



*Where IT perceptions are reality*

# Industry Brief

## CDs & HDDs Once Rocked

**Featuring**

**IBM Acquisition of Texas Memory Systems  
Q3 2012 IT Brand Pulse Technology Survey  
August 2012 SSD Brand Leader Surveys**

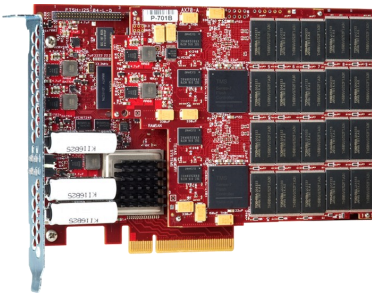
# IBM acquiring TMS.



Texas Memory Systems, Inc.



The RamSan-630 rackmount SSD provides 10 TB of shareable, high performance storage.



The RamSan-70 is a Flash SSD on a half-length PCIe card

On August 16, 2012, IBM announced it has entered into a definitive agreement to acquire Texas Memory Systems (TMS), a leading developer of high-performance flash memory solutions. Founded in 1978, privately held TMS offers its solid state solutions as the RamSan family of shared rackmount systems and PCIe cards.

Following acquisition close, IBM plans to invest in and support the TMS product portfolio, and will look to integrate over time TMS technologies into a variety of solutions including storage, servers, software, and PureSystems offerings.

Although most of TMS sales have been addressing the Tier-0 market for accelerating frequently accessed data, IBM made clear during their analyst call they plan on being there, if and when, the gigantic opportunity emerges to displace HDD-based Tier-1 mass storage with SSD.

## IBM Analyst Conference Q&A

**Question from IT Brand Pulse** "Do you see IT buying behavior changing and SSD penetrating Tier-1 storage?"

**Answer from IBM** "You bring up a great point, and that's one of the major objectives we've got around this acquisition, and being ahead of that curve as that happens. Certainly it hasn't taken off to that level yet, but we're trying to be prepared to skate to where the puck's going to be in the future--no doubt about it. We do see that with the improvements made within the technology of sold-state, the improvements in the IP and core development talent that Holley and the team have here with TMS, and what they've been able to bring to the market. We're going to see a more pervasive use, a more widespread use of flash technology, beyond what application support it's provided in the past. The costs are going to continue to come down. The performance is going to continue to be high, much higher than any disk-based-only offering. The resiliency, the endurance, the capabilities of the product have still got some runway ahead of them. I fully anticipate that it will become a much bigger percentage of the tier-1, tier-0 capacity will be stored on flash. **To be honest with you, that is the major reason for our partnership and our interest in the partnership.**"

TMS

Founded in 1978, TMS designs and sells the RamSan family of shared rackmount systems and PCIe cards.

# Why we loved CDs and HDDs.

They were breakthrough technologies which brought high quality music and random access storage to the masses.



CD Player



HDD

Even though they broke a lot, and consumed a lot of space and power, we were proud of our vast collections.



CD Collection



Data Center HDD Storage Farm

## Music CDs

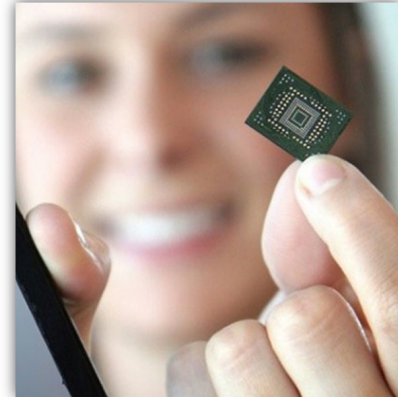
EMarketer predicts physical product revenues will fall to \$960 million in 2013 from \$4.3 billion in 2009. It forecasts physical revenue declines will actually pick up speed in the next four years: -25% in 2010, -28% in 2011, -32% in 2012 and -35% in 2013.

# Why we don't anymore.

Flash memory is a breakthrough which gave us solid-state media players and storage.



Media Player



SSD

No moving parts, lightning-fast, high-fidelity, and vast amounts of data fit in the palm of our hand or a single array.



Music, Photo, and Video Collection



Data Center SSD Storage Array

## HDDs

In the Q3 2012 IT Brand Pulse quarterly technology survey, IT professionals said HDDs will comprise approximately 97% of their organization's combined SSD and HDD disk capacity.

# Where we're at today.

Media player customers understand the added value of solid-state and pay a premium of 5x to 10x



**Sony DEJ011 CD Walkman« Portable CD Player** by Sony

~~\$39.95~~ **\$38.94**

Order in the next **3 hours** and get it by **Monday, Aug 20.**

More Buying Choices

**\$38.94** new (3 offers)

**\$19.95** used (12 offers)

Which iPhone 4S is right for you?

16GB

**\$199<sup>99</sup>**

NEW 2 YEAR ACTIVATION AND DATA PAK REQUIRED.

32GB

**\$299<sup>99</sup>**

NEW 2 YEAR ACTIVATION AND DATA PAK REQUIRED.

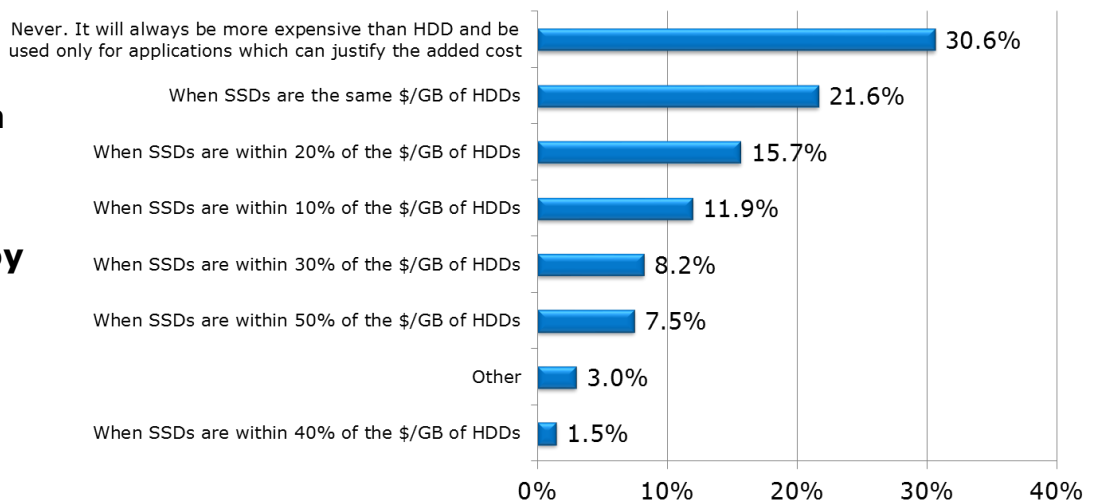
64GB

**\$399<sup>99</sup>**

NEW 2 YEAR ACTIVATION AND DATA PAK REQUIRED.

IT professionals value SSD the way they value HDD, based mostly on price per gigabyte

**My organization plans to completely replace HDDs and deploy SSD as primary storage:**



**SSDs**

In the Q3 2012 IT Brand Pulse quarterly technology survey, 35.9% of IT pros surveyed said they would completely replace HDDs and deploy SSD as primary storage when the \$/GB of SSD was within 20% of HDD.

# A gigantic market opportunity.

The SSD market is serving as a powerful growth engine for solution providers who develop experience and expertise in delivering solid-state solutions.

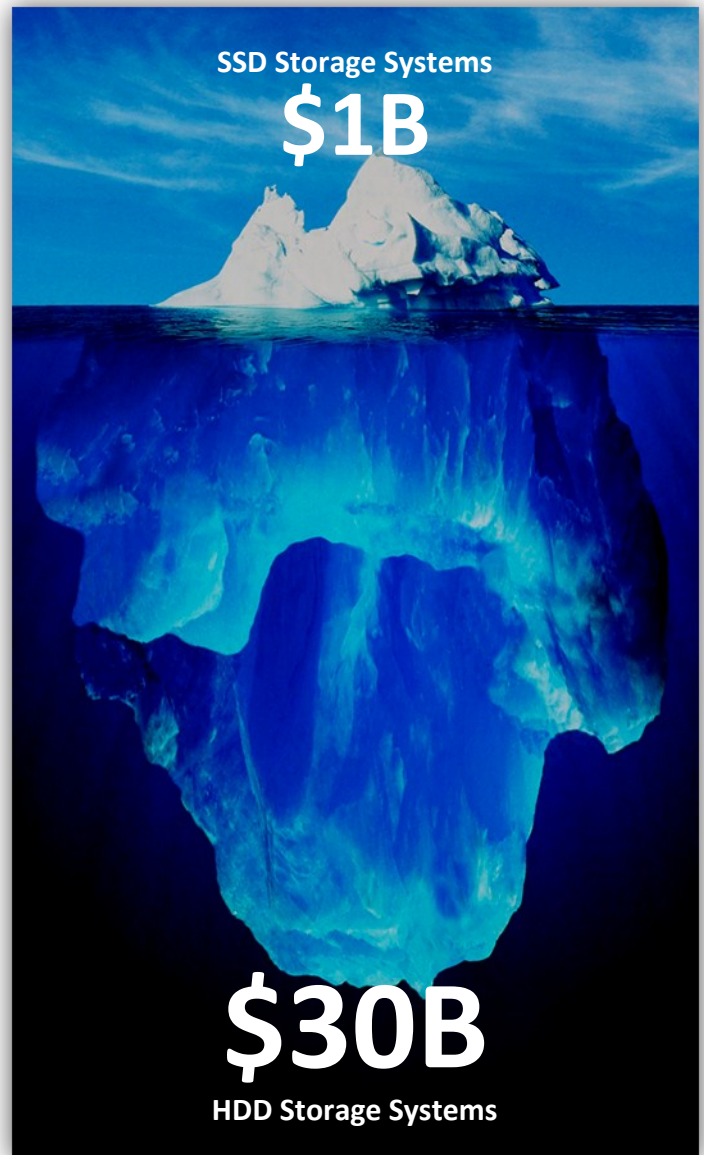
As overall spending for IT equipment grows at a low single digit rate, IT Brand Pulse projects that spending on SSD will more than triple from \$1BM in 2011 to \$2.5B in 2014.

However, many analysts expect SSD growth to come mostly from acceleration solutions for frequently accessed data. This segment is dominated by PCIe cards, and SAS/SATA modules, and is the tip of the iceberg in the overall market for storage systems.

Below the market for acceleration solutions lies the gigantic \$30B opportunity to displace HDD storage systems used for primary storage.

Storage visionaries believe that SSD technology is on the verge of an epic migration to displace HDD technology for enterprise storage. They believe this will happen because HDDs will not be able to deliver the application performance and storage densities needed in data centers of the future.

## 2012 Worldwide SSD & HDD Revenue



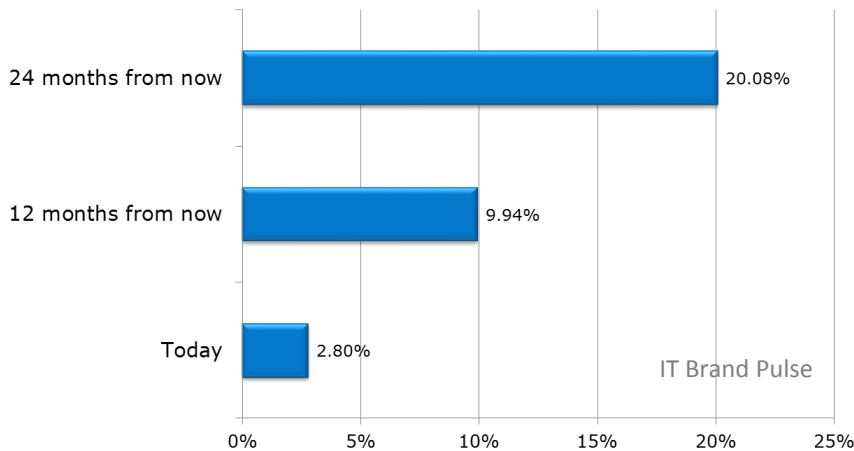
SSDs are a hot solution for storing or caching frequently accessed data. However, the opportunity to replace HDDs for primary data storage is gigantic.

**ToR**

Research and Markets estimates the market for enterprise SSDs will grow from 150,000 units in 2010 to over 4.1 million units in 2015, representing an average annual growth of nearly 90%.

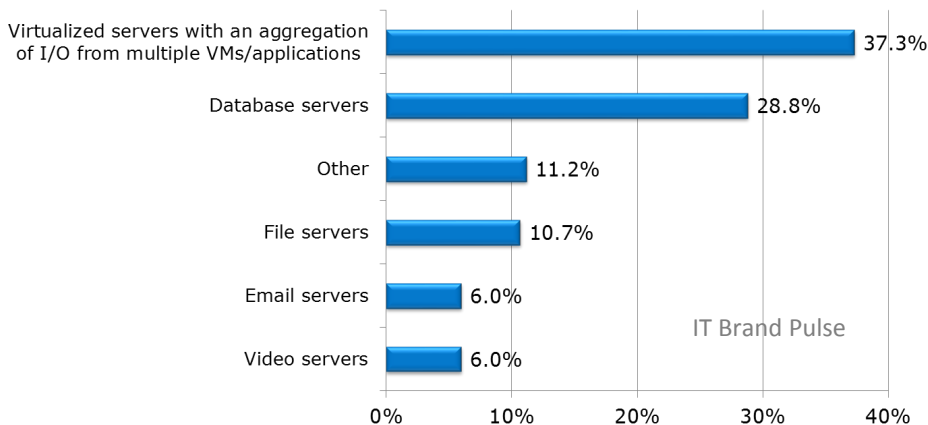
# IT is optimistic.

**SSD will comprise approximately this percentage of my organization's combined SSD and HDD disk capacity:**



**SSDs are a hot solution for storing or caching frequently accessed data. However, the opportunity to replace HDDs for primary data storage is gigantic.**

**The following application is most driving the adoption of SSD in my environment is:**



**SSDs are a hot solution for storing or caching frequently accessed data. However, the opportunity to replace HDDs for primary data storage is gigantic.**

IT professionals are more optimistic about their adoption of SSD than most analysts. In an IT Brand Pulse survey of over 200 data center managers, the respondents said that 20% of their combined SSD and HDD capacity would migrate to SSD within 24 months—almost 10X what they say is installed today.

These same IT pros said it is their mainstream applications which are driving the need for SSD. The type of server most driving adoption of virtualized servers with an aggregation of I/O from multiple VMs. Considering that over 70% of new workloads are installed on VMs, there is a pervasive need for SSD in the data center.

It's no longer a matter of "if" SSD will be deployed. It's now a decision of "what type", "how much", and "where".

**ToR**

**Switches, virtual I/O appliances and storage systems installed top-of-rack for sharing by servers in that rack domain.**

# Streamlining Server Connectivity

## The Bottom Line

Streamlining network connectivity for servers starts at the top-of-rack. It's simple. If you like how server virtualization slices your investment in servers, and simplifies server management, you'll appreciate how virtual IO cuts the need for hundreds of expensive network adapters and thousands of cables.

What's left is the most consolidated, high-performance I/O solution for scaling virtual machines in a rack.

## Related Links

To learn more about the companies, technologies, and products mentioned in this report, visit the following web pages:

[NextIO, Inc.](#)

[vNET IO Maestro](#)

[IT Brand Pulse](#)

## About the Author



Frank Berry is founder and senior analyst for IT Brand Pulse, a trusted source of data and analysis about IT infrastructure, including servers, storage and networking. As former vice president of product marketing and corporate marketing for QLogic, and vice president of worldwide marketing for the automated tape library (ATL) division of Quantum, Mr. Berry has over 30 years experience in the development and marketing of IT infrastructure. If you have any questions or comments about this report, contact [frank.berry@itbrandpulse.com](mailto:frank.berry@itbrandpulse.com).

