EXCILLIO

Data Protection Report 2008
Best Practices in Data Backup & Recovery

Prepared for:

Overland
STORAGE®

Executive Summary

Data is growing at an incredible rate. As a result, the demands of data protection increase as well. Regulatory compliance, business continuity, disaster recovery and e-discovery liabilities demand greater data management and storage resources.

On behalf of Overland Storage, Excillio Group surveyed more than 135 IT professionals to understand the top goals, challenges and trends related to data protection in 2008. This report identifies the processes that IT professionals follow -- as well as the key technologies they use -- to manage their data protection needs. It also identifies emerging technologies, trends, and best practices regarding data protection.

Survey statistics show that respondents shared some common characteristics, including:

- 62% of IT professionals believe **capacity & utilization planning** to be the most important data management challenge in 2008
- 61% of IT professionals believe that the change to **virtual servers** will have the most effect on storage this year
- 31% of IT professionals indicate that **data mobility/disaster recovery** is their top data protection priority for 2008
- 37% of IT professionals will focus on **improving recovery speed** in 2008, as a means to improve their disaster recovery plan
- 33% of IT professionals say **disk-to-disk-to-tape backup** is the new data protection solution they will be implementing in 2008
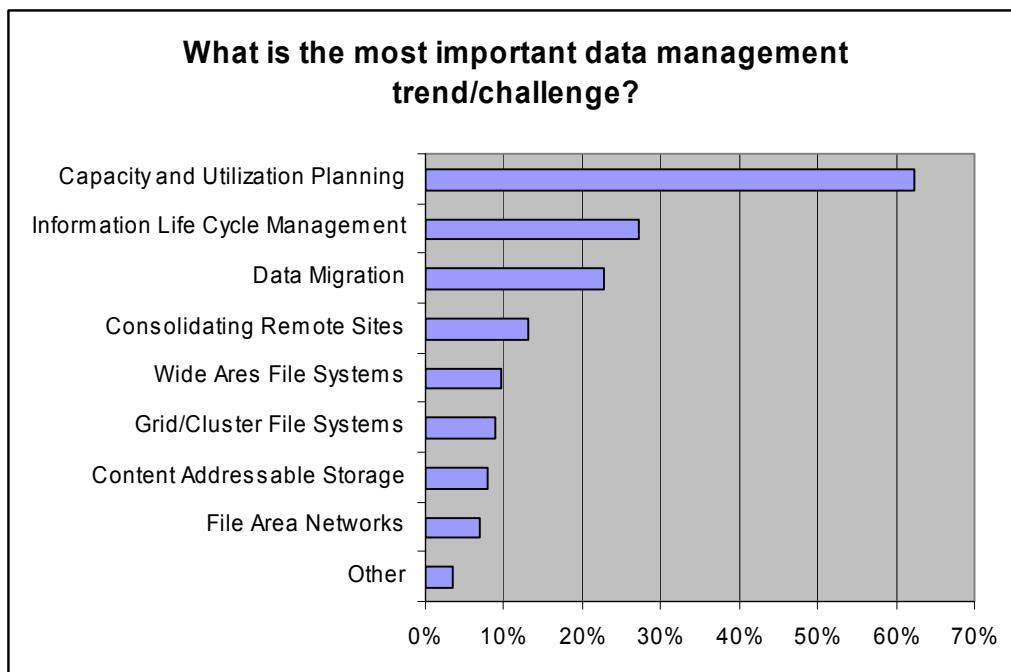
The Eight Drivers of Data Protection in 2008

One of the best ways an IT professional can ensure effective data protection for his company is to first understand the trends and best practices of his peers. The pressures driving organizations to develop specific data protection strategies are unrelenting. Survey results show the top eight drivers for data protection in 2008 are:
1. Capacity and utilization planning
2. Faster business continuity and disaster recovery
3. Disk-based backup
4. Protecting virtual machines
5. Improving Recovery Speed
6. Going Green with deduplication and virtual tape libraries (VTL)
7. Storage Security & Data Encryption
8. Regulatory compliance dictates more capacity, content tools, and care

Information Technology never stands still -- 2008 will not be an exception.

Capacity and Utilization Planning

62% of survey respondents listed capacity utilization and planning as the most important trend/challenge for 2008. Explosive data growth will continue unabated in 2008. In fact, the majority of respondents indicated capacity growth up to 50% year-over-year. IT managers need to find tools that help manage and reduce copies of data to maximize the value of current and future IT expenditures in order to lower operating expenses and gain maximum ROI.
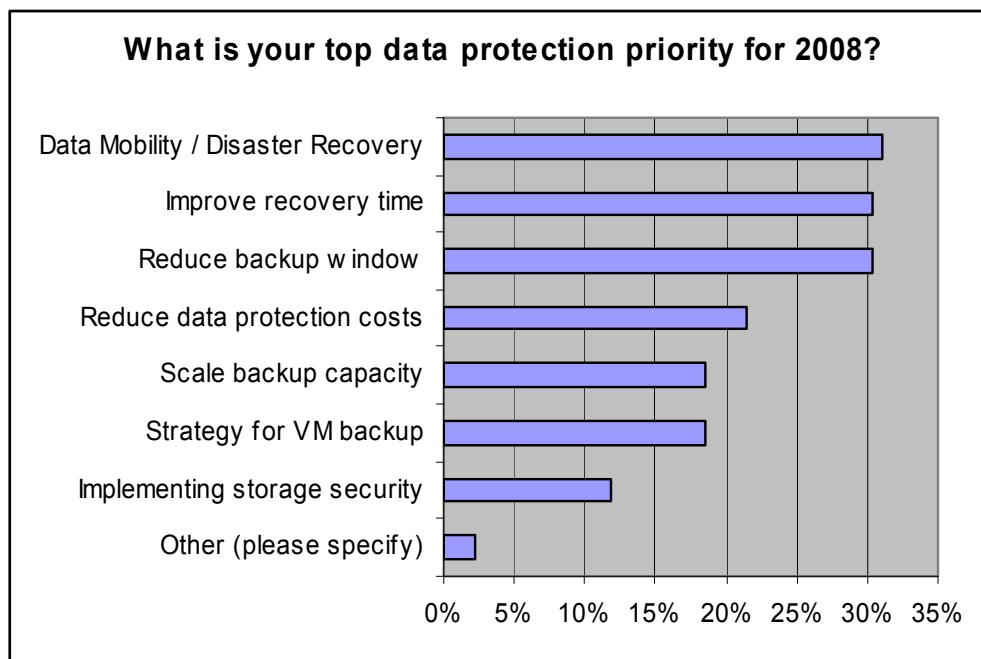

What is the most important data management trend/challenge?

Time Is of the Essence: Backup Window & Recovery Time

Our survey responses clearly show that the element of time is most valuable -- for both backup and recovery. Service Level Agreements (SLAs) are becoming more common and demanding, and the ability to improve recovery time is vital for meeting SLAs. As a result, backup and recovery solutions are increasingly disk-based in order to reduce backup windows and to provide rapid restores.

Our research shows that improving recovery time and reducing the backup window are equally important to IT professionals. 30% of respondents listed each as their top data protection priority for 2008.
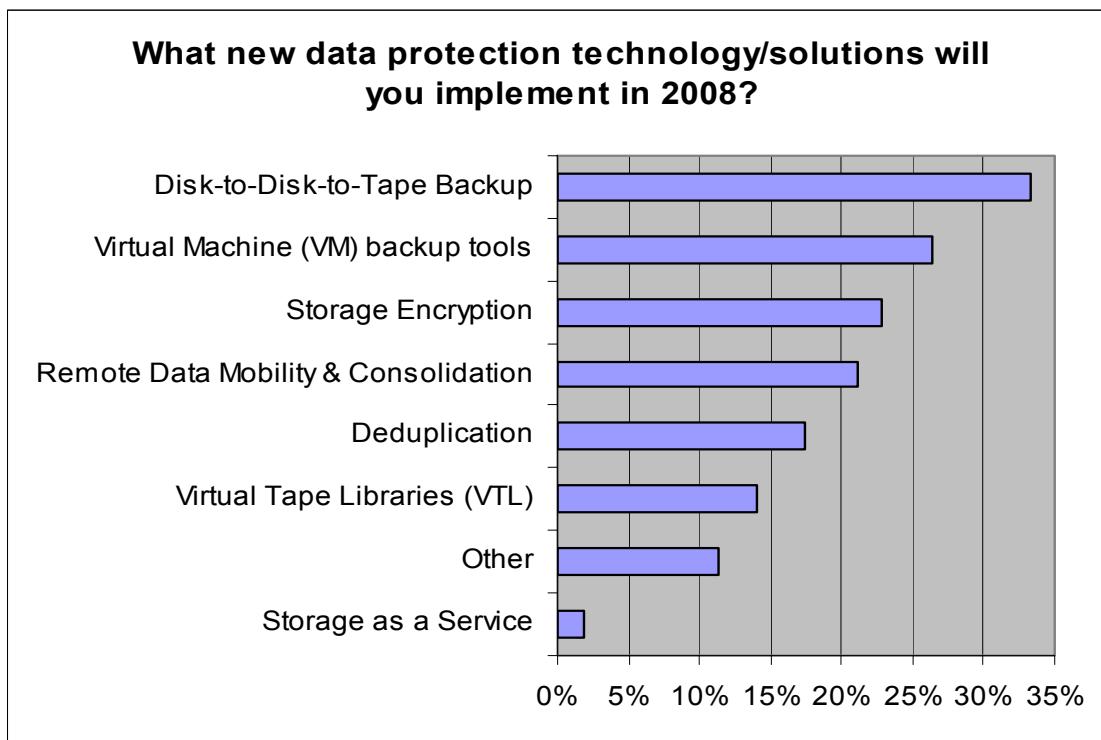
70% of IT professionals surveyed have set recovery time and recovery point SLAs for their mission-critical applications, and 74% of respondents indicated that the recovery SLAs for those applications are within 4 hours time.

What is your top data protection priority for 2008?

Priority	Percentage
Data Mobility / Disaster Recovery	~31%
Improve recovery time	~30%
Reduce backup window	~30%
Reduce data protection costs	~21%
Scale backup capacity	~19%
Strategy for VM backup	~19%
Implementing storage security	~12%
Other (please specify)	~2%

Disk-Based Backup

The key to reducing backup windows and improving recovery time -- meeting even the most demanding SLAs -- is disk-based backup. Our research found that 64% of respondents are planning to deploy some form of disk-based backup (Disk-to-Disk-to-Tape, deduplication, or VTL) in 2008.
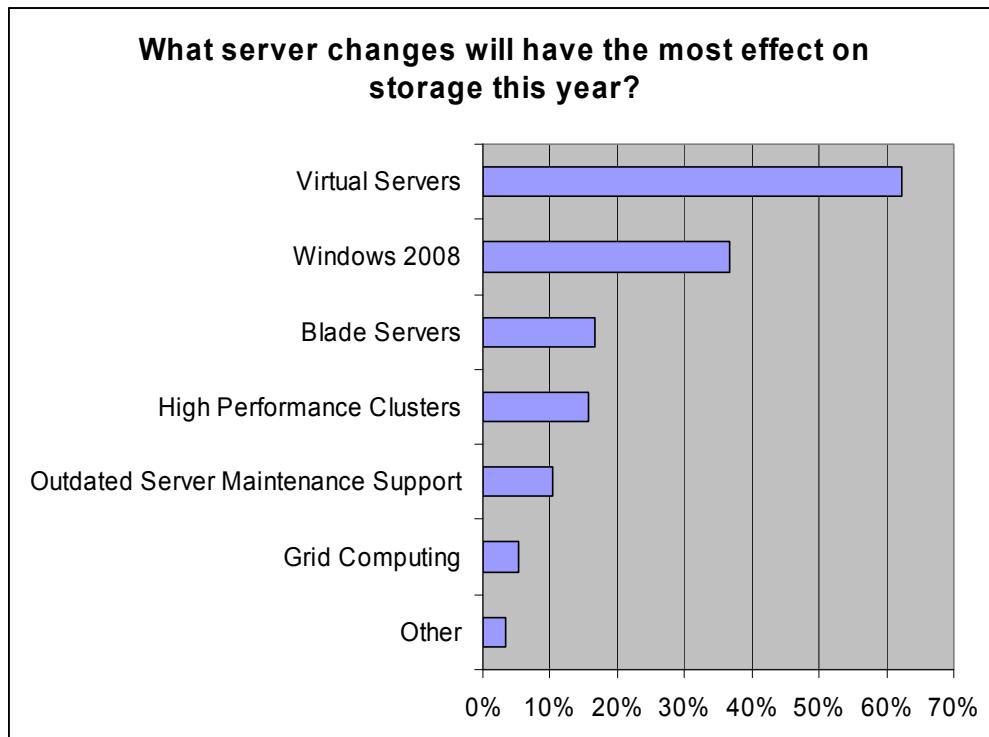
Deduplication and VTL solutions reduce recovery and backup times by consolidating each unique data file into a single instance. This serves two purposes: reducing the size of the data set for recovery, and increasing the backup capabilities of the storage. As a rule of thumb, deduplication provides a 20:1 data reduction -- meaning that a 10 TB deduplication solution can typically back up over 200 TB of unique data.

What new data protection technology/solutions will you implement in 2008?

Technology	Percentage
Disk-to-Disk-to-Tape Backup	~33%
Virtual Machine (VM) backup tools	~26%
Storage Encryption	~22%
Remote Data Mobility & Consolidation	~21%
Deduplication	~17%
Virtual Tape Libraries (VTL)	~14%
Other	~11%
Storage as a Service	~2%

Protecting Virtual Machines

The rapid adoption of virtual machines and VMware's successful IPO has helped launch a "gold-rush" of virtual server technology. The acceleration of high-utilization virtual servers will require a new data protection and high availability model for virtual machine mobility, replication, hot sites and data protection.

Our research found that 68% of IT professionals believe virtual servers will be the #1 technology to affect storage in 2008. 26% of our respondents indicated that implementing a backup strategy for virtual machines is their top priority for 2008.

What server changes will have the most effect on storage this year?

Category	Percentage
Virtual Servers	~62%
Windows 2008	~37%
Blade Servers	~17%
High Performance Clusters	~16%
Outdated Server Maintenance Support	~10%
Grid Computing	~5%
Other	~3%

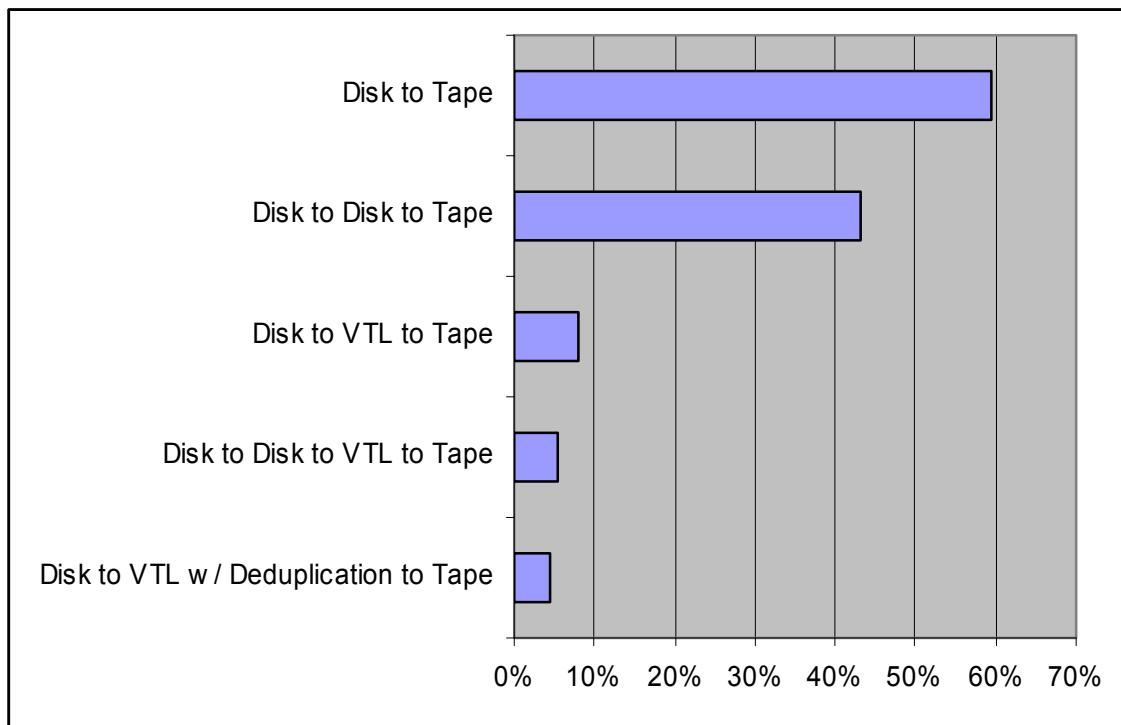**Improving Recovery Speed Enhances Business Continuity and Disaster Recovery**

Business continuity and disaster recovery continue to be a major focus for organizations in 2008. 75% of respondents have a business continuity project in 2008. Regarding disaster recovery planning, 28% will create a fresh DR plan while 49% will make improvements to existing plans.

The primary building block for enhancing both business continuity and disaster recovery in 2008 is to improve recovery speed. As a means to enhance their disaster recovery plan, 37% of IT professionals will focus on improving recovery speed in 2008. 22% of respondents will concentrate on improving recovery speed as part of their business continuity plan.
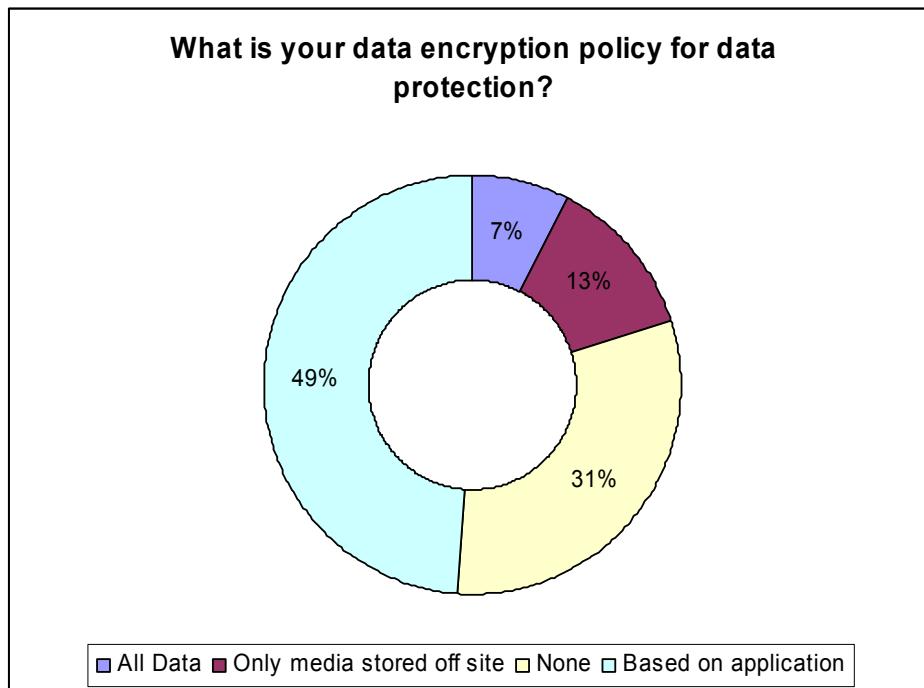
Going Green with Deduplication and VTL

Green storage is about more than merely reducing power and cooling costs, it should also include reducing the volume of data you manage and store. Green storage is really about storing less, which is why technologies such as deduplication and VTL are gaining ground as viable and beneficial backup models. The ability to remove duplicate data and store that data on virtual tapes greatly reduces capacity demands.

Our research found that more than 40% of respondents are using disk-based backup to reduce storage overhead, and another 31% of respondents will be deploying VTL or deduplication to consolidate their backup and improve recovery times in 2008.

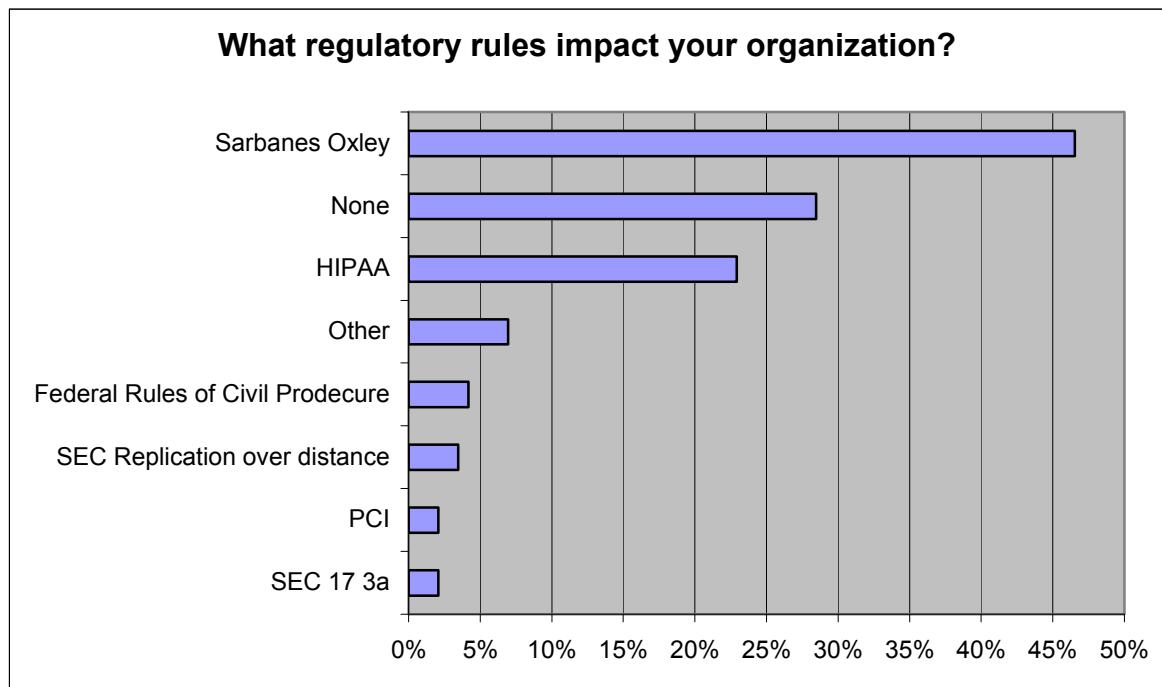**Storage Security via Device and Media Encryption**

Regarding top priorities for deployment in 2008, 22% of respondents will roll out device-specific storage encryption products, such as LTO-4. However, only 7% of respondents use encryption for off-site storage, which presents a significant risk. The regulatory and competitive environment requires that a reasonable level of data encryption be used on all vital data. The IT and financial press is rife with examples of how data loss has resulted in financial and image damage for individuals, government agencies and businesses.

What is your data encryption policy for data protection?

7%

13%

31%

49%

☐ All Data ☐ Only media stored off site ☐ None ☐ Based on application

Regulatory Compliance Demands More Capacity, Content Tools, and Care

Regulations are driving data protection needs. The Sarbanes-Oxley act continues to be the number one regulation affecting storage and data protection plans in 2008. These new regulations have significant impacts on SLAs for restore times, content management, distance replication, secure off-site storage and data retention times. HIPAA, and its Canadian cousin PIPEDA, can require records to be stored for over 100 years. 43% of our respondent indicated they store emails more than one year. New regulations such as Federal Rules of Civil Procedure are changing the rules of e-discovery to include, not only resources in the enterprise, but also data stored by employees at home and on email services. More than 50 countries -- and 30 individual states in the U.S. -- have created laws, processes and guidelines requiring data security, protection and disclosure of data loss regarding personal data, including:

- U.S. Sarbanes-Oxley Act
- Health Insurance Portability and Accountability Act (HIPAA)
- Security Breach Notification Legislation
- Federal Rules of Civil Procedure
- Payment Card Industry Data Security Standard
- USA PATRIOT Act, Title III
- Canadian Personal Information Protection & Electronic Documents Act

What regulatory rules impact your organization?

Category	Value
Sarbanes Oxley	~46%
None	~28%
HIPAA	~23%
Other	~7%
Federal Rules of Civil Prodecure	~4%
SEC Replication over distance	~3.5%
PCI	~2%
SEC 17 3a	~2%

Summary

In this age of relentless data growth, shrinking backup windows, strict government regulations, and security risks, optimizing data protection is essential. The solutions need to be faster, smarter, and offer better ROI. They must synchronize business needs with budgetary limitations.

The essential ingredients of a well-designed data protection solution must ensure that information is constantly protected and readily available. No organization can cost-effectively protect all of its data with just one technology. Less-critical data may require a simple tape backup, while business-critical data may require more complex disk-based capabilities. Using one technology to meet the protection needs of all classes of data may result in excessive risk of data loss, not meeting Service Level Agreements, or excessive cost. The most effective approach combines multiple technologies into a Tiered Data Protection infrastructure that delivers the most appropriate levels of protection to data based on its value to the organization.

From file-and-print data to the most mission-critical applications, Overland Storage Tiered Data Protection solutions offer a simple and cost-effective way to manage and protect critical assets.

ULTAMUS® RAID Storage Arrays deliver enterprise-class features, built-in data protection, and simplified capacity management. ULTAMUS RAID addresses increasing capacity requirements while minimizing infrastructure and management complexity. With dual active/active 4Gb/s Fibre Channel controllers, it is the product-of-choice for high capacity, dynamic scalability and high performance storage buyers who are working to balance high availability with storage capacity and affordability.

REO® SERIES Disk-Based Backup and Recovery Appliances address the challenges of exponential data growth, shrinking backup windows, unreliable backups, and media failure. REO offers fast, reliable data backup and recovery while reducing operating costs. It is easily configured as a Virtual Tape Library (VTL), thinly-provisioned virtual tape drives, and/or disk volumes (LUNs). Protection OS™ provides a core set of volume and device virtualization, management and connectivity features found only in REO appliances.

REO also offers optional hardware compression as well as deduplication – a game-changing technology that identifies and removes multiple copies of data that devour storage capacity.

NEO® SERIES and ARCvault™ Backup and Archive Devices are a modular and scalable family of robotic tape autoloaders and libraries that simply archive data, in volume, across primary and secondary storage environments. The NEO architecture has been chosen by thousands of major corporations worldwide as their library-technology-of-choice due to its robust, flexible, reliable design and enterprise-class capability. NEO and ARCvault are a cost-effective way to backup and recover data in a single location or across multiple sites, and are the most reliable way to meet the growing demand for high-capacity and long-term information archive.

2008 will be a pivotal year for data protection and IT. Regardless of a company's size, data is being generated at fantastic rates. As a result, the demands of data protection have increased exponentially. Implementing a Tiered Data Protection strategy that incorporates disk-to-disk-to-tape, VTL, deduplication, and other disk-based technologies will guarantee dependable and affordable data protection for 2008 and beyond.

Appendix A – Demographic Data

In mid-January 2008, Excillio Group examined, on behalf of Overland Storage, the way companies treat their data protection needs -- surveying their experience, needs and intentions for data protection in 2008.

The data presented here was received from 136 IT leaders from the U.S. and Canada, representing public and private companies as well as government organizations. Respondents completed an online survey that included questions designed to determine the following:
- Data protection priorities for 2008
- Anticipated technology implementations for 2008
- Current and planned use of remote site and disk-based data protection tools
- Current and planned use of SANs and WANs
- Status of business continuity and disaster recovery planning and implementation

The study aimed to identify emerging technologies, trends, and best practices regarding data protection, and provide a framework by which readers could assess their own organization's needs and capabilities.

Responding companies included the following:
- **Industry:** Education (6%), Government (12%), Financial (14%), Manufacturing (15%), Medical (9%), Oil & Gas (3%), Automotive (2%), Information Technology (13%), Other (39%)
- **Number of Employees:** less than 10 (2%), 11-50 (2%), 51-100 (7%), 101-250 (11%), 251-500 (12%), 501-1,000 (7%), more than 1,000 (59%)
- **Annual Revenue:** less than $10 million (15%), $11-$50 million (11%), $51-$100 million (9%), $101-$250 million (10%), $251-$500 million (15%), more than $500 million (41%)

About Excillio Group Inc.
The Excillio Group Inc. provides market research, product collateral, competitive and benchmark services for the IT managers and leading industry vendors. Excillio's primary market focus in storage, networking and high performance cluster computing.

About Overland Storage
Overland Storage offers the most complete set of smart, affordable data protection appliances that ensure data is constantly protected, readily available and always there. Overland Storage brings enterprise-class capabilities to mid-range customers through affordable and reliable solutions that reduce the backup window, improve data recovery speed, simplify short and long-term data retention and make cost-effective disaster recovery a reality for all. Overland products include award-winning NEO SERIES® and ARCvault™ tape libraries, REO SERIES® disk-based backup appliances with VTL capabilities, and ULTAMUS™ RAID high-performance, high-density storage. For more information, visit www.overlandstorage.com.