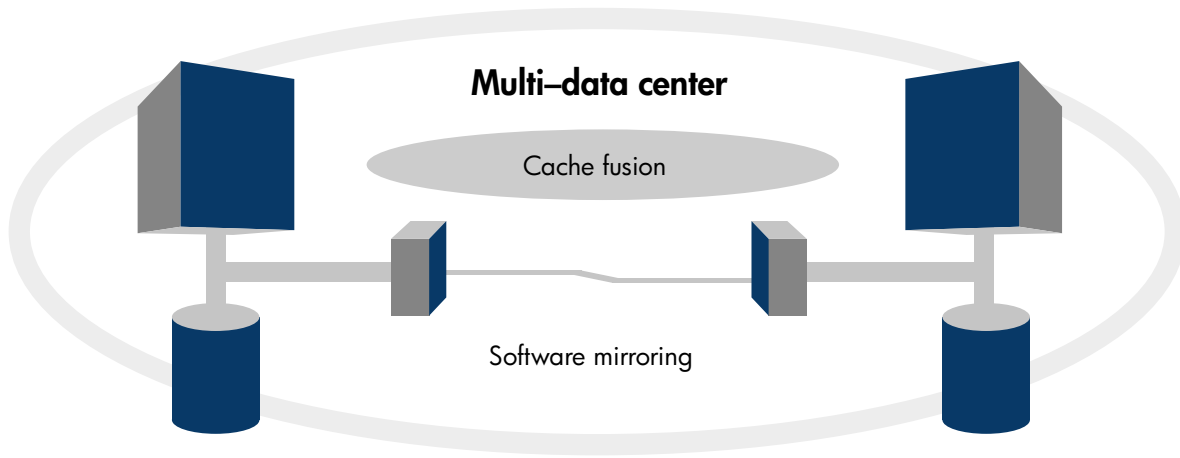
Together, these IT innovations enable the full utilization of enterprise IT resources while maintaining the highest levels of availability and disaster tolerance. A single database can be split across two data centers, separated by an unprecedented 100 kilometers. And because the two sites function as a single virtual entity, all resources in both locations can be utilized at all times. In the event of a disaster, even the loss of an entire data center, the remaining facility would continue to function.

## Combined value

Extended Cluster for RAC benefits from the comprehensive combined capabilities of four industry leaders: HP, AT&T, Nortel Networks, and Oracle. Our collaborative approach ensures that every element of the joint solution is certified and tested for smooth, stable performance individually and in concert. And HP serves as a single point of contact and accountability, providing clear, capable service and support. Together, we deliver more of what your enterprise demands—more accountability, more agility, and a better return on IT.

### HP—building the adaptive enterprise

A world leader in IT infrastructure, HP delivers industry-leading server and storage technologies that form the building blocks of a truly Adaptive Enterprise. HP Serviceguard, Serviceguard for RAC, Virtual Server Environment, and additional storage hardware and software supply the backbone of this joint solution.



**AT&T—the world’s networking company**

With its unsurpassed expertise in enterprise networking solutions, AT&T combines a breadth of services, next-generation technologies, and skilled experts to deliver dynamic, reliable, and flexible networking solutions. The AT&T Ultravailable® Network provides the network infrastructure and associated services for connecting your separate data centers and business sites.

**Nortel Networks—business without boundaries**

Nortel Networks delivers industry-leading technologies that ensure reliable, secure, and economical global communications. The OPTera® Metro 5000 Multiservice Platform—based on Wave Division Multiplexing (WDM) technology—enables communication between data centers over distance.

**Oracle—business intelligence**

Oracle has been helping customers manage information for more than a quarter-century. The joint solution is built around Oracle Database with the Real Application Cluster option, replicating and synchronizing your vital business information on the distributed resources of a virtual server environment.

**Extended Cluster for RAC**

In cooperation with AT&T, Nortel Networks, and Oracle, HP uniquely extends the advantages of Oracle Real Application Clusters by introducing HP Extended Cluster for RAC. This solution combines the high-availability HP Serviceguard Extension for RAC with the disaster-tolerant HP Extended Cluster to reduce risk and capitalize on existing IT investments in Oracle Real Application Clusters.

By splitting a single database across two data centers over distances up to 100 kilometers, Extended Cluster for RAC is able to maintain continuous application availability and seamless business continuity even in the event of a catastrophic system failure affecting an entire data center. And the HP Virtual Server Environment (VSE) portfolio integrates distributed IT components into a single virtual entity so all resources can be used at all times.

**Key features**

- **Continuous application availability**  
Extended Cluster for RAC preserves your uninterrupted access to business-critical information and applications through distributed applications and a replicated and synchronized database.
- **Simplified management**  
The solution is self-managed based on clear service-level objectives, and your vital business data is duplicated and synchronized across multiple data centers as a single virtual database.
- **Self-adapting environment based on business demand**  
IT infrastructure is managed across data centers, server partitions, and applications to achieve the optimum utilization of resources.
- **Full utilization of IT resources**  
Available resources are allocated dynamically where they are needed according to changing business demands—so you receive the highest return on your IT investment.
- **Tested and certified**  
Every element is tested and certified to perform reliably and well as part of the overall joint solution.

## Take the next step

The Extended Cluster for RAC integrates multiple data centers, optimizing the utilization of IT resources while preserving the highest levels of application availability and disaster tolerance. HP and our partners help you mitigate risks and manage costs by delivering more of what your enterprise demands—more accountability, more agility, and a better return on IT.

To learn more about the HP Extended Cluster for RAC, visit [www.hp.com/go/ha](http://www.hp.com/go/ha).

For more detailed information about other solutions and services from HP and our partners, please visit the following websites.

- [www.hp.com](http://www.hp.com)
- [www.hp.com/go/ha](http://www.hp.com/go/ha)
- [www.hp.com/go/virtualization](http://www.hp.com/go/virtualization)
- [www.att.com](http://www.att.com)
- [www.nortelnetworks.com](http://www.nortelnetworks.com)
- [www.oracle.com](http://www.oracle.com)

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HP Extended Cluster for RAC by visiting  
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