# Une étude révèle que les organisations ne sont pas assez préparées pour appréhender le virage technologique vers le Cloud, l'Analytique, le Mobile et le Social Computing

**De nouvelles technologies de systèmes et de stockage s'adaptent au Cloud et au Big Data**

**Paris - 20 mai 2014:** Dans le cadre de la conférence Edge 2014 qui se tient à Las Vegas, IBM dévoile aujourd'hui les résultats préliminaires d'une étude menée auprès de 750 organisations mondiales, révélant que moins de 10% d'entre elles sont totalement préparées pour gérer la prolifération du Cloud, de l'analytique, des terminaux mobiles et des médias sociaux.

IBM s'attaque à ce défi de front et dévoile de nouveaux logiciels et systèmes conçus pour aider les organisations à créer des infrastructures plus intelligentes qui permettent de tirer plus rapidement parti des connaissances issues du Big Data, grâce au Cloud et à des prestations de service améliorées.

**De nouvelles avancées en matière de stockage pour un accès rapide aux données**

S'appuyant sur le lancement du Software Defined Storage la semaine dernière, la compagnie annonce aujourd'hui l'ajout de nouvelles capacités à son portefeuille de stockage :

- IBM Storwize V7000 Unified, un système qui supporte une capacité de stockage deux fois plus importante que les modèles précédents, soit 4 peta octets
- IBM XIV Cloud Storage pour les fournisseurs de services qui réduit jusqu'à 40% le coût initial d'un système
- TS4500 Tape Library qui permet un déploiement Cloud à grande échelle avec une architecture de données capable de sauvegarder trois fois plus de données Cloud pour une même empreinte au sol
- IBM DS8870 Flash Enclosure qui offre une performance flash trois fois et demie plus importante, pour un espace réduit de 50% et 12% de consommation énergétique en moins

Dans des annonces relatives au stockage, les scientifiques d'IBM Research à Zurich, en coopération avec la FUJIFILM Corporation of Japan, ont annoncé qu'ils avaient démontré le fonctionnement de 85,9 milliards d'octets au pouce carré, un nouveau record en matière de densité.

Pour en savoir plus : [http://www.zurich.ibm.com/news/10/storage.html](http://www.zurich.ibm.com/news/10/storage.html)

**Nouveau nœud de calcul IBM Flex System X6 pour une infrastructure rapide, agile et résiliente**

IBM introduit son nouveau nœud de calcul IBM Flex System X6, IBM System x3100 M5 et la IBM Pure Flex Solution pour les Parallels - MSP.

**A propos d'IBM Global Financing**

IBM Global Financing accompagne la transformation des clients et les aide à investir en proposant un ensemble d'options de financement flexibles et innovantes -pour les logiciels et matériels IBM et non-IBM et les services IBM- afin de faciliter les projets IT, Métiers ou transverses comme la mise en place de solutions Cloud, Big Data, Analytics, Mobile, Social Business ou encore Security. Ces offres, comme par exemple la location avec valeur résiduelle* ou la facilité de paiement à taux 0% sur 12 mois* sur certains produits, permettent de faciliter les transitions technologiques et d'accélérer le seuil de rentabilité des projets tout en préservant la trésorerie des clients. IBM Global Financing,premier financeur informatique mondial, c'est aussi IBM Global Asset Recovery Services, leader reconnu dans le domaine du développement durable de l'informatique, avec des solutions de rachat et de recyclage des équipements.

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**IBM Study: Organizations Unprepared to Tackle Next Wave of Technology Trends**

*Organizations face IT infrastructure challenges around the growth of cloud, analytics, social, and mobile*

**LAS VEGAS, NEV. - 20 May 2014:** Less than ten percent of organizations say their existing IT infrastructure is fully prepared to address the proliferation of mobile devices, social media, data analytics and cloud computing, according to preliminary findings released today by (NYSE: IBM)

The forthcoming study, titled "IT Infrastructure Matters," is based on responses from 750 CTOs, CIOs and other technology executives in 18 countries and 19 industries. Conducted by IBM's Institute for Business Value, the research highlights infrastructure readiness, business and organizational challenges faced by enterprises as they grapple with the new era of IT.

According to the study, seven out of 10 organizations recognize that IT infrastructure plays an important role in enabling competitive advantage or optimizing revenue and profit. The majority of respondents, 62 percent, plan to increase their IT infrastructure spend over the next 12 to 18 months.

The objective of the study is to better understand the major trends affecting IT infrastructure and the challenges organizations face with maintaining and upgrading existing technology, particularly as they prepare for new technological shifts. IBM is also examining the different ways organizations are using infrastructure to compete

more effectively in the marketplace.

"In our discussions with technical leaders, we are seeing that the historic shifts transforming business and technology are creating a greater need and urgency to deploy a computing infrastructure that can support their business results," said Tom Rosamilia, Senior Vice President of IBM Systems & Technology Group and IBM Integrated Supply Chain. "Today's innovative companies are recognizing that the right infrastructure can deliver real competitive advantage and fuel top-line growth."

According to the preliminary study, 46 percent of respondents said they face challenges with efficiently and securely moving large amounts of data between one geography and another.  Another 43 percent report challenges with maintaining a secure environment, and 43 percent also say they face constraints with the ability to cut costs and improve efficiencies in their global storage environment.

Despite the stated importance of IT infrastructure, only 22 percent of companies surveyed have a well-defined enterprise IT infrastructure strategy roadmap.

Complete findings from the overall research study will be made publically available in July 2014.

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**Study Finds Organizations Are Unprepared for Technology Shifts to Cloud, Analytics, Mobile and Social Computing**

*New storage and systems technologies embrace workloads for cloud and Big Data*

**LAS VEGAS, NEV. - 20 May 2014:**  At the IBM Edge2014 conference, IBM (NYSE: IBM) today released preliminary study findings of 750 global organizations revealing less than 10 percent are fully prepared to address the proliferation of cloud computing, analytics, mobile devices and social media.

Addressing this challenge head-on, IBM is unveiling new systems, software and capabilities designed to help organizations create smarter infrastructures that yield faster access to Big Datainsights through the cloud and improved business performance.

*"Big Data is the transformative force driving every element of our clients' computing infrastructure – starting with environments of traditional applications blended with the new requirements of social, mobile and analytic workloads that demand faster access at massive scale,"* said **Tom Rosamilia, Senior Vice President of IBM Systems & Technology Group and IBM Integrated Supply Chain**. *"The continued advances of our portfolio provide clients with a fast and easy way to close the gap between their data, the business decisions they have to make, and the mandate to use information to provide more personalized experiences for their customers."*

The IBM preliminary findings revealed that 70 percent of organizations recognize that IT infrastructure plays a significant role in enabling competitive advantage or generating revenue. To learn more about the IBV "IT Infrastructure Matters" survey, visit here.

**New Storage Advances for Fast Data Access**

Building on last week's Software Defined Storage launch, in which IBM announced new software that enables organizations to access any data from any device and from anywhere in the world, the company today announced new and enhanced capabilities across its storage portfolio. Advances in its Storwize, XIV, tape library and Flash storage products can optimize storage for large-scale cloud deployments through virtualization, real-time compression, easy-tiering and mirroring, and provide clients fast access to information. Available in the second quarter, the new high-performance storage solutions include:

- IBM Storwize V7000 Unified has been enhanced with new clustering capabilities, Real-time Compression, and Active Cloud Engine to help clients manage growing amounts of data. The system now supports two times the storage capacity of previous models, or 4 petabytes;
- IBM XIV Cloud Storage for Service Providers delivers a cost-efficient infrastructure and pay-per-use pricing model for Business Partners that reduces the initial cost of the system by as much as 40 percent. Also, IBM previewed new features such as XIV multi-tenancy, enhanced data security and improved cloud economics through the partition of XIV storage into logical domains assigned to distinct tenants;
- TS4500 Tape Library enables large-scale cloud deployments with a data architecture that maintains high utilization and can back up three times more cloud data in the same footprint;
- IBM DS8870 Flash enclosure offers up to three and one-half times faster flash performance requiring 50 percent less space and 12 percent less energy.

In related storage news, scientists at IBM Research - Zurich, in cooperation with the FUJIFILM Corporation of Japan, announced they have demonstrated 85.9 billion bits per square inch, a new record in areal data density on low-cost linear magnetic particulate tape – a significant update to one of the computer industry's most resilient, reliable and affordable data storage technologies for Big Data. To learn more about the critical technologies developed by IBM Researchers to achieve this record, visit here.

**New IBM Flex System X6 Compute Nodes for Fast, Agile, Resilient Infrastructure**

Clients are seeking greater speed, agility and resiliency for the Big Data, analytics and large-scale virtualization for dynamic cloud environments. To meet these needs, today IBM introduced its new:

- IBM Flex System x880 X6 eight-socket, x480 X6 four-socket, and x280 X6 two-socket compute nodes. Based on IBM's industry-leading X6 architecture for System x and PureSystems solutions, the new nodes include modular blade design that enables seamless scalability without "rip and replace" as analytic workloads increase; nearly 300 percent faster performance [1]; and resiliency features and virtualization tools that can help reduce the cost and complexity of system operation and administration. The Flex System X6 compute nodes planned availability is June 13, 2014 and start at $15,700 (US) or $388 (US) per month for 36 months [2].
- IBM System x3100 M5, a new, compact tower server designed to provide advanced reliability and performance for small to mid-sized businesses and distributed environments. The x3100 M5 is equipped

with the latest Intel Xeon E3-1200v3 processors for increased performance, and four levels of RAID for enhanced data protection [3]. The System x3100 M5 planned availability is June 18, 2014 and starts at $755 (US).

- IBM PureFlex Solution for Parallels – MSP, designed to allow managed service providers to flexibly integrate Web, IaaS, SaaS, and core services for their clients quickly, efficiently and economically on the Parallels Automation software platform. The PureFlex Solution for Parallels – MSP is available today.

**Infrastructure Matters with New Client Solution**

Highlighting that infrastructure matters when data is the currency, IBM announced the following new client solutions:

- Kelsey-Seybold Clinic – Houston's premier multi-specialty group practice and the nation's first accredited Accountable Care Organization, recently turned to IBM to virtualize its infrastructure and simplify desktop management for nurses and clinicians, while speeding their access to increasing patient data volumes. The solution, which includes IBM Flex Systems, high-speed FlashSystems, and SAN Volume Controller software, as well as Atlantis ILIO, Citrix App-V and Epic software, was implemented with the assistance of premier IBM Business Partner Mark III. Since deployment, the clinic has experienced faster server speeds, the elimination of wasted storage capacity and storage cost savings.

IBM Global Financing helps clients acquire IBM solutions with a single financing solution to better manage their cloud and Big Data infrastructure, and accelerate business transformation. Financing programs and offerings help clients better match the benefits of reduced up front payments and faster return on investment within existing budget commitments. Credit-qualified clients may obtain zero percent loans or Fair Market Value leasing and loans with customized payment plans. IBM Global Asset Recovery Services provides buyback and disposal services for removal of older IT equipment. More information about IBM Global Financing is available here.

**About IBM**

For more about IBM Storage and Systems, visit: http://www-03.ibm.com/systems/x/ or http://www-03.ibm.com/systems/storage/. For live updates throughout the IBM Edge2014 Conference, follow us on Twitter:

- IBM Edge: https://twitter.com/IBMEdge
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- IBM PureSystems: https://twitter.com/IBMPureSystems
- IBM System x: https://twitter.com/ibmsysxblade

IBM Research: https://twitter.com/IBMResearch

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[1] 300-percent performance improvement is based on average of projected results of SPECint*_rate_base2006 and SPECfp*_rate_base2006, plus projected performance gains from eXFlash DIMM storage. SPEC benchmark results will be available after 4/8/14. Configurations: 8-socket x880 X6 server using Intel Xeon processor E7-

4890 v2 vs. 4-socket server using the previous top-of-the-line E7-4870 (v1).

[2] Per month rate based on 36 month fair market value lease from IBM Global Financing in the U.S. for well qualified lessee.  IBM Global Financing offerings are provided through IBM Credit LLC in the United States, IBM Canada Ltd. in Canada, and other IBM subsidiaries and divisions worldwide to qualified commercial and government clients. Rates and availability are based on a client's credit rating, financing terms, offering type, equipment type and options, and may vary by country. Some offerings are not available in certain countries. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice.

[3] Performance improvements based on comparison to previous generation of IBM System x3100 M4 server.

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**IBM Research Sets New Record for Storing Massive Amounts of Big Data**

*Important tape storage milestone storing, protecting and accessing increasing volumes of Big Data*

**LAS VEGAS - 20 May 2014:** Today, (NYSE: IBM) researchers announced they have demonstrated a new record of 85.9 billion bits of data per square inch in areal data density on low-cost linear magnetic particulate tape — a significant update to one of the computer industry's most resilient, reliable and affordable data storage technologies for Big Data.

At this areal density, a standard LTO size cartridge could store up to 154 trillion bytes (154 terabytes) of uncompressed data* — a 62 fold improvement over an LTO6 cartridge, the latest industry-standard magnetic tape product**. To put this into perspective, 154 terabytes of data is sufficient to store the text from 154 million books, which would fill a book shelf stretching from Las Vegas to Seattle, Washington.

This new record was achieved using a new advanced prototype tape, developed by FUJIFILM Corporation of Japan. This is the third time in less than 10 years that IBM scientists in collaboration with FUJIFILM have achieved such an accomplishment. The news is being unveiled this week at the IBM Edge conference in front of more than 5,500 attendees.

IBM scientists break Big Data into four dimensions: volume, variety, velocity and veracity and by 2020 these so-called Four V's of Big Data will be responsible for 40 zettabytes (40 trillion gigabytes) of data. Much of this data is archival, such as video archives, back-up files, replicas for disaster recovery, and retention of information required for regulatory compliance. Because tape systems are energy efficient and more cost-effective than hard disks they are the ideal technology to store, protect and access archival Big Data.

For example, the Large Hadron Collider (LHC) is the world's largest and most powerful particle accelerator. By the end of the LHC first three-year running period, more than 100 petabytes of physics data had been stored in the CERN mass-storage systems. Most of this data is archived on more than 52,000 tape cartridges of different

types, providing scientists with permanent access to data, which could someday answer fundamental questions about the universe.

*"Big data has met its match with tape, not only does the technology provide high capacity in a small form factor, it is also reliable for several decades, requires zero power when not in use, is secure in that cartridges cannot be erased at the push of the keystroke and available for the cloud — all at a cost of less than 2 cents per gigabyte and at a greatly reduced operating expense versus disk storage,"* said **Evangelos Eleftheriou, IBM Fellow**.

To achieve 85.9 billion bits per square inch, IBM researchers have developed several new critical technologies, including:

- a new enhanced write field head technology that enables the use of much finer barium ferrite (BaFe) particles
- advanced servo control technologies that achieve head positioning with nano-scale fidelity and enable a 27 fold increase in track density compared to the LTO6 format
- innovative signal-processing algorithms for the data channel that enable reliable operation with a ultra-narrow 90nm wide giant magnetoresistive (GMR) reader.

Since 2002, IBM has been working closely with FUJIFILM particularly on the optimization of its dual-coat magnetic tape based on BaFe particles. In this time IBM scientists in Zurich have dramatically improved the precision of controlling the position of the read-write heads, leading to a dramatic increase in the number of tracks that can be squeezed onto the half-inch-wide tape. In addition, they have developed new advanced detection methods to improve the accuracy of reading the tiny magnetic bits, thereby achieving an increase in the linear recording density of more than 56 percent while enabling the use of a reader that is only 90nm in width.

IBM scientists envision scaling magnetic tape to even higher areal densities in the future and will continue to explore novel media technologies. Earlier this month at the 2014 Intermag conference IBM scientists in Almaden, California, have shown that there is potential to continue scaling tape areal densities beyond 85.9 billion bits per square inch. The scientists studied the magnetic properties of a small sample of sputtered media using two specialized test apparatuses. This is an important breakthrough under highly controlled laboratory conditions that may point the way to continue scaling magnetic recording by means of sputtered media once the potential of low-cost particulate media has been exhausted, but much more research will be required.

IBM has a long history of innovation in magnetic-tape data storage. Its first commercial tape product, the 726 Magnetic Tape Unit, was announced more than 60 years ago. It used reels of half-inch-wide tape that each had a capacity of about 2 megabytes. The areal density demonstration announced today represents a potential increase in capacity of 77,000,000 times compared with IBM's first tape drive product. This announcement reaffirms IBM's continued commitment and leadership in magnetic tape technology. For more on the history of IBM and magnetic tape storage visit http://www.ibm.com/ibm/history/ibm100/us/en/icons/tapestorage/

For more information about IBM Research visit www.research.ibm.com

**Technical details for Tape Record**

IBM's world-record achievement leverages breakthrough improvements in 4 areas of the magnetic tape system:

1. New high-density particulate NANOCUBIC™ BaFe magnetic tape: The enhanced NANOCUBIC™ technology decreases BaFe magnetic particle volume, which is essential for high-density data recording, while maintaining its thermal stability to ensure long term archivability of recorded data. Developed by FUJIFILM Corporation in Japan in close collaboration with IBM Research scientists, this enhanced next-generation NANOCUBIC™ tape incorporating NANO coating and dispersion technology and ultra fine, perpendicularly-oriented BaFe particles enables high-density data recording without using expensive metal sputtering or evaporation coating methods.

2. Enhanced write field head technology: In collaboration with colleagues in the IBM San Jose Tape Head Development group, the IBM Research - Zurich team developed a new write head technology that produces significantly stronger magnetic fields.  This new head technology enables the use of smaller volume magnetic particles with increased coercivity that ensures the long term archival stability of data stored on a tape.

3. Advanced servo control technologies for head positioning with nano-scale fidelity: to enable aggressive track density scaling, the IBM team made several advances in the area of track follow performance leading to a more than 27-fold increase in the number of data tracks compared to the LTO6 format:  1) a new prototype low noise tape transport system; 2) an experimental servo pattern which in combination with 3) an improved method for detecting the position information encoded in the servo pattern enables the generation of position measurements with nano-scale resolution, and 4) an advanced H-infinity based track follow controller. Combining all of these technologies, the team demonstrated a track-follow performance with a standard deviation of only 10.3 nanometers from the target track position. These technologies in combination with a 90nm wide GMR read head enable the use of a track width of 177nm.

4. Innovative signal-processing algorithms for the data channel: A new data channel that combines an advanced timing recovery scheme with a data-dependent noise-predictive, maximum-likelihood (DD-NPML) detection scheme and a new iterative decoding scheme which together enable the reliable retrieval of data recorded on the new BaFe media at a linear density of 600,000 bits per inch with a 90nm wide GMR read head. This combination of technologies ensures the same user bit error rate performance as is achieved with the latest IBM enterprise tape drive despite the dramatic reduction in reader width and increase in linear density.

Additional technical details of the demonstration will be presented at the TMRC conference (August 11-13, 2014) in Berkeley, California.

* Assuming the same format overheads as the LTO6 cartridge format and taking into account the 48% increase in tape length enabled by the thinner Aramid tape substrate used for the demo

**An LTO version 6 cartridge, released in 2012, can hold 2.5 TB in a 4.02 in L x 4.15 in W x 0.85 in D (102.0 mm x 105.4 mm x 21.5 mm) form factor