



A CMI Business Brief White Paper:

# Cloud-Based Data Backup Offers Faster Recovery at Lower Cost

By Jeff Guenthner





From mom & pop candy shops to high-tech manufacturers and regional banks, many of America's roughly 28 million small and medium-sized businesses (SMBs) are living a paradox. Even as the companies become more dependent on computers to maintain continuous operations and preserve employee and customer data, they have failed to adequately modernize their data backup and high availability (HA) systems. As a result, millions of firms are risking losses of critical information. At CMI we wondered just how many C-Suite executives were aware of this situation. That's why we commissioned this White Paper, to put some of the basic facts-and-figures of this problem before you.

### **"..Saw his business erased in a matter of seconds."**

Though floods and fires, earthquakes and hurricanes may not be everyday events, it takes just one disaster to bring an SMB to its knees. Thanks to the Northridge Earthquake of 1994, the owner of a Southern California marketing and public relations firm saw his business erased in a matter of seconds. "Every piece of information, all of his company's work-in-progress, was on computers in his office, and what hadn't been destroyed was inaccessible for weeks ...."<sup>1</sup>

At CMI, our research shows that the gap between the backup and HA systems that companies need and what's now in use is largely due to the cost of installing, maintaining and continually updating the right backup and HA hardware and software, especially when an organization:

- Needs the flexibility to quickly scale up or scale down its IT usage.
- Has limited resources for acquiring new or updated backup and HA solutions.
- Has little or no in-house IT and/or backup or HA expertise.

Clearly, this situation needs to be addressed – the future of a company like yours depends on it. But, at what cost?

### **The Cost of Downtime and Data Loss**

While current backup and HA systems can be pricey, the cost of data loss is much higher. In 2003, the cost of lost data to U.S. businesses was estimated at \$18.2 billion.<sup>2</sup> For most companies, the question is not, "What will we do IF we experience significant data losses?" but "How well and how fast can we recover data WHEN the problem strikes?"

But what is the scale of the problem? How much money are we talking about here? According to CMI research, leading industry groups estimate that threats from IT environmental issues (water, fire, temperature fluctuations, etc.) would cost businesses



\$50 to \$100 million in 2010.<sup>3</sup> In 2009, 23 percent of all data centers experienced downtime more than five times as a result of environmental problems; 61 percent experienced downtime one to four times.<sup>4</sup> And fully 70 percent of small businesses that experience a major data loss, go out of business within a year.<sup>5</sup>

Yet our research also indicates that most data losses are not caused not by catastrophic failures, but take the form of “death by a thousand cuts.” A few dozen invoices are lost here; a few hundred customer master records are corrupted there. Taken together, however, and repeated again and again, sometimes randomly, these incidents can translate into hundreds or thousands of lost sales dollars, other lost revenue opportunities, and additional adverse impacts.

No doubt, the threats are real. The solutions? As we’ll see, are often not quite as real.

### **Traditional Backup Drawbacks**

At CMI, we believe that if a backup and HA system set is the “insurance policy” you hope you’ll never need (but probably will), it makes sense to choose coverage that:

- Adequately insures your firm against minor and catastrophic losses.
- Provides fast and reliable recovery of all data.
- Offers affordable “premiums.”
- Can be quickly scaled (up and/or down) to reflect your organization’s needs.

Unfortunately, we’ve also come to the conclusion that far too many conventional data backup and high availability systems currently deployed rarely meet all four criteria adequately.

For example, tape backups have been around for decades, “frustrating the IT managers who have to rotate tapes, troubleshoot backup failures, ship tapes to offsite locations, track down lost tapes, and deal with the aftermath of corrupted data.”<sup>6</sup>

In addition, stories are legion of organizations that backup their data to tape and then:

- Leave the tapes in the same room as the computer they were backed-up from.
- Leave the tapes in the same building.
- Store them in the trunk of someone’s car.
- Store them at someone’s house.
- Never test the restore function of the tapes.
- Fail to rotate the tapes.
- Store the tapes in non-environmentally controlled locations. And more.



According to The Gartner Group, 35 percent of companies fail to test tape backups, and of those that do, 77 percent have discovered backup failures. Worse, it may take days or weeks for IT specialists to recover lost data and applications, thanks to the complexity of the sequential steps required to rebuild damaged software and retrieve lost files. Net-net: lost opportunities, decreased productivity, increased costs, and possibly even lost profits.

At CMI, we researched this issue with an eye towards finding a solution set that would address the issues detailed above as well as other well-known problems associated with data backup and HA. Expecting that the solution might come from a cutting-edge Silicon Valley startup, we were pleasantly surprised to find that a familiar household name had just the solutions we were looking for.

### **The Benefits of the Cloud**

Cloud-based backup and HA solutions, such as those offered by Big Blue, IBM, can provide small and mid-sized businesses with the possibility of unparalleled cost savings, as well as faster and more reliable data recovery. (For the purposes of this report, cloud computing refers to software, data access and data storage services that are provided to customers through a computer network – usually the Internet – usually on a “pay-as-you-go” basis).

As we see it, the benefits of cloud data backup and availability services include three or four key metrics and C-Suite exec can relate to:

- **Reduced CAPEX.** Because the lion’s share of hardware and software is provided by, in this case, IBM, and is accessed by employees from anywhere in the world through private or public networks, capital investments are minimal.
- **Lower OPEX.** Cloud providers such as IBM have exploited efficiencies of scale to lower usage fees. In addition, you pay for the services and capacity that you need – if and when you need them.
- **Increased employee productivity.** IT personnel spend less time backing up tape drives and recovering data; more time working on mission-critical functions.

In addition to powering servers and PCs, data centers must be kept cool and dry. Power consumption of the typical data center rose by 39 percent from 1999-2005. In 2005, the total electrical bill for U.S. companies was \$2.7 billion, with the cost of powering and cooling servers alone costing \$170 million.<sup>8</sup> Clearly, when organizations pull plugs out of the wall and shift workload to cloud-based hardware, those organizations will see a decrease in their HVAC costs.



When we analyzed the market for cloud backup and HA providers, CMI quickly concluded that IBM is in a unique position, as few providers can match Big Blue's ability (or experience) in offering customized backup and HA services to businesses that range from sole proprietors to Fortune 500 behemoths.

Moreover, we appreciated the fact that IBM's "SmartCloud" services have significant value-add of their own -- beyond the pale of "just" backup and HA -- including Managed Backup, Email Management Express, Managed Data Vault, and Virtualized Server Recovery packages.

IBM positions its Managed Backup service as a means of protecting "mission-critical data in the face of rapid information growth and the increased risk of data loss" while simultaneously "controlling costs and managing regulatory compliance requirements." Email Management Express allows for fast and integrated email recovery and archiving, as well as business outage and disaster notification services. Virtualized Server Recovery reduces server recovery time, improves recovery reliability, and minimizes the risk of failure to recover on unlike hardware. Together, those cloud-based alternatives offer "security-rich, managed protection" of critical data and software via private or public (Internet) networks. Finally, as we see it, with one throat to choke and one vendor to manage, an organization might discover additional operational savings by utilizing Big Blue's suite of offerings.

Among the other benefits of cloud services, says IBM, are reduced operational risk and reduced total cost of ownership (TCO). CMI's independent research (and experience) agrees with IBM's conclusions in many situations.

Net-net: time savings, better cost controls, and higher availability equals lower organization costs and improved productivity. This is particularly true in today's global, 24-by-7 business world.

### **The Cloud is Growing Fast**

As demand for continuous business operations increases, the need for a shorter recovery time in the event of a disaster has become more pressing. Yet maintaining in-house recovery servers can be costly. And, should the unthinkable happen, physical recovery approaches often, counter-intuitively, actually increase the risk that data will be lost.

For these reasons and others, Gartner Research predicts that, by 2014, 30 percent of mid-sized companies will adopt cloud services to support IT operations recovery.



Why the rapidly growing interest? For one thing, CMI research has uncovered a University of Massachusetts-AT&T study which projected that public cloud options can save organizations as much as 85 percent over conventional recovery options.

In addition, cloud backup offers companies the opportunity to outsource functions they don't want to perform in-house. Or, those the company should not do because they can actually be done at lower cost (and often at higher service levels) by outside firms.

Most important, for small and medium-sized businesses without the resources to build their own backup and availability infrastructures, cloud-based offerings such as those provided by IBM offer a reliable way to recover business-critical data at an affordable price. Your CMI Client representative can help explain which of IBM's cloud-based backup and HA offerings are best for your unique environment. The threats -- and the dollars -- are real, so ask your CMI rep today!

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#### Footnotes

<sup>1</sup> "Impact on U.S. Small Business of Natural and Man-Made Disasters." Hewlett-Packard Development Company, L.P., 2007

<sup>2</sup> Jon Toiga, Disaster Recovery Planning: Managing Risk and Catastrophe in Information Systems, (Yourdon Press, 1989).

<sup>3</sup> Michael Sigourney. "Protect Your IT Facility. Don't Wait Until It's Too Late!"

<sup>4</sup> Contingency Planning, Strategic Research Corp and DTI/Price Waterhouse Coopers (2004) and is widely quoted in places such as: Diana Shepstone, National data awareness project launched to help businesses prevent data disasters (Data Centre Solutions, Jan. 8, 2007) see: <http://www.datacentresols.com/news/articles-full.php?newsid=5455>

<sup>5</sup> Ann Bednarz. "Will cloud backup services finally put tape backups in trash can?" Network World, February 21, 2011. <http://www.networkworld.com/news/2011/022111-disaster-recovery-cloud-backup-services.html>

<sup>6</sup> Jonathan G. Koomey, Ph.D. "Data Center Electricity Use: What We Know." Paper presented at the EPA stakeholder workshop at the Santa Clara Convention Center, February 16, 2007.



## Status Check: By Kris Neely, CMI's Chief Technology Officer

Fashions come and go, even in information technology, and I've seen my share since starting in IT in 1974. That said, some fashions have become the bedrock of today's IT: the Internet, eCommerce, and wireless computing, just to name a few.

Yet I honestly believe that cloud computing is not a passing fashion. Let me explain why using just the example of cloud backup discussed in this White Paper.

For any organization without regulatory or compliance issues, the manual, people, operational, and technological requirements of backing computer data up to tape does nothing, in most cases, to help said organization sell one widget or service one customer. Backups are an insurance policy, pure and simple.

As such, I regularly advise CMI clients to take a serious look at the dollars-and-common sense of cloud backups, because I don't believe it is in their best interests to be in the tape backup business. Tapes, racks, labels, plugs in walls, tape machine maintenance, run books, off-site tape storage, testing tape restores, rotating tapes, the floor space for the tape machine, all the vendor management that goes with all those things just mentioned, operator training and re-training – the list is impressive. Yet few CFOs actually build a cost model to see just how much the apparently 'simple' act of backing a computer up to tape actually costs.

Your IT shop can do all that work -- or concentrate on more strategic issues. I prefer looking for the next turn-of-the-crank for my business over doing rote tasks best performed by people like IBM who, almost inevitably, will do those tasks better and more efficiently than my IT department can.

I went into discussions on IBM's cloud backup capabilities with an open mind. I knew Big Blue had the technical expertise to do data backups, they've been doing them for over 70 years. Yet I'll admit I was impressed by IBM's attention to detail – and pricing. True, it is rare that you'll find IBM as the "low price leader" in almost any IT category, but I'd agree that in many cases that's as it should be. A premium product should command a premium price -- that's only right and fair. And in this case, IBM has listened to its clients and customers and assembled a solid backup and HA solution at a price that won't send C-Suite types into apoplexy.

*Kris Neely*  
*CMI Chief Tehnology Officer*



## Reality Check: A CFO Reviews this White Paper

Today's business world shows increasing demand for real-time information, solutions and responses. Anything short of that is seen immediately by the customer and reflects poorly on the organization. As the computer is used more and more to manage customer relationships, resource allocations, and core business operations, comes the responsibility to properly manage the accumulated data.

Fortune 500 companies go to elaborate lengths to form Business Continuity Teams and maintain Disaster Recovery Plans. Their experience comes from the downside of primarily natural disasters that prevent them from conducting business. The use of alternative-site data centers with stored tapes was the traditional response.

Regardless of company size, the CFO acts as guardian of the company's assets, which naturally includes the organization's data.

The CFO can accomplish this through the following:

- Plan – assure the organization has a data backup program in place and knows the details of how to respond to a business interruption
- Manage Risk – minimize the human error potential and problematic tape storage issues that lie at the heart of many backup approaches
- Evaluate Costs – constantly review alternative backup solutions and their all-inclusive capital expenditure and operating expense costs

The outsource choice of SmartCloud provides all that's necessary for secure data backup, frees up the IT staff to focus on the organization's core business functions, and provides the opportunity to pay "by-the-drink" in direct proportion to the company's needs.

The use of a cloud-based data backup technology through IBM's SmartCloud is worthy of a close look by every CFO.

*Dick Kernan*

*Former CFO of Acacia Pacific Holdings, Inc. and Fireman's Fund Insurance Company*