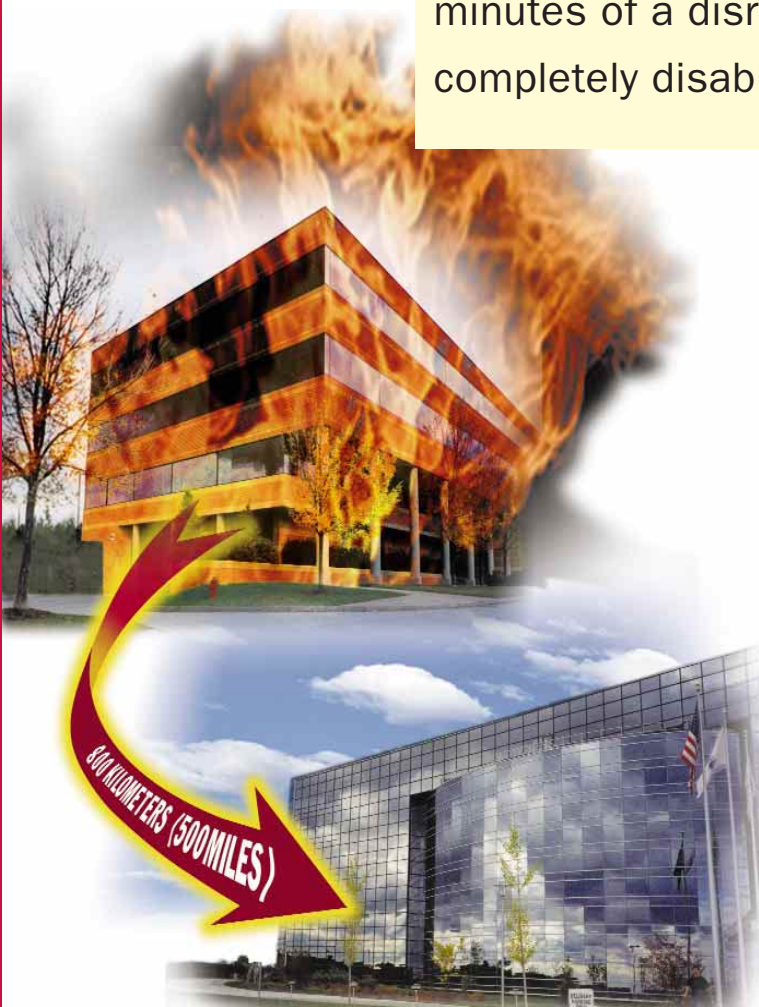




Disaster-Tolerant Cluster Services for OpenVMS

Ensure total recovery of your critical applications within minutes

The OpenVMS operating system has the potential to provide an extremely high level of redundancy and resilience. With these consulting and implementation services, Compaq helps you turn that potential into reality. We create a disaster-tolerant OpenVMS cluster solution that enables processing to recover within minutes of a disruption, even if your datacenter is completely disabled.



A Compaq disaster-tolerant solution provides resilience by splitting an OpenVMS cluster across two datacenters that are up to 800 kilometers (500 miles) apart. During routine operations, the sites share the processing workload. However, if one site fails, all transactions that are incoming to that site can be automatically redirected to the surviving site, with no loss of data and minimal disruption to end-users. The failover process is completed in 4 to 6 minutes.

Compaq provides a complete solution: hardware, software, consulting services, solution design and implementation, and project management.

Benefits

- *Ensure continuous operation.* Keep mission-critical applications up, running, and accessible even if one data center fails.
- *Manage risks and costs.* Compaq's integration expertise and project experience ensure fast, reliable deployment.
- *Sleep soundly.* Pre-configured solutions deliver extreme reliability without sacrificing performance.
- *Build on our success* in key industries; including financial services, health care, manufacturing, telecommunications, and pharmaceuticals.

A complete solution

Compaq provides a complete disaster-tolerant solution: hardware, software, consulting and implementation services. A team of experienced Business Continuity professionals will:

- Review your current and planned IT environment and recovery procedures
- Define the cluster configuration to meet your redundancy needs and desired performance levels
- Implement your configuration and customize and install the software environment
- Test and verify your solution
- Provide orientation training for your staff

Depending on your current situation, we can create a totally new solution or extend an existing single-site environment to create a two-site cluster. We can even implement one site at your premises and the other at a secure Compaq facility.

What if your whole site goes down

While there are many high-availability and fault-tolerant solutions on the market today, most focus on minimizing the risk of a single component failure. They do not address the possibility that a catastrophic failure will disable the entire datacenter, the site where it is housed, or even the surrounding geographical area.

Yet, recent history shows that such failures occur with alarming frequency, especially in the wake of large-scale disasters such as floods, earthquakes, bombings, and regional power outages.

Solutions built on clustering

In response to this challenge, Compaq offers Disaster-Tolerant Cluster Services for OpenVMS. With these consulting, design, and implementation services, we help you transform a new or existing OpenVMS environment into a disaster-tolerant cluster that spans two datacenter sites up to 800 kilometers (500 miles) apart.

The cluster configuration is based on robust, proven technologies. Applications run on the OpenVMS operating system, with OpenVMS Cluster software and OpenVMS Volume Shadowing. Connectivity is via high-speed wide-area networking: FDDI, T3, E3, and/or ATM. All these resources are tied

together by Compaq's Operations Management Station (OMS). The OMS integrates the datacenters and an optional quorum site into a single, secure management domain that can be managed and controlled from either datacenter site or a third remote site.

Sharing the workload

During routine operations, the two sites share processing duties. For example, your business-critical application can run at both sites. Through OpenVMS Volume Shadowing, data is continuously shadowed across the sites. In fact, a transaction is not recorded as complete until the transaction data has been replicated at both sites. In addition, data can be mirrored locally, based on your further requirements for redundancy.

Recovery in 4 to 6 minutes

If one site begins to fail or goes down completely, incoming transactions can be automatically and transparently rerouted to the surviving site. If the failing site has been handling cluster management, management control is also shifted to the surviving site. The failover process is completed in four to six minutes. Though some users may be without service during this brief period, no data is lost.

Keeping "a safe distance"

Depending on the networking medium chosen – single-mode FDDI, FDDI with T3, FDDI with E3, or FDDI with ATM – the two datacenters can be anywhere from a few hundred

competitive advantage

yards up to 800 kilometers apart. This gives you the flexibility to choose the most suitable location for each site, balancing a range of factors such as the proximity of your facilities, the location of sites on different power grids, and the cost of high-speed transmission services.

Efficient cluster management

Compaq disaster-tolerant solutions support "lights-out" cluster management. With the Operations Management Station, your staff can manage the entire cluster from a Windows NT-based console located at either site or a third remote site. Control can easily be switched – either automatically or by your systems staff – from one site to the other as needed.

These capabilities increase management efficiency while reducing staffing needs.

The Compaq advantage

There are many reasons to choose Compaq as your disaster-tolerant solutions provider. They include:

A proven track record

Compaq has successfully implemented disaster-tolerant solutions in a range of industries; most notably, financial services and health care.

Expertise that ensures success

While technology is an important component of any disaster-tolerant solution, technology alone does not solve complex business problems. You also need expert advice and support.

Compaq Services is one of the world's top systems integrators and a leader in the field of business continuity. With our extensive project management experience and proven methodology, we help you accelerate your time-to-results, manage implementation risks and costs, and minimize disruptions to your IT and business operations.

Your Compaq Services team acts as a single point of accountability for your entire disaster-tolerant solution: assessment and consulting services, solution design, implementation, project management, and support.



24 x365

COMPAQ

Bullet-proof reliability

Our disaster-tolerant configurations are built around the OpenVMS operating system and proven cluster architecture. Digital Equipment Corporation, which was acquired by Compaq, *invented clustering* more than 10 years ago. As a result, this technology is mature and very robust. Furthermore, our solutions run on Compaq Alpha and VAX platforms, known for their performance and reliability.

Starting with these core building blocks and working with a select number of solution partners, we have pre-engineered and exhaustively tested our disaster-tolerant solution configurations. During implementation, we adhere to a disciplined methodology. For example, we don't substitute unproven components for the supported components. As a result of all these factors, a Compaq solution delivers the high level of disaster tolerance you require for your critical business applications.

The scalability to grow

Compaq disaster-tolerant solutions are highly scalable. For example, your solution can range from a two-node cluster comprising one low-end

AlphaServer system at each site up to a cluster comprising multiple high-end AlphaServers. Once applications are "cluster-aware," they are completely scalable from small clusters to large ones.

IT assets that work 24x365

Many recovery solutions require you to pay for extra capacity – in the form of redundant hardware or a hot site contract – that you may never actually use. With a disaster-tolerant cluster solution, your IT assets are working night and day, even if you never experience a disaster or other outage.

Ongoing support

Once your solution is in place, we can provide ongoing support, enhancements, and upgrades to meet your changing business and IT requirements.

Business continuity solutions

Ensure continuity for your essential business operations. Compaq can help you design and implement an enterprise-level continuity strategy that reduces your exposure to IT disruptions and ensures a prompt recovery should such a disruption occur.

Our Business Continuity capabilities include: continuity planning, disaster recovery planning, facilities consulting and site services, strategic power management solutions, hot site service, priority equipment repair and replacement, and mobile datacenter services.

Call today

For more information about disaster-tolerant solutions or other business continuity services from Compaq, call your Compaq account manager today. We also invite you to visit our Web site at:

www.compaq.com/services

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