How can high-availability be made easy for

enterprise

applications?
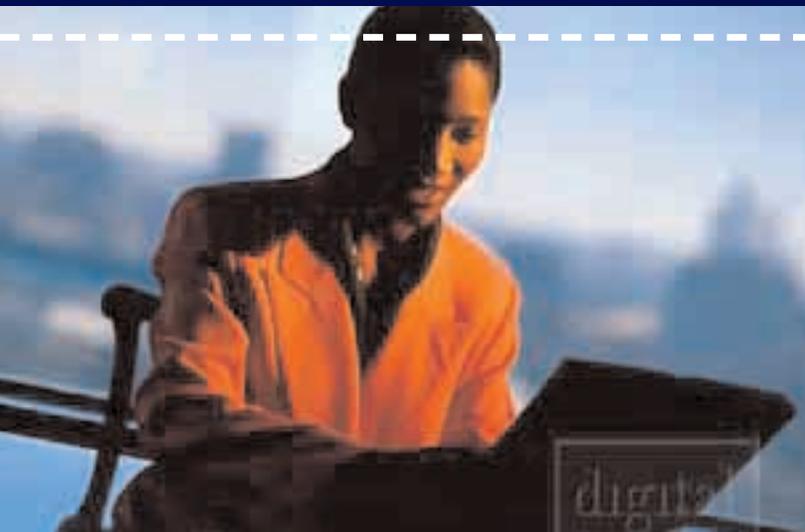
Compaq Tru64™ UNIX® Clusters simplify

management and slash operational costs so

that high performance and high availability

are affordable for any size business.

COMPAQ

Better answers

Clustering is no longer a luxury for the very few

Simpler management makes *TruCluster* Software affordable for everyone

These days, every enterprise application is mission-critical. Large or small, businesses depend on information being available — whether transacting billion-dollar financial deals or selling merchandise on the Web. The simple fact is, if your information systems go down, your business goes down. Yet the cost and complexity of implementing and managing high-availability UNIX solutions has traditionally forced risky trade-offs. But that's about to change — forever.

Now you can gain all the advantages of a high-availability, bullet-proof UNIX cluster without hiring an expensive team of UNIX experts. The solution is with *TruCluster* Software, delivering the *high performance and high availability* your business needs — with *simpler cluster management* for your existing staff.

With *TruCluster* Software, Compaq is building on the enterprise-class capabilities of *Tru64 UNIX* to redefine the world of high-availability. In fact, we're making clustering *so easy and cost-effective* that high availability and high performance are affordable for any size business. So you never have to put your profitability and customer relationships at risk due to downtime again.

Mastering the art of keeping it simple

It is somewhat of an art to create simplicity from complex technology such as clustering, but that is exactly what Compaq has done with *TruCluster* Software. No longer must you struggle to manage individual systems. Whether you have a cluster of two systems or eight, *TruCluster* Software presents them as a *single system*. In effect, the cluster is "the system."

That makes your life much simpler and easier and significantly reduces operational costs. For example, when you perform a management function, you do it once for the entire cluster. Notification of events come in from across the cluster to a central console. Your stor-

age worries are over, since it's available to each system in the cluster. Most important, the cohesiveness of the cluster unit is so tight and well integrated that application users don't know if they are connecting to a single system or a cluster — and why should they have to? In fact, all it takes is two simple commands to establish an Apache web server as a cluster-wide application. No hassles — it just works.

As a result, you face far less administration time, fewer errors, reduced frustration, and dramatically lower management costs. In fact, *TruCluster* Software today creates a seamless high-availability solution that enables outstanding performance and scalability, while insulating both users and administrators from the underlying complexity.

Creating a cluster that doesn't look like a cluster

TruCluster **Software rises above cluster complexity**

TruCluster Software raises the bar for cluster technology by rising above the complexity that once limited its broad usage. The results of this breakthrough technology mark a profound shift in the realm of clustering. The barriers that once limited its practicality for most applications have been torn down. Now, with the power of *Tru64 UNIX* and the high availability of *TruCluster*

much **simpler** to use

easily achieve high availability

slash management **costs**

enterprise **power**

Enterprise applications reach around the world, around the clock

Maximizing competitive advantage, time-to-market, and quality customer service depend on tightly integrated enterprise applications up and down the supply chain. And that calls for a solution platform with far-reaching capabilities. That's why the natural choice for leading enterprise solutions providers such as Baan™ and SAP® is a *Tru64 UNIX*-based *AlphaServer* system with

TruCluster Software. Blazing speed, vast storage capabilities, outstanding scalability, unfaltering availability — the essential components to deliver the right information at the right time to the right people. From manufacturing and distribution, to purchasing and finance, to marketing and customer service, *Alpha*-powered *Tru64 UNIX* delivers.

Lucent Technologies uses a Compaq TruCluster solution along with StorageWorks™ to churn through 1 trillion operations a day. Alpha™ clustering provides the fault-resilient and highly available environment Lucent needs for its 24 x 7 manufacturing operations. If one server goes down, another one automatically takes over with no data loss.

Software, high availability is attainable — and practical — for all your enterprise applications.

TruCluster Software achieves this amazing capability by incorporating three breakthrough features: cluster file system, common cluster address, and automated load balancing.

The software's *cluster file system*, for example, plays a central role in enabling *simplified cluster implementation and management*. Thanks to the cluster file system, applications, data, and configuration information are recognized universally, regardless of the system on which they're running. You have just a single face to the cluster — a common shared root, one name space, one password file, a unified application environment. So you can load software, execute file-based management operations, or add physical disk *once* and have them applied to the entire cluster universally. *TruCluster* Software can even update a system disk when the system isn't available online — the days of sticky-note reminders are over.

With the introduction of *TruCluster* Software's *common cluster address* feature, systems need to know only a single host name to access applications and data from any system in the cluster. In fact, should any system fail, another will pick up the workload without missing a beat — systems don't see any impact. As a result, *TruCluster* Software solidifies application availability beyond anything achieved in earlier cluster technology. You get uninterrupted, continuous computing for maximum productivity with minimal hassle. Downtime isn't even an issue anymore.

The common cluster addressing environment created by TruCluster Software also provides automated load balancing, which enables you to optimize system utilization by balancing incoming client connections across multiple systems running the same application.

As demand increases, you can easily add systems and rebalance the connections for optimal performance. *TruCluster* Software makes it easy and seamless.

With *Compaq Tru64 UNIX* as its foundation, *TruCluster* Software delivers unparalleled availability, while dramatically simplifying cluster management. This is the key to achieving your most challenging business objectives — whether speeding time-to-market to enhance revenue opportunities, supporting high quality of service for a rapidly growing subscriber base, applying business intelligence more effectively to increase competitive advantage, or seamlessly integrating applications up and down the supply chain to reduce operating costs. *TruCluster* Software is the smart solution for all your mission-critical enterprise applications.

When your business is on the line, don't take chances

Compaq understands enterprise issues — and delivers enterprise solutions

If any company is in a position to set the standard when it comes to high-availability enterprise solutions, it's Compaq. We're drawing on more than 30 years of enterprise experience — experience that has pioneered capabilities in 64-bit computing, clustering, networking, UNIX/NT™ integration, and the Internet. The fact is, we've been an enterprise player for a long time. *We understand the business and technical issues.* And we have developed the technology solutions to address those issues.

For example, the combination of *TruCluster* Software with *Tru64 UNIX*-based *AlphaServer* systems delivers *industry-leading performance, availability, and scalability* needed to support the intense requirements and rapid growth in such areas as Internet services, enterprise resource planning, high-performance technical computing, and data warehousing.

The Internet is a
dynamic
proving ground

The non-stop, fast-growth, quality-of-service world of the Internet and corporate intranets demands unfailing performance, availability, and scalability that's easy to implement and easy to manage. Uninterrupted access to mail and Web servers, stability during usage spikes, graceful expansion of DNS addresses, assurance of online security — the challenges are daunting. But with fault-resilient availability, blazing 64-bit processing and high-speed interconnect technology, a high-capacity and easily scalable system architecture, and out-of-the-box Internet and administration software, *TruCluster* solutions built on *Tru64 UNIX*-based *AlphaServer* systems meet the challenges head on — and transform adversity into advantage.

High-performance technical computing
really performs

Accelerating biochemical research through 3D modeling, mapping subsurface structures from seismic data, simulating a combustion vortex in a diesel cylinder, rendering special effects for CD or film — technical applications such as these test the limits of today's computing systems. That's why for serious high-performance technical computing, the choice is an *AlphaServer* solution running *Tru64*

UNIX and *TruCluster* Software. With address capacity 4 billion times that of previous systems, virtual shared memory that delivers over 100 GFLOPS of peak floating point performance, and availability that eliminates downtime for all but a few minutes a year, the Compaq *Alpha*-powered solution runs strong even in the most grueling computing environments — at an affordable price.

Looking for performance? Compaq 64-bit *AlphaServer* systems perform at blinding speeds — and the high-speed MEMORY CHANNEL™ interconnect extends that benchmark-leading performance to clusters.

You want high availability? With 99.99 percent guaranteed uptime, hot-swappable serviceability, and rolling upgrades, *TruCluster* Solutions *virtually eliminates downtime*.

Need to grow? Our *Tru64 UNIX*-based *AlphaServer* systems scale seamlessly to support everything from small departmental specialty applications to globally distributed enterprise solutions all on a single architecture — easily add CPUs, faster chips, or more storage as you grow.

Have storage issues? Fibre Channel Storage Area Networks will eliminate the processing bottlenecks associated with configuration limitations of SCSI solutions; plus, with a cluster-aware Logical Storage Manager, complex multipath storage is easier than ever to manage.

Don't want any risks? No one has more satisfied 64-bit customers than Compaq, and no one has been delivering successful 64-bit solutions longer. Period.

Have global information needs? Integration with Oracle8® and other database solutions enables you to support huge clustered databases to satisfy the far-reaching and rapidly growing information requirements of your enterprise.

Want to simplify your life? *Tru64 UNIX* systems provide comprehensive out-of-the-box management with automated tools that make system and storage administration a snap — whether you're managing a single system or a cluster.

It is precisely these leadership capabilities that are so critical in telecommunications, online services, financial services, retail and electronic commerce, manufacturing, research and scientific study, and government programs. That's why for businesses in these industries and many others, *Compaq Alpha*-powered *Tru64 UNIX* clustering solutions have long been the proven favorite.

It's simple. When you have service-level agreements, critical strategic decisions, shrinking time-to-market, and a host of other challenges pressing down on your business, there is no time for downtime — and no room for compromise. So choose the best high-availability UNIX solution for enterprise applications — *Tru64 UNIX*-based *TruCluster* Software.

Manage change painlessly

Compaq Services extend the value of your investments
Business conditions and technology requirements change over time, and that affects your system availability needs. To ensure non-stop operations over the long term, you can count on professional and technical support from one of the most powerful IT service and support organizations in the world — Compaq Services.

We'll help you every step of the way, from defining your availability requirements, to targeting the best deployment platform or platforms, to delivering an integrated cluster solution.

Guard against downtime with a *Compaq Availability Review* – We'll compare the current state of your information technology installation with your business and availability goals, and then help you plot the best course of action to achieve your goals.

Business Intelligence puts data access to the test

Steering your enterprise through a competitive minefield requires current, accurate, and precise corporate intelligence — fast. That means the information systems that are working to generate, collect, and store data across your enterprise must have the horsepower to deliver — and the availability to deliver without fail. It's critical to making sound, long-range strategic decisions, to uncovering costly fraud, pinpointing promotional programs for maximum return, and outsmarting the competition. That's why *TruCluster* Software, taking advantage of *Tru64 UNIX*, very large memory 64-bit *AlphaServer* systems, and high-capacity *StorageWorks* arrays, is the preferred choice for data warehouse solutions and data mining applications. Speed, precision, capacity, and unfaltering availability — you can bet your business on it.

> "Our customers are constantly asking us to push the limits of data warehouse technology, so we have to be early adopters in order to stay ahead of demand. With the *TruCluster* with MEMORY CHANNEL INTERCONNECT technologies and *StorageWorks* UltraSCSI disks, we now provide our customers with incredibly fast access to multiterabyte data warehouses."
>
> — *Acxiom Corporation*

Evolve your cluster with a *Compaq Availability Partnership* – This annual service provides a fully customized plan to maintain and improve your availability levels over time and in response to changing factors.

Maximize uptime with *Compaq Business-Critical Services* – Eliminate the risk of downtime with an uptime guarantee, a formal contract that commits Compaq to keeping your business-critical *Tru64 UNIX* systems operational 99.99 percent of the time.

With over 27,000 IT experts in 114 countries around the world, Compaq Services offers a full suite of processes, methodologies, and tools to create, support, and evolve high-availability solutions that meet your enterprise application requirements — today and over the long term.

Get all the details

For complete details on how to easily achieve high availability that is affordable for all

contact

your Compaq Sales representative or partner.

www.compaq.com/tru64unix

TruCluster Server: All clusters are not created
- - - - - - →
equal

TruCluster Server solutions significantly **lower management costs** compared to traditional UNIX Cluster solutions.

➤ Whether you have a cluster of two systems or eight, the cluster **manages as a single system**.
- Do tasks once, not eight times
- Manage storage cluster-wide, not individually
- Install software once, not eight times
- Manage same as single system — easier to do, fewer mistakes

➤ Applications are more **easily deployed** to achieve high availability more quickly and simply.
- Dynamic load balancing of client connections
- Simplified setup at a lower cost
- Applications highly available right out of the box
- Flexible storage configurations