

SigmaUptime



A BETTER APPROACH TO DATA PROTECTION

Sigma's SAFESTore cloud-based managed backup service eliminates the headaches and hidden costs associated with traditional onsite backup while ensuring data protection, reducing downtime and improving regulatory compliance.

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4 A Better Approach to Data Protection

Sigma's SAFESTore cloud-based managed backup service eliminates the headaches and hidden costs associated with traditional onsite backup while ensuring data protection, reducing downtime and improving regulatory compliance.

8 Back to the Future

The advent of distributed, massive-scale cloud computing today is enabling organizations in all industries to create environments reminiscent of the centralized approach to computing that was standard back in the 1970s and early 1980s. However, there is no doubt cloud platforms deliver a host of 21st-century benefits.

10 Power-Packed Data Centers

High-density zones will provide the best method to balance the power and cooling requirements of different IT equipment (servers, storage and networking gear) in the same physical data center, leading to energy cost optimization.



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A BETTER APPROACH



TO DATA PROTECTION

Sigma's SAFEStore cloud-based managed backup service eliminates the headaches and hidden costs associated with traditional onsite backup while ensuring data protection, reducing downtime and improving regulatory compliance.

Natural disasters, cyber attacks, equipment failure and human error can strike at any time and without warning. When critical data is lost, organizations expend valuable time and resources in an attempt to recover that information. In today's business environment, failing to recover data in a timely fashion could mean loss of customers or, as in 25 percent of cases, the complete loss of the business, according to the Institute for Business and Home Safety.

"Data backup serves as a first and last line of defense. In the typical environment, a customer has a server running some sort of software that backs up data to a tape library, disk arrays or similar equipment," said Shannon Gillenwater, VP of Managed and Support Services, Sigma Solutions. "The goal is to be able to restore lost data in a timely fashion if a device fails or someone deletes a file. Even in a worst-case scenario, when the entire data center is lost, the organization should have some way to restore the data to new systems at a new location quickly.

"One major problem is that backups aren't managed very well because on any given day they aren't that important to business operations. Of course, when there is a failure that requires a backup they become the most important thing to the business. Typically after the fire drill of recovering the data — often unsuccessful — an increased focus on backup results in a fixed process to ensure that data loss does not occur again. Over time errors creep in and backup jobs start failing again but this goes unnoticed or unresolved until the next crisis."

Sigma Solutions is introducing a new cloud-based backup solution that frees organizations from this vicious cycle. Sigma's SAFEStore is a fully hosted solution that provides data protection without the need to purchase any hardware, software or other components, or dedicate staff time to managing backup jobs. Customers

can eliminate the headaches associated with traditional on-premises backup while ensuring that critical data can be quickly restored if needed.

The Value Is in the Service

Sigma’s managed backup service includes an on-site backup appliance that is installed at no cost to the customer. The appliance performs backups locally then replicates the data over the customer’s existing network to Sigma’s data center. The appliance maintains up to 30 days of backup onsite. This local copy provides rapid restoration of individual files or systems, while another copy is maintained offsite in case of a data center disaster.

Sigma has leveraged its expertise to develop a solution ideally suited for customers with 1TB to 10TB of data. Pricing is based upon the amount of data stored offsite in Sigma’s data vault, creating a “utility” billing model with on-demand capacity. The real value, however, lies in the managed services performed by Sigma’s engineers and technicians.

“We monitor the backup jobs, make sure they’re completed successfully and fix them if they fail,” said Gillenwater. “We can also handle restores — if a user deletes a file the customer can send us the particulars and we’ll recover it. Or the customer can also restore the file themselves through a simple graphical interface. It’s a comprehensive service that can be completely hands-off for the customer if desired. We understand the needs of midmarket customers and have designed this solution to offload what is often perceived as a

low-value task and achieve a higher backup success rate that ultimately protects the business.”

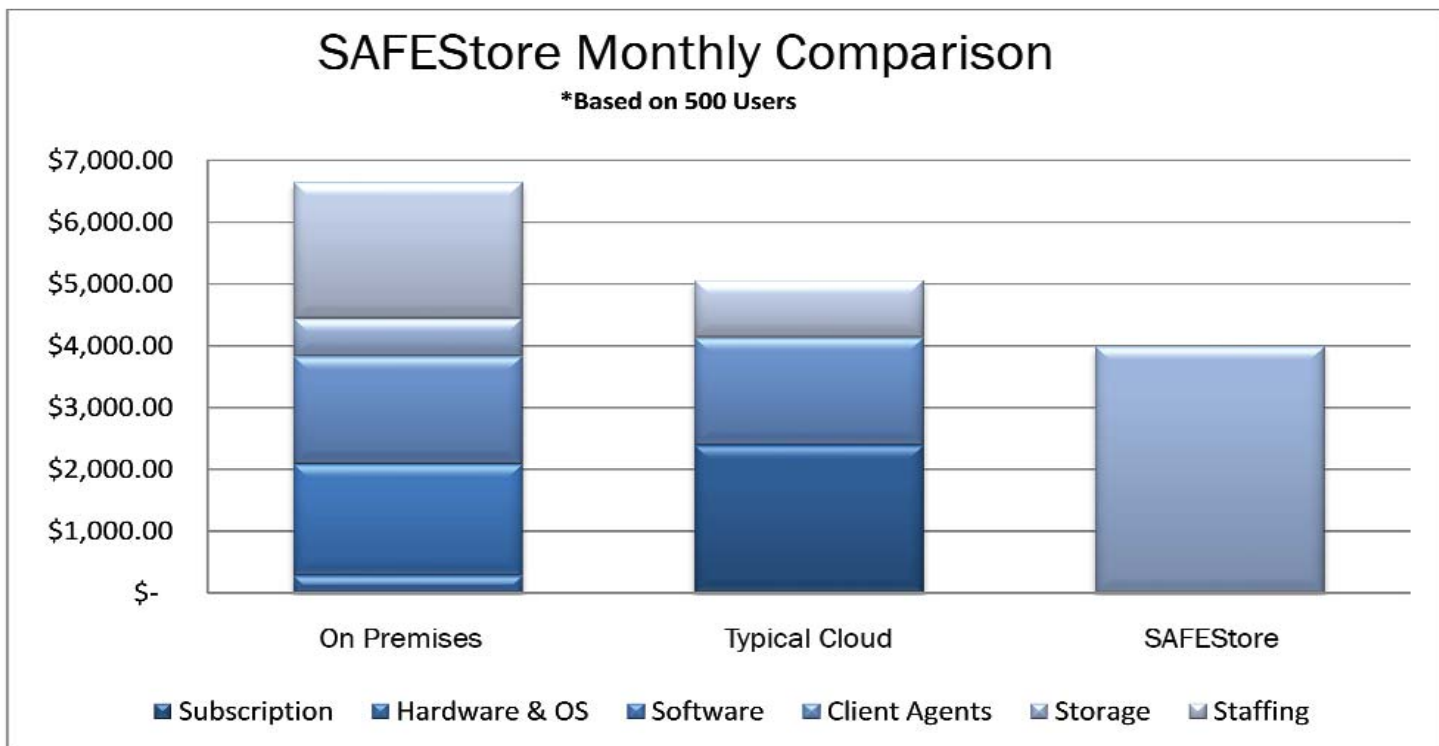
Sigma consults with each customer to determine the best backup strategy to meet the customer’s business requirements. Backup jobs can be run nightly or at more frequent intervals — the backup platform supports continuous data protection. Retention rules simplify data retention policies by focusing on what needs to be recoverable.

Sigma’s offsite data vault is maintained in a Tier IV colocation facility that is SAS-70 Type II certified. The backup platform is FIPS 140-2 certified and all data is private-key encrypted with AES256 ciphers. The on-site appliance provides agentless, block-level, disk-to-disk backup — no software to install or tapes to manage.

“Data is de-duplicated and compressed locally, and only changes are replicated offsite. The agentless architecture streamlines the backup environment and provides support for virtualization,” Gillenwater said. “As a result, we resolve many of the challenges associated with traditional data backup while maximizing security and cost-efficiency.”

The Hidden Costs of Backup

In addition to ensuring that backups are performed successfully, Sigma’s managed backup solution can actually lower backup costs in many instances. There is a widely held belief that most data protection expenditures are fixed upfront in capital investments for backup hardware and software. In reality, there are a number of overlooked costs that must be factored into the equation:



Cost per user per month

	On Premises	Typical Cloud	SAFESStore
Subscription	\$-	\$6.78	\$-
Hardware & OS	\$0.56	\$-	\$-
Software	\$3.61	\$-	\$-
Client Agents	\$3.49	\$3.49	\$-
Storage	\$1.23	\$-	\$2.20
Staffing	\$4.41	\$1.85	\$1.00
Total	\$13.30	\$12.12	\$3.20

** Based on 500 Users*

“Chief among these is labor costs,” said Gillenwater. “Few midsize companies have staff dedicated to backups. A member of the IT staff will spend some of his time managing backups in addition to many other things. That’s phantom time that generally isn’t accounted for. But that person could spend as much as 30 percent to 50 percent of his time on backups — checking the jobs every day, fixing the ones that fail and working with end-users to restore files as needed. If he earns \$80,000 per year, you’re talking about \$24,000 to \$40,000 in annual staff costs or up to \$6.66 per month per user in an organization with 500 users.

“Customers also tend to overlook the incremental costs of supplies and managing physical copies of data. Most companies in the midmarket space are still using tape for backup, and tapes have a limited lifespan. You can only write to them so many times before you have to throw them away because they become unreliable. And somebody has to manage all that — taking the tapes out of the library, cataloging them, rotating them offsite, and looking for the tape containing data that needs to be restored.”

Because backup tapes need to be moved offsite in case of a data center disaster, some companies utilize services that pick up the tapes each day and store them in a secure facility. Unfortunately, however, many organizations rely on informal practices for offsite data protection.

“Essentially, somebody throws the tapes in his back seat or trunk and takes them home each day. That’s risky in terms of both business continuity and

data security. If that employee’s car is stolen, all that critical company data could easily fall into the wrong hands. Some companies could even be targeted based upon the potential value of the backup data,” said Gillenwater. “Most folks are not encrypting their data so they’re opening themselves up to additional risks with these tape rotation practices.”

Regulatory compliance should also be considered when evaluating backup costs. A growing number of government and industry regulations require that data be retained and protected, and noncompliance can be costly.

“In the medical field, data must be kept forever, essentially, and in financial services data must typically be kept seven years. Those are just two examples,” Gillenwater said. “That’s actually difficult to accomplish, so organizations tend to go in and out of compliance. If they get audited and they’re not compliant they can be fined and ultimately lose their ability to operate, depending upon the industry.”

Conclusion

There’s not much anyone can do about the myriad dangers that threaten mission-critical data. However, organizations can take one simple step to mitigate those risks through effective data backup. Sigma’s SAFESStore increases the success rate of backup and recovery operations and improves compliance with data-retention requirements, while reducing total cost of ownership and enabling IT staff to focus their efforts on more valuable tasks.



Back to the Future?

Cloud platforms evoke memories of mainframe computing but deliver forward-looking innovations.

Is everything old new again? As cloud computing continues to gain momentum, it is hard to ignore the decidedly “retro” elements of this approach to IT infrastructure.

The advent of distributed, massive-scale cloud computing today is enabling organizations in all industries to create environments reminiscent of the centralized approach to computing that was standard back in the 1970s and early 1980s. In those days, computers were usually time-shared among multiple users working on “dumb” terminals connected to a central mainframe machine located in some remote corner of the building.

Cloud computing makes use of the Internet to connect remote users to massive, warehouse-scale data centers that house large networks of processors and memory for crunching and storing data.

The idea is to remove the burden of heavy processing from the desktop and move it into these cloud data centers, thus taking advantage of economies of scale and shared resources.

The cloud also allows organizations to leverage desktop virtualization and thin-client technology to recreate the corporate computing environment in a secure and controlled setting. This removes much of the cost and hassle of managing hundreds or thousands of desktop computers. The IT organization is freed from the tasks of patching operating systems, installing and updating applications, and ensuring that data is protected on each and every desktop.

2011 a Breakthrough Year?

In 2010, these factors helped cloud computing gain momentum across virtually every sector of industry, with several surveys indicating that more gov-

ernmental agencies, commercial businesses and non-profit organizations have either already deployed some model of a cloud solution or have plans to evaluate a cloud solution in the near future. Most networking experts and technology analysts expect even more consistent and sustainable growth in 2011 and beyond.

Analysts at IDC expect spending on public IT cloud services to grow at more than five times the rate of the IT industry in 2011, up 30 percent from 2010, as organizations move a wider range of business applications into the cloud. The firm also predicts small and midsize business cloud use will surge in 2011, with adoption of some cloud resources topping 33 percent among U.S. midsize firms by year's end.

IDC says the combination of an aging server installed base, IT managers' increasing need to rein in virtual

machines, and a general upturn in the buying environment is boosting sales of commodity-type servers used in public and private cloud-computing systems. IDC predicted that server revenue in the public cloud category will grow from \$582 million in 2009 to \$718 million in 2014. Server revenue for the much larger private cloud market will grow from \$7.3 billion to \$11.8 billion (about 62 percent) in the same time period, IDC said.

For many organizations, their experiences in 2010 proved that cloud computing can meet the demand for improved IT efficiency through a virtualized, secure infrastructure solution that is scalable, reliable and can provide organizations higher availability at lower costs when compared to a dedicated IT environment.

“There has been a clear market trend of small and medium-sized businesses looking to get out of the business of owning and maintaining their own IT infrastructure,” said Rahul Bakshi, vice president of product management, managed services, at SunGard Availability Services. “These companies want to tap into the investment service providers have made in IT tools, automation and elastic technology.”

Mobility and More

While cloud computing provides a new twist on an old idea, there is no mistaking that it can deliver 21st-century benefits. The real advantage of this type of computing is mobility. End-users can access the corporate computing environment, including operating system, applications and data, from anywhere using a traditional PC, thin client or other network-connected device.

“Users enjoy the convenience of accessing their data from anywhere and at any time, so long as they have a network connection,” said network architect Cedric Lam of Google.

IDC expects cloud services and mobile computing to mature and coalesce with social networks to create a

new mainstream platform for both the IT industry and the industries it serves. Frank Gens, senior vice president and chief analyst at IDC, says this new platform will deliver value-generating overlays of social business and pervasive analytics. In addition to creating new markets and opportunities, Gens said, this restructuring will “overthrow nearly every assumption” about who the industry’s leaders will be and how they establish and maintain leadership.

“What really distinguishes the year ahead is that these disruptive technologies are finally being integrated with each other — cloud with mobile, mobile with social networking, social networking with ‘big data’ and real-time analytics,” he said. “As a result, these once-emerging technologies can no longer be invested in, or managed, as sandbox efforts around the edges of the market. Instead, they are rapidly becoming the market itself and must be addressed accordingly.”



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Power-Packed Data Centers

Most data centers will incorporate high-density zones by year-end 2015, Gartner says.

The fastest-growing segment of the server market is the high-density blade sector, meaning that so-called “high-density zones” will need to be incorporated into most data centers during the next five years, according to Gartner. Through 2015, 50 percent of data centers will have a high-density zone, up from less than 10 percent in 2010.

Gartner defines a high-density zone as one where the energy needed is more than 10 kilowatts (kW) per rack for a given set of rows. Gartner analysts say that high-density zones will provide the best method to balance the power and cooling requirements of different IT equipment (servers, storage and networking gear) in the same physical data center, leading to energy cost optimization.

“High-density zones are by far the best way to manage the differences in the lifecycle changes of data centers’ building structures, electromechanical equipment and IT equipment,” said Rakesh Kumar, research vice president at Gartner. “However, many users remain unsure of the benefits of high-density zones — especially in gaining flexibility in capacity planning — as well as the potential pitfalls.”

Ever-Increasing Energy Requirements

Traditional data centers built as recently as five years ago were designed to have a uniform energy distribution



of around 2kW to 4kW per rack, with cooling keyed to that level of power consumption. With the increasing use of high-density blade systems, this design envelope is no longer sufficient. A standard rack of industry-standard servers needs 30 square feet to be accommodated without supplemental cooling, and a rack that is 60 percent filled could have a power draw as high as 12kW. Any standard rack of blade servers that is more than 50 percent full will need to be in a high-density zone.

Kumar said that some of the main issues facing data center managers in the design of high-density zones include planning for lifecycle changes in IT hardware, space and cooling. For example, traditional forced-air cooling methods become increasingly ineffective at densities above 15kW per rack. A high-density zone will therefore typically require supplementary cooling, such as a chilled-water system, hot/cold aisle containment or in-row/in-rack cooling.

“One of the most important strategic considerations in designing new data centers or refurbishing existing ones is balancing the rates of change between the building’s system and the IT systems,” said Kumar. “For example, over a 15-year period, a building will remain essentially the same, but the electromechanical systems will typically need one round of modifications, while the IT systems will typically be refreshed two to three times.”

Planning Ahead for Capacity

Kumar said that balancing these changes is difficult. The core of the problem is that new generations of IT equipment will become increasingly complex (blade systems and the evolving fabric architectures are examples), resulting in ever-increasing energy requirements. Therefore, one of the best ways to “future proof” against these problems is to use high-density zones. Gartner advises organizations to develop a high-density zone large enough to accommodate predicted IT capacity growth, which should typically be 20 percent to 25 percent of the raised floor space.

The space required for the high-density zone will depend on many variables. For example, the proportion of high-density IT equipment to standard equipment will provide a rough guide. However, users must also look at their future technical architectures, as the high-density zone must be big enough to accommodate growth.

Gartner advises using high-density zones as a mechanism to manage space within the data center. Where space costs are at a premium, users should ensure that the design and size of the zone can accommodate growth for at least five years and, where possible, up to 10 years. Using scalable power distribution units (PDUs) and moveable walls (for containment), should provide a scalable environment without over-engineering for growth.



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G **UIDANCE** – Our customers turn to us for expert solution design and project governance services that accelerate the success of their IT initiatives. Sigma mitigates our customers' risks through our experience and commitment to excellence in everything we do.

M **ANAGEMENT** – Sigma is uniquely positioned to serve as a single point of contact for full lifecycle management, maintenance and support of converged and integrated technologies. Our expertise across the data center and strong relationships with industry leaders enable us to quickly resolve problems in today's complex IT environment.

A **GILITY** – Sigma's comprehensive services enable our customers to partner with one technology provider for solution design, implementation and ongoing service. Sigma serves as the focal point for initiatives incorporating diverse technologies and multiple IT disciplines.

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