Gartner, Inc. estimates that two out of five enterprises that experience a disaster will go out of business within five years of the event.¹

Protecting people, processes and technologies in times of crisis

Are you ready for the unexpected? Is the future of your organization suddenly dependent on your ability to develop and deploy a business continuity solution? Do you know how to get it started?

Today’s organizations must understand how to manage people, processes and technologies before, during and after expected and unexpected events. Events can be as simple as performing routine maintenance, as complex as relocating a business unit, or as unexpected as a flooded datacenter.

Dell High Availability and Disaster Recovery Solutions

Dell will help your organization design and implement a technology infrastructure that can help ensure the continuity of your key operations with solutions that are customizable, scalable and cost-efficient.

Our comprehensive lines of Intel®-based servers, Dell PowerVault™ and Dell/EMC® storage, software and supporting services can become the building blocks of your strategy for continuous operations. And Dell’s single point of contact and accountability allow your organization to implement solutions as you need them, adding new features as new challenges arise or funds become available.

Visit www.dell.com/Solutions for more information.

BENEFITS BRIEF

• Retain customers by avoiding disruptions
• Ensure contact between government agencies
• Sustain management control through crises
• Maintain employee compensation and supplier revenue streams
• Comply with regulatory requirements
• Keep educational and healthcare institutions in operation
Motorola found Dell reliability.
“We’re proudest of the fact that we’ve increased availability across the board to four-nines. We attribute that to the more reliable and standardized Dell hardware, and strict change control and testing features.”
—Jerry Hunt, Enterprise Architect, Motorola, Inc.

Everbank.com customers depend on Dell.
“From the initial purchase of our high-availability cluster, to the on-site deployment Dell delivered with the Gold-level support contract, Dell has made a complex project as easy as possible.”
—Gil Danieli, Vice President Technology, Everbank.com

U.K. citizens stay connected with Dell.
“To accomplish our goals, we needed a solid, stable infrastructure that was robust, resilient and scalable. The Dell team was able to quickly think through the challenge, design a solution and refine it.”
—Alan Mather, Project Manager, Government Gateway, U.K. Cabinet Office

MediaNews Group serves a stable readership.
“We’ve not had a single failure of a single hardware component. The Dell infrastructure has been 100% stable. The setup scales well, too. We can easily mirror our content to a remote location for disaster recovery or for load balancing.”
—Skip Marsh, IT Manager, MediaNews Group

DELL’S APPROACH TO BUSINESS CONTINUITY

Because ensuring the ongoing operation of your business — during and after unexpected events — is such a growing concern, Dell is ready to help customers develop Business Continuity solutions based on three technology cornerstones:

Planning and recovery services — the services that help organizations develop a strategy to prepare people, processes and technologies for expected or unexpected events that could disrupt operations

High-availability systems — the technology “shock absorbers” that help maintain the availability of critical systems during a system failure or service outage

Disaster-recovery systems — the technology “spare tires” and “air bags” that assist in recovering critical systems and data after catastrophic events or disasters

Dell will help your business design and implement an infrastructure that can help ensure the continuity of your critical operations with solutions that are customizable, scalable and cost-efficient.

FOUR LEVELS OF CONTINUITY

Platform-level continuity

The first level of continuity begins at the system level, with in-the-box availability features designed to help maximize uptime and enable rapid deployment of pre-configured replacement systems.

Data-level continuity

Data availability can be achieved using robust storage systems and technologies designed to tolerate a variety of predictable failures, and recover information quickly and accurately after unexpected events.

Application-level continuity

Application continuity is the most important facet of protecting end-users from the impacts of system or service outages. Eliminating single points of failure in the overall technology infrastructure helps assure that there is always a pathway to a working system for end users to access.

Site-level continuity

Finally, organizations must think beyond the building and develop remote-recovery systems and services in the event of a building, site or metropolitan disaster. At the site level, geographic separation of redundant infrastructure and recovery facilities is the key.
Power Solutions offers a forum to help you discover solutions that work, learn best practices from peers, review customer success stories, and examine real-life deployments in the emerging and ever-changing IT landscape. The authors of Power Solutions articles address the life cycle of enterprise server and storage solutions. They not only provide you with a companion guide, but they also become your problem-solving team.

For more information visit [http://www.dell.com/powersolutions](http://www.dell.com/powersolutions)

**Application-level continuity with high availability clustering**

Clustered systems are interconnected via a private LAN and utilize this LAN for a heartbeat mechanism to determine the health of each system. When a failure occurs, the failed system's applications and application data are migrated to, and restarted on, the healthy system.

The effort required to restart the application varies greatly depending on the type of application (e.g., file/print vs. DBMS) and the amount of data associated with the application. Ideally, when an application switches from one node to another, the user experiences no disruption at all and isn’t even aware that the job has been switched to a different server.

The non-disruptive upgrade (NDU) is a feature of Dell/EMC storage arrays, enabling IT departments to perform software upgrades and array maintenance while maintaining business continuity.

**Data- and site-level continuity with mirroring and snapshot copy**

Storage-snapshot technologies take an instantaneous, logical snapshot of the system that enables backup activities to proceed against the logical snapshot as application updates continue against the information or application data.

Storage mirroring lets administrators mirror data to a remote location. Storage devices can often mirror the stored information and data directly to a remote location without requiring host cycles. Remote mirroring has many applications. Its main use is disaster recovery at the primary site. Other potential applications include off-loading activities such as backup and reporting to the secondary site.
Dell Server and Storage Products:
_**a solid platform for Business Continuity**_

**POWEREDGE™ SERVERS**
- Tower configuration or rack-optimized form factors
- Scalable Intel® processing power to help meet your needs
- Redundant, hot-swap drives, power supplies, cooling fans and PCI slots help improve reliability and performance
- Optional PowerEdge Expandable RAID Controller (PERC)
- Optional Dell Remote Assistant Card and Embedded Remote Access enable the remote management of servers around the corner … or around the world
- All Dell PowerEdge servers are delivered with the Dell OpenManage® systems management CDs for installing, discovering, monitoring, and managing your server, at no extra charge!

**DELL|EMC® AND POWERVAULT™ STORAGE**
- Solutions for direct attached, storage area network (SAN) and network attached storage (NAS) environments
- Dell/EMC fibre channel storage arrays provide highly available storage for a variety of workgroup, midrange and enterprise applications
- Powerful Navisphere® storage management software
- Snapshot copy and remote mirroring capability with optional Access Logix, SnapView™, and MirrorView™ software

**POWERVAULT TAPE BACKUP SOLUTIONS**
- Internal and external tape drives, tape autoloaders to automate the backup process, and tape libraries to allow for unattended backup and recovery
- Wide variety of media, capacities (10GB to multi TB) and speeds
- Optional Computer Associates ARCServe or Veritas Backup Exec software

**DELL UNINTERRUPTIBLE POWER SUPPLIES**
- Battery backups provide a temporary power source to bridge short power losses or to allow servers to complete current transactions and back-up to hard disk prior to shutting down
- Helps protect systems from power surges
- Output capacities from hundreds to thousands of watts

Our direct model makes us a central resource for feedback from our broad customer base, enabling us to develop best practices as well as technology-solutions packages consisting of products and services that can be easily customized to fit your organization’s unique needs.


DELL’S NORMAL TERMS AND CONDITIONS APPLY AND ARE AVAILABLE ONLINE OR UPON REQUEST. All efforts will be made to check for errors in typography and photography; however inadvertent errors may occur for which Dell may not be responsible. Dell, the Dell logo, OpenManage, PowerEdge, PowerVault and Dell/EMC are registered trademarks or trademarks of Dell Computer Corporation. Microsoft and BackOffice are registered trademarks of Microsoft Corporation in the United States of America and other countries. Intel is a registered trademark of Intel Corporation. Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Dell disclaims proprietary interest in the marks and names of others. Copyright © 2003 Dell Computer Corporation. All rights reserved. Reproduction in any manner whatsoever without the express written permission of Dell Computer Corporation is strictly forbidden. For more information, contact Dell. Kolar, February 2003.

Visit [www.dell.com/Solutions](http://www.dell.com/Solutions) for more information.