

# Comprehensive Disaster Recovery

Economical, Simple, and Complete Solutions

Whether from malicious attack, environmental disaster, power outage, or human error, your company's digital assets are perpetually at risk of becoming inaccessible, or worse, destroyed. More than ever, the CIO is burdened with the immense responsibility of ensuring day-to-day IT hiccups don't impact the business, while also ensuring the enterprise prevails if an unthinkable disaster becomes reality. Unfortunately, when CIOs are surveyed, they almost always cite "fixing data protection" as one of their top three priorities<sup>1,2</sup>. Gartner reports that the primary concerns regarding the current state of data protection can be distilled into three words: cost, complexity, and capability<sup>3</sup>. Oracle's approach to data protection and disaster recovery addresses these concerns by combining proven best practices with a comprehensive portfolio of integrated software and hardware. The result is a solution for your enterprise that is economical, simple, and complete.

## Not All Disasters are Created Equal

Many data protection vendors claim disaster recovery (DR) is one of many tick-box capabilities of their solutions. The question you need to ask is what specific DR scenarios the solution actually supports. In addition to the usual suspects—power outage, fire, or flooding—does the solution enable recovery from a growing class of online threats that reside within and just outside your network firewall?

A thriving web hosting company, Distribute IT, fell victim to a malicious cyber hack that led to the end of the company and more than 4,000 of its customers' websites. According to a CIO.com case study of the incident, the hacker managed to bypass the company's entire security protocol, get behind its firewall and gain access to its master user access information before destroying server data and multiple disk-based backups.<sup>4</sup>

In another incident, CodeSpaces.com, which offered cloud-based code-hosting and project management services, was forced to shut down operations indefinitely after a hacker broke into its cloud account. The hacker deleted customers' data, including

**ORACLE®**  
SYSTEMS

*"The hackers targeted and destroyed servers inside Distribute.IT's network, including back-ups, then locked the IT team out, meaning the only way to get control was to 'pull the plug' at the data centre."*

**CIO.COM CASE STUDY**  
WHEN A HACKER DESTROYS YOUR BUSINESS  
BYRON CONNOLLY, BONNIE GARDINER

*"In summary, most of our data, backups, machine configurations, and offsite backups were either partially or completely deleted."*

**CIO.COM NEWS**  
HACKER PUTS 'FULL REDUNDANCY' CODE-HOSTING FIRM OUT OF BUSINESS

<sup>1</sup> IDC Worldwide Purpose Built Backup Appliance Tracker

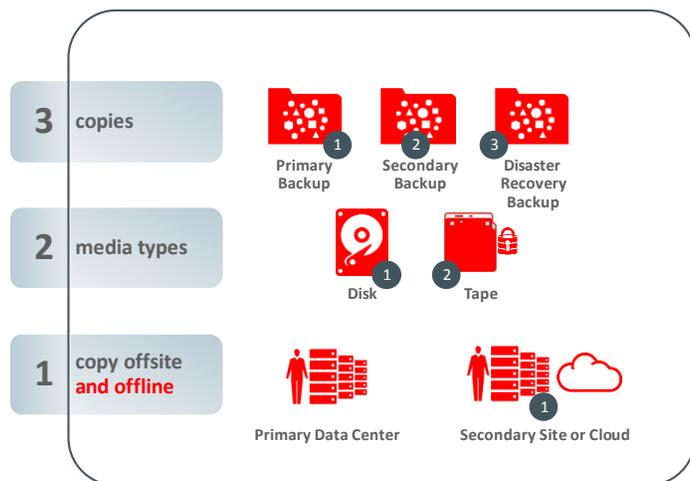
<sup>2</sup> ESG Research Report, IT Spending Intentions Survey

<sup>3</sup> Gartner, Best Practices for Repairing the Broken State of Backup

<sup>4</sup> <http://www.cio.com.au/article/569410/case-study-when-hacker-destroys-your-business/?fp=16&fpid=1>

most of the company's backups.<sup>5</sup>

In both examples, the companies failed to follow the 3-2-1 backup rule, which states there are always three copies of the data—using two different storage technologies—with one copy of the data offsite and offline.



The 3-2-1 rule is practiced in some of the most sophisticated data centers in the world, and for good reason. At Google, more than 40,000 Gmail accounts were rendered useless due to a software bug that propagated across Google's disk backup infrastructure. Ben Treynor, vice president of engineering and site reliability czar, posted a Gmail blog stating that Gmail would be back soon for everyone since a copy of all of Google's most important data is backed up on tape.<sup>6</sup>

At the European Center for Nuclear Research (CERN), more than 100 PB of critical research data resides on tape. According to Alberto Pace, head of data storage at CERN, one of the most important advantages of storing the data on tape is the added level of security it provides from potential threats within CERN's global IT network.<sup>7</sup>

## Disaster Recovery That is Economical, Simple, and Complete

The 3-2-1 rule is a proven, best-practice approach to ensuring successful disaster recovery across a wide range of potential threats to your data. As disaster recovery design requirements vary from one data center to the next, the need for customization in heterogeneous environments is critical. Whether you need to customize a brand new solution or enhance an existing system to satisfy the 3-2-1 rule, Oracle is well positioned to help you incorporate disaster recovery best practices in your enterprise.

Contact an Oracle data protection expert now to learn how Oracle's complete and integrated portfolio can ensure your enterprise is equipped to support a full spectrum of threats to the digital assets of your business.

*"Since the tapes are offline, they're protected from such software bugs."*

**BEN TREYNOR**  
VP ENGINEERING AND  
SITE RELIABILITY CZAR (24/7)  
GMAIL BLOG

*"If a hacker with a grudge managed to break into CERN's data center, he could delete all 50 petabytes of the disk-based data in minutes."*

**ALBERTO PACE**  
HEAD OF DATA STORAGE, CERN  
THE ECONOMIST, MAGNETIC TAPE TO THE RESCUE

## ORACLE'S DATA PROTECTION PORTFOLIO

### Software:

Oracle Secure Backup  
Oracle Hierarchical Storage Manager  
Oracle Front Porch Digital DIVArchive

### Disk/Flash:

Oracle ZFS Storage series  
Oracle FS Storage series  
Zero Data Loss Recovery Appliance  
StorageTek Virtual Storage Manager System

### Tape:

StorageTek modular tape libraries  
StorageTek T10000 tape drives  
StorageTek LTO tape drives

### CONNECT WITH US



### FOR MORE INFORMATION

Contact: 1.800.ORACLE1

<sup>5</sup> <http://www.cio.com/article/2375342/security0/hacker-puts--full-redundancy--code-hosting-firm-out-of-business.html>

<sup>6</sup> <http://gmailblog.blogspot.com/2011/02/gmail-back-soon-for-everyone.html>

<sup>7</sup> <http://www.economist.com/news/technology-quarterly/21590758-information-storage-60-year-old-technology-offers-solution-modern>