Protect yourself

Save on high, up-front costs and protect data more efficiently
Explosive data growth puts increasing pressure on organizations to deploy cost-effective, yet robust, secure, and scalable backup and restore solutions. Stringent worldwide data privacy expectations require new strategies for encryption and data security, and backup, which is critical when disparate, nonstandardized systems are deployed. Organizations find third-party Backup-as-a-Service deploys a consistent, centralized, and standardized architecture to reduce costs and risks.

Back it up

Your business depends on data, so you simply can’t cut corners when it comes to backup. At issue, as always, is how to cut costs while meeting growing demands for access, confidentiality, and integrity. Complicating matters is the daunting growth of business-critical data that needs to be backed up.

Not surprisingly, in today’s increasingly wireless, information-driven world, organizations need backup and fast recovery more than ever. Big Data presents opportunities and challenges—yielding massive and valuable troves of information at accelerating speeds, in structured and unstructured formats.

Globalized enterprises must protect data in remote campuses and business units, and secure information on tablets, laptops, smartphones, and other bring-your-own devices in a mobile, socially networked environment. With relatively new but prevalent data types, such as voice and video now, many storage administrators now manage, store, and back up petabytes of data.

And that’s only the beginning of the challenge. Federal regulations, such as Sarbanes-Oxley, Basel II, the European Union Data Protection Directive, and the Dodd-Frank Act with its Financial Stability Oversight Council—these require more information be retained in specific formats for longer periods of time. Moreover, backup environments, especially in large organizations with multiple business units absorbed via mergers and acquisitions, use disparate systems, neither integrated nor standardized. As a result, their environments have become unmanageable.

Many enterprises retain the traditional hardware-centric view of backup. With the price of physical storage decreasing by as much as 30 percent every year, budget-constrained CIOs and CFOs frequently opt to purchase the “cheapest box” at each refresh cycle. This not only sustains the backup environment’s rigidity and inconsistency, but also contributes to data center sprawl, which has already reached the breaking point.
Although storage and backup hardware costs continue falling, the total cost of ownership (TCO) of backup continues to rise. Although disk storage has recently garnered significant attention, particularly as a means to get data back from applications, forward-looking organizations recognize the pressing need for enterprise-class backup and restoration capabilities.

New models, such as managed data backup and restore services, are fortunately delivered by trusted third parties, and are becoming increasingly popular due to:

• Significant reduction or elimination of expenses associated with data backup, including high up-front cash
• Enforcement of standards and consistency across their environments
• Enablement of compliance with stringent federal regulations
• Reduction of risk

Organizations can alleviate complexity in their data backup environments, while resolving equipment refresh needs by embracing a turnkey managed data backup and restore service. Backup as a Service aligns data backup costs with information’s business value, and offers cost-effective pay-per-use terms. This approach also uses best practices and innovative processes to increase performance, and protect data while achieving savings.

**Review in-house challenges**

Problems arise in large, complex, global enterprises when individual business units purchase backup solutions independently of each other. Aside from chronic underuse, resulting from purchasing excess capacity, the major drawback is these systems may employ incompatible backup applications. A recent InformationWeek report stated, “There are more data protection options available today than ever, but choosing between methods need not be an either-or decision. Understand the recovery and retention objectives for each application so the most appropriate data product can be applied. For many data centers this may very well mean a mix of several options.”

These enterprises are paying too much for systems that are unable to seamlessly exchange information. And they’re also paying more than they should for expensive data center space, extra power, and cooling.

The ongoing economic climate also causes many enterprises to delay refreshes, from the typical three to four years, to as many as six or seven years. As older equipment begins to fail, large support and maintenance costs are added to the already-strained ledger. Plus, staff downsizing has resulted in storing large quantities of data in warehouses, which can interfere with these availability issues:

• Requesting backups and restores from a single point
• Responding to immediate business needs
• Addressing government regulations and litigation actions
Loss of institutional knowledge is another casualty of staff downsizing. Having a current backup infrastructure lets you position your organization to manage, back up, and access data in the future, based on data policies—critical in the age of Big Data.

**Focus on deduplication**

Data deduplication compares blocks of data being written to a backup device with data previously stored on the device. If duplicate data is found, a pointer is established to the original data, rather than storing the duplicate data. This is done at the block or chunk level, not the file level. While deduplication has been used in data protection for some time, more mature technologies and service environments have made it increasingly viable in the enterprise setting. Two key areas of focus—source-side and media server deduplication—are significantly changing how backup and restore services are delivered to the data center environment.

Source-side deduplication employs a modular and interchangeable algorithm—installed primarily at the application server level—to deduplicate data before it ever enters the backup and restore service environment. In situations where source-side processing or memory power are limited, data can be routed to a media server for deduplication before it flows to the backup and restore service environment.

“Thanks to features like deduplication, compression, and changed-block tracking, network capacity is less important than in years past, because the amount of data moving across the network during backup is actually down significantly.”

There is little doubt that deduplication delivers clear and measurable benefits.

Federated deduplication dramatically improved disk-based backup and recovery capabilities. Today’s most advanced deduplication solutions provide modular and interchangeable algorithms capable of delivering far greater efficiencies. When deployed across small-, midrange-, and enterprise-class data protection hardware appliances, this approach overcomes the cost and efficiency challenges of first-generation deduplication technologies.

By vastly reducing the data volume entering the environment, this approach supports far more scalable and efficient backup and restore services. Organizations will no longer pay for backup and restore on a monthly basis, or as measured by the gigabytes of data processed and stored for a given time period. Instead, they can evolve to a more logical and economic Backup-as-a-Service model for enterprise-class backup and restoration. This model supports a more streamlined approach to delivering, reporting, and billing of backup and restore services.
As noted, this model leverages source- or media server-based deduplication to remove the majority of data that in the past was transferred to the backup and restore service environment.

In the as-a-Service model, various iterations of a copy are stored at selected tiers of service for various time periods. So your organization pays only for the point-in-time copies needed to restore and recover a business system to a whole state.

**See how as-a-Service models help**

Forward-looking organizations increasingly look to third parties to manage their data backup and restore environments. DXC Technology recently provided backup and restore services to several large banks. The banks recognized that deploying and managing backup and restore solutions in-house drains their capital expenditure (CAPEX) and people resources.

These enterprises understand that in today’s climate, they need flexibility to consume more as demand increases, and reduce consumption and costs when demand subsides. Backup and restore services provide information-centric, flexible, managed backup and protection services. These types of services move an enterprise from a traditional technology-focused model to one that aligns protection options with its business issues.

Backup and Restore as a Service replaces monthly costs and management of administration, assets, tools, and facilities with a flexible pay-per-use option. This model is ideal for any organization seeking to reduce expenses associated with backup, enforce standards and consistency across its backup environment, and reduce risk.

Managed backup and restore services—including integrated hardware, software, and services—cover the entire range of backup architectures and information demands, and are intelligently tailored to the organization’s business. Service-level objectives, created based on recoverypoint objectives (RPOs) and recovery-time objectives (RTOs), provide flexibility from a basic tape-based backup to high-performance online data replication across multiple locations.

Properly deployed data backup and restore strategies—administered by an experienced, trusted partner—provide a full spectrum of data protection across the enterprise and enable financial services institutions to:

- Introduce appropriate deduplication technologies
- Eliminate as much tape as possible
- Meet appropriate accessibility, integrity, and recoverability service levels based on the data’s business value
• Eliminate data backup capital from their financial books and move it to a variable operating expense (OPEX)

• Reduce up-front acquisition costs and overall data backup expenses by eliminating excess capacity

• Reinvest savings from capital investment into the business

• Increase flexibility and scalability

• Improve data backup cost predictability

• Achieve savings in their data backup environment

• Gain peace of mind that comes with having secure, off-site backup for their most valuable data

To fully protect enterprise-critical information, DXC recommends organizations move away from traditional technology-centric strategies, to an information-driven cloud backup and restore model focused on core business objectives. To make this crucial adjustment, be sure your provider has experience and proven support at all key stages:

• Advisory—Should include evaluating current-state data protection systems, analyzing information-related challenges and opportunities, and providing expert guidance on planning a scalable, cost-effective backup and restore environment

• Transformation—Have specialized staffing and decades of best practices experience in transition and transformation, designed to reduce risk and disruption

• Management—Have a full spectrum of flexible backup and restore services to meet recovery-point and recovery-time requirements to support specific business objectives

Learn about Backup as a Service

Many businesses and public agencies remain cautious of the cloud approach. Data is not only a most significant asset, it is also one of the biggest risk categories. Our experience has been that most firms are looking for mature, capability-rich services with low risk; and these services must still be nimble enough to serve business needs and produce savings, while moving the business forward.

Typically, cloud refers to a shared pool of resources that can be accessed on demand over the Internet—but these typically don’t do enough to eliminate risks for many organizations. Cloud services don’t usually support application- and database-structured data, and are generally limited to latency-tolerant data such as backup, archive, or file and print data, which are not considered mission-critical. Additionally, provisioning large-volumes of data can cause provisioning cycles to be longer—dependent on the selected delivery model, approximately three days as opposed to about an hour in the cloud.
In Backup and Restore as a Service, devices and applications can live in the vendor’s facility or remain in the enterprise’s data center. Most organizations, seeking extra valuable space, opt for a single client as-a-Service model to reduce risk and influence the architecture. Others use a blend of their enterprise data center and vendors’ facilities to achieve the best environment for addressing business needs and greater flexibility. Backup as a Service is geared toward larger, more mature organizations for whom future backup needs are either unknown or variable.

Many trusted third-party providers incorporate industry best practices and IT Information Library standards into their service offerings. This ensures IT services are aligned to business needs, while guiding organizations on using IT as a tool to facilitate business change, transformation, and growth. This is another key differentiator from cloud services.

**Implement a data backup service**

Each data backup and restore services provider has its own processes and strategies. It helps enterprises reduce expenses associated with backup, enforces standards and consistency, and reduces risk. A typical transition and transformation to an as-a-Service model should consist of:

- Initially managing the environment as is, because a critical success factor is to understand the enterprise’s existing processes, tools, assets, and employees
- Adhering to the enterprise’s security and network requirements by following its security policies and standards
- Supporting in-flight project commitments
- Aligning the solution, hardware, and software technologies over time—based on agreed architecture, sizing, and volume of data by site—while prioritizing transition and transformation activities with the enterprise’s consolidation activities
- Eliminating use of tapes in the future-state environment by electronically copying backed-up data to the disaster recovery site
- Migrating smaller sites to remote backup services to deliver a centralized backup solution per region, reducing cost and improving availability
- Providing standardized backup reporting
- Moving to standard services, tools, and processes, enabling global standard delivery and reliability while reducing expenses
- Achieving the desired future state
Gain benefits

The cost of storage in general—and data backup in particular—continues to rise even though equipment prices continue to decrease. Organizations of all kinds face a variety of challenges, including the current economic situation, budget constraints, and disparate systems across multiple business units, and increasing regulatory mandates.

Learn more at www.DXC.technology/cloud