

How to Compare Server Online Backup and Recovery Service Providers

EXECUTIVE SUMMARY

IT professionals are increasingly looking to online backup and recovery services for server data protection. This is particularly true for small to medium-sized businesses and for remote offices of larger enterprises. The driving factors are: workforce dependency on 24x7 access to business data; price and consistency of a Software as a Service (SaaS) subscription model over costlier onsite options; and easier compliance with burgeoning requirements to protect distributed information (in all formats) and ensure business continuity. This White Paper helps companies recognize the major categories of service providers offering online backup and recovery specifically for servers.

Online backup and recovery service providers have emerged from different market spaces and have different product focuses and business drivers. These providers can be grouped into three categories:

1. Service providers leveraging existing core business resources to expand into adjacent markets to look for new revenue opportunities
2. Service providers concentrating on server backup in niche markets: backup and recovery only, single verticals, regional boundaries
3. Service providers whose backup and recovery service forms an integral part of a broader spectrum of information management and data protection services

The scope, strengths, and weaknesses of each type of online backup and recovery service provider are characterized with respect to the current and forward-looking requirements of companies looking to protect their server data. Such requirements range from full system (versus data only) backup and restore to comprehensive business continuity best practices and support. Understanding these strengths and weaknesses can help businesses clarify their server protection requirements and better align their selection criteria and focus with their business goals.

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INTRODUCTION

Small to medium businesses (SMBs), and the remote offices of larger enterprises are increasingly looking to online backup and recovery services for server data protection. The major factors driving online backup and recovery are:

- A more distributed workforce and its dependency on 24x7 access to business data
- The attractive price and predictability of a Software as a Service (SaaS) subscription model over more costly onsite options
- The increasing challenges of meeting compliance requirements protecting more distributed information, and ensuring business continuity

There are a large number of service providers with distinct approaches to online server backup and recovery. As Forrester Research observes in “Market Overview: Backup Software-As-A Service,”¹ service providers include business continuity and disaster recovery services; telecommunications vendors; pure-play backup vendors and providers; specialized vendors; and information management and protection vendors, among others.

This list can be simplified into three major categories of service providers.

1. Service providers leveraging existing core business resources to expand into adjacent markets to look for new revenue opportunities
2. Service providers concentrating on server backup in niche markets: backup and recovery only, single verticals, regional boundaries
3. Service providers whose backup and recovery service forms an integral part of a broader spectrum of information management and data protection services

¹ Balaouras, Stephanie, Market Overview: Backup Software-As-A-Service, published by Forrester Research, Inc., February 20, 2008.

Briefly described below are some of the server protection and backup service features critical to online backup and recovery of servers in small and medium businesses, and remote offices of larger enterprises. These are the features that must be addressed by all categories of online backup and recovery service providers.

ONLINE SERVER BACKUP AND RECOVERY: BEYOND THE BASICS

The information required to run a small and medium-sized business, or the remote office of a larger company, increasingly depends on server hard drives. Server data can be classified by its impact on business operations: mission-critical (revenue-producing or customer-facing); business critical (supporting cross-organization functions); or operationally critical (important to individual departments).

The goal of backup and recovery is to make sure that a company can recover from varying degrees of server data failure from individual file loss to an entire system in the optimum timeframe (Recovery Time Objective [RTO] as well as to recover to a version of the data that results in minimal loss of productivity Recovery Point Objective [RPO]).²

For small and medium business, and remote offices of larger companies, online server backup and recovery services help companies meet these two objectives while at a predictable monthly cost better than traditional tape backup methods that require onsite IT professionals to successfully maintain and employ in the event of server failure.

The online backup and recovery service industry has matured to the point where customers can expect all service providers making it to their short list to provide certain fundamental features for server backup and recovery (listed in Table 1).

Beyond these fundamentals, however, are specific features that are essential for server backup and recovery. Unlike workstations and laptops³, servers:

- Are usually left running, rather than frequently powered on and off, and are not mobile
- Require broader bandwidth requirements due to the volume of the data to be protected
- Store a wide variety of data types of varying importance and recovery or retention requirements

Table 1 provides a framework for evaluating the capabilities of each category of service provider considered in this paper in meeting these essentials for 1) backup and recovery and 2) administration and support. All three categories of online backup and recovery service providers considered in this paper should offer the fundamentals shown in Table 1, but might differ in their approach to the essentials of server backup.

² RTO and RPO are discussed in more detail in Iron Mountain's White Paper *Data Disaster Recovery for Small and Medium Businesses*.

³ In contrast, desktops, and laptops backup and recovery services must support intermittent connection, greater range of connectivity (from broadband to dial-up) greater risk of theft, global mobility, comparatively more resource-intensive from email applications, etc. For more information, please see Iron Mountain's White Paper on *Online Backup and Recovery for Desktops and Laptops*.

TABLE 1. ONLINE BACKUP AND RECOVERY SERVICE FEATURES FOR SERVERS**SERVER BACKUP AND RECOVERY**

Fundamentals	Essentials
<ul style="list-style-type: none"> Automatic backups according to a pre-set schedule 	<ul style="list-style-type: none"> Also provides automatic backups for multiple recovery points during the day, providing the level of continuous data protection as required to meet Recovery Point Objectives
<ul style="list-style-type: none"> Open file backup Database support: e.g., Outlook, Lotus Notes 	<ul style="list-style-type: none"> Built-in protection (native support) for open file and application database backup (e.g., Microsoft® Exchange® Server, SQL Server, and Oracle®)
<ul style="list-style-type: none"> Online restores of data as requested 	<ul style="list-style-type: none"> Full system (versus data only) backup and restore as integral part of service Optional backup to local disk or appliance to ensure fast recovery of most critical data (Recovery Time Objectives) Very large data sets shipped on removable media for fast disaster recovery
<ul style="list-style-type: none"> Recovery of individual files or folders 	<ul style="list-style-type: none"> Recovery of file versions through a catalog of historic versions accessed through web user interface (UI)
<ul style="list-style-type: none"> Retention of backup sets 	<ul style="list-style-type: none"> Range of retention periods (30-day, 1-7 years) appropriate to the requirements for types of data stored Migration of data as desired to digital archive service Recovery of data on demand through eDiscovery service

SERVER BACKUP AND RECOVERY ADMINISTRATION AND SUPPORT

Fundamentals	Essentials
<ul style="list-style-type: none"> 24x7 monitoring and technical support 	<ul style="list-style-type: none"> Professional services for data protection and compliance best practices SaaS offering has been tested and proven
<ul style="list-style-type: none"> Web-based administrator portal for centralized control of processes, status, inventories, and reporting Check-point restart if backup or restore jobs are interrupted 	<ul style="list-style-type: none"> For even greater IT control, software can be licensed and run from the data center by the customer or through a remote managed service. Protection of backup and store jobs from node failures and network resilience problems
<ul style="list-style-type: none"> Support of Microsoft Windows® platforms 	<ul style="list-style-type: none"> Support of non-Windows platforms (e.g., versions of Linux®, Unix®, VMware®) Architecture that makes capacity planning and budgeting easier (automatic load balancing)
<ul style="list-style-type: none"> Adjustable bandwidth throttling Data reduction technologies 	<ul style="list-style-type: none"> Server data reduction technologies that include snapshots, filters, delta engine De-duplication of data
<ul style="list-style-type: none"> Encryption in transit and in storage Secure data centers 	<ul style="list-style-type: none"> Mirrored, redundant backup to a secondary data center Option to retrieve lost encryption keys from escrow Data storage maintained by service provider with proven track record in security Data centers located globally to accommodate regional privacy regulations Certification appropriate to data stored (e.g., PCI compliance, SysTrust assurance)

CATEGORY 1: SERVICE PROVIDERS LEVERAGING INVESTMENTS IN CORE BUSINESS RESOURCES

The first category of service providers includes those whose entry into online backup and recovery is driven by a desire to leverage pre-existing investments in core business resources. These include 1) business continuity and disaster recovery and 2) telecommunications vendors.

Business Continuity and Disaster Recovery Service Vendors

Hosted business continuity/availability providers typically provide cold sites (data center space to house your own equipment and back-up tapes), warm sites and hot sites (an operationally ready data center), as well as data archival, restoration capabilities, and managed services. These vendors make sizeable investments in these sites and/or in alternative mobile recovery data centers deploying large tractor-trailers equipped with electrical power, satellite communications, PCs, faxes, and other equipment anywhere in the country to recover customer service operations or other mission-critical enterprise functions.⁴

To leverage their investment in this infrastructure, designed originally for larger enterprises, some business continuity and disaster recovery services have begun offering online backup and recovery services to smaller customers.

One issue with entrusting backup and recovery to business continuity or disaster recovery vendors is that their business model is designed for the type of loss that happens very infrequently under catastrophic circumstances; site disasters actually account for less than two percent of data loss occurrences.⁵

In reality, over 90 percent of data loss occurs as a result of more quotidian events like human error, accidental deletion and overwriting, data entry errors, etc. This requires a more nimble service focused on continuous backup and easier, day-to-day server recovery like that frequently found in an SMB or remote office of a larger company. Not surprisingly, these vendors typically use third-party software on which to base their services, rather than developing their own SMB service line. They share this practice with telecommunications vendors, discussed in more detail below.

Telecommunications Vendors

Similar to business continuity and disaster recovery (DR) vendors, some telecommunications vendors also offer online backup and recovery services as an adjunct to other diverse lines of business. These backup and recovery services also attempt to leverage their infrastructure designed to serve a huge installed base of consumers, as well as businesses.

Telecommunication vendors, like DR service providers, frequently license third-party technology to support their backup and recovery services. There is risk in this SaaS strategy. First, the technology might be acquired by a larger company that changes the direction of its future development or, worse, discontinues support. Alternatively, the third-party developer might fail and, unless the technology is placed in escrow, those relying on it will ultimately left without support.

⁴Five Steps to Evaluating Business Continuity Services - CSO Online - Security and Risk

⁵Iron Mountain's White Paper Data Disaster Recovery for Small and Medium Businesses.

CATEGORY 2: NICHE DEVELOPERS AND SERVICE PROVIDERS

Service providers in the second category concentrate on niche solutions and market opportunities. These include:

- 1) “point solution” backup and recovery services using their own software exclusively for backup and recovery and
- 2) providers who use other vendors’ specialized solutions to address niche markets in specific verticals, company size, or geographic regions.

“Point” Software and Services for Backup and Recovery

Forrester has identified “pure-play” vendors as those who “concentrate primarily on online backup services for consumers, home offices and SMBs.”⁶ A point solution does not provide a suite of adjunct services that leverage or mine the backup information resources.

Unlike the providers we have considered thus far, these service providers typically develop and maintain their own software on which their services are based. As the online backup and recovery market has matured, the barriers to entry have forced new vendors to match the technical feature sets already standard in the industry (if they can). They need to focus their resources on fundamental backup and recovery, and might require more time to develop server essentials like multiple recovery points, full system backup, and range of retention periods.

Ironically, if the vendor’s “point solution” is unique enough to challenge a larger competitor, they find themselves a prime target for acquisition. If the technology is not unique, it can be challenging to differentiate themselves from other backup and recovery software developers who do not themselves offer service at all but who exclusively license their solutions to service providers (the third-party software vendors previously mentioned).

Niche Market Service Providers

In contrast to the specialization of the vendors limiting their services to backup and recovery, there are a small number who differentiate themselves as serving specific verticals, such as healthcare or financial services.

Probably because of the investment required to develop backup and recovery services, many of these niche market vendors license third-party software that is not specifically designed as a vertical market data protection solution. An interesting case in point is one in which a generalist backup and recovery service was acquired by a larger corporation focused on healthcare and became, de facto, focused on that market, although that backup and recovery service had not previously focused on healthcare data management.

Other specialists include providers limiting their services to the geographic regions, usually in which they reside. Companies with global footprints would be required to deal with multiple vendors in order to protect data across their enterprise.

⁶Balaouras, Stephanie, Market Overview: Backup Software-As-A-Service, published by Forrester Research, Inc., February 20, 2008.

CATEGORY 3: BROADER SPECTRUM SERVICE PROVIDERS

Like the point solution and licensed software developers, these service providers own and maintain their own software. Most obtained their backup and recovery technology through the acquisition of the original software developer, but the important point is they continue to invest in its maintenance and extension, in short, control its destiny. These service providers typically offer most of the essential features for server backup and recovery (see Table 1).

Backup and recovery is offered as part of a broader spectrum of information management and data protection services that typically includes:

- **Archiving:** Moving certain classes of data to a secondary (less expensive) storage medium that can be readily accessed if required
- **eDiscovery:** Mining backup and archived data for evidence required in litigation (most efficient when data has been classified in ways that facilitate accurate and comprehensive retrieval)
- **Professional Service:** Consulting services including customized implementations to meet specific customer requirements

Even within this category of service providers, there are different core competencies, usually derived from the parent company – reflected in the primary product lines funded by the company. Some are actually storage manufacturers, offering data protection services as a kind of value-added utility for the information hosted by their own devices. Others might be in the security business with data protection as an adjunct to tools that protect servers from viruses, malware, and other kinds of breaches.

In contrast, there are service providers whose core competencies are solely focused on the management and protection of information in all formats, whether electronic (server and PC platform data) or physical (paper and tapes from data center backups). They might also offer document processing services, which bridge the two realms of imaging services that convert information from physical format to electronic for more effective use and protection.

Because compliance regulations make no distinction between information formats, whether electronic or paper, the professional services offered by these vendors are designed to help companies define a comprehensive data protection strategy with particular emphasis on best practices for compliance regulations that apply to business information in both physical and electronic formats.

Comparing Service Provider Categories Across the Essentials

In this paper, we have made observations about the differences among three categories of service providers of online backup and recovery services for servers. Table 1 summarized features of online services that go beyond fundamentals to address the essentials to server backup and recovery.

Table 2 compares each category of service provider in terms of its capabilities to deliver on these essentials, highlighting key issues that should be considered in choosing vendors for evaluation.

TABLE 2. SUMMARY COMPARISON OF SERVICE PROVIDER CATEGORIES

	Business Continuity/Disaster Recovery and Telecommunications Service Providers	Point Solution Developers and Niche Service Providers	Broad Spectrum Server Protection Services
Ability to deliver on essentials for server backup and recovery (detailed in Table 1)	<ul style="list-style-type: none"> • Use one or more third-party software as the basis for backup, and recovery services do not control its viability or future development • Typically are limited in their offerings for retention of specific types of data, and the ease with which historical versions can be retrieved • Customers need to examine third-party software closely to ensure essentials for server backup and recovery are included 	<ul style="list-style-type: none"> • Developers must stretch limited resources to develop both fundamental features as well as essentials, like multiple recovery points, full system backup, range of retention periods • Niche market service providers that use third-party software do not control its viability or future development 	<ul style="list-style-type: none"> • Typically offer most of the essential features • It's important to verify that service charges include features like multiple recovery points and database backup • Many support data backup and recovery only, not full system backup • Vendors vary widely in their offerings for retention of specific types of data and the ease with which historical versions can be retrieved
Ability to deliver on essentials for server backup and recovery administration and support	<ul style="list-style-type: none"> • Main focus of professional services is on primary lines of business, not best practices and compliance issues related to daily backup and recovery • Customers wishing to move from SaaS to licensed software must contract with third-party developers 	<ul style="list-style-type: none"> • Might not have resources or expertise to offer in-depth professional services for data protection and compliance best practices • Unlikely to offer a managed service • New developers might not have had time to create multiple platform support • Level of security of storage facilities and redundant, mirrored backup might be insufficient 	<ul style="list-style-type: none"> • Professional services might focus on products outside backup and recovery (storage hardware, IT tools) • Some SaaS platforms have a shorter track record than others • Some do not offer option of licensing software or managed services • Level of security of storage facilities varies widely as does redundant, mirrored backup

CONCLUSION

It is important to recognize the different categories of online backup and recovery service providers. The basic distinctions in their business drivers and focus, potential resources, and core competencies are key to fully assessing the capabilities of their online backup and recovery service offerings.

By understanding larger business criteria, businesses can better focus and align their business goals with the right partner.

For additional insights on determining server data protection needs in your specific business environment, contact Iron Mountain Digital at 800-899-4766 (option 3).

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