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THE STORAGE STORY

EARLIER CONFINED TO THE HIDDEN CLOSETS OF ENTERPRISE COMPUTING, STORAGE IS GETTING MORE ATTENTION AND ACTION

In our increasingly connected and 'computed' lives, storage is like money: there is hardly ever enough of it. In fact, when it comes to data storage, the term stupendous growth can be applied without sounding stupid or hyperbolic.

According to IDC's sixth annual study of all the data generated worldwide, titled Digital Universe, there will be a fifty-fold growth from the beginning of 2010 to end-2020. And if you think such projections are over-hyped (as many indeed are), the research firm, which had forecast in 2007 the digital universe in 2010 to be 988 exabytes, later had to revise it *upward* to 1227 exabytes.

The study predicts that the digital universe in 2020 will comprise 40,000 exabytes—over 5200 GB for every human. Considering that people are already buying terabytes of disks for storing their own, personal digital universes, the prediction doesn't seem unlikely.

What is difficult to say, however, is whether enterprises, through whose networks much of this data will flow, will be able to prepare themselves well for a bloated world.

First and foremost, all this structured and unstructured data must be stored. Enterprises everywhere are saddled with a growing number of boxes and libraries. From old servers and desktops to tape libraries, from disk arrays and pen drives to SAN boxes, the data sprawl in all its Vs—volume, variety, velocity and value—is giving IT professionals migraines amid the multiple migrations.

And then, there are retrieval, archival and management issues. It is a perfect time to dust up the good old concept of information lifecycle management and show it some sunlight.

Significantly, the whole environment and the tools and techniques of storage management are in a state of evolution. Like in other areas of IT, here, too, certain game-changing technologies are emerging. For instance, as per the IDC study, nearly 40% of the information will be touched by cloud computing providers by 2020.

Another impact will be felt by the growing influence of consumers and how they interact with the brands they use (and abuse). What would have been irrelevant to store or think about only five years ago may now seem of great value. What could have been thrown away after a few months must be retained for several years due to regulatory compliance. What was stored on legacy hard disks may need to be moved to the nimbler flash-based drives. And so on.

There is no doubt storage is coming out of the hidden closets of enterprise IT function into the more action-packed arena, where it must get closer to applications than ever before.

Big data is already talk of the town, but wait until the Internet of things comes into full bloom. Watch *this* space.

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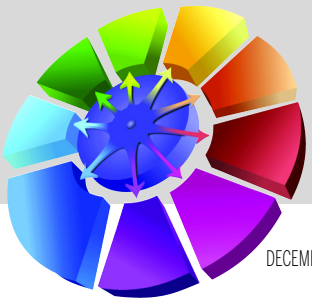

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Corrigendum

In the November 1-15, 2013 issue of *Express Computer*, the CIO of Luminous, Chander Khanduja's picture in the case study was incorrect. The inadvertant error is regretted.

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THE STORAGE EVOLUTION

The way enterprises approach storage and backup solutions is undergoing a transformation, with unified solutions, deduplication, flash drives and cloud computing set to make a big impact

BY HEENA JHINGAN

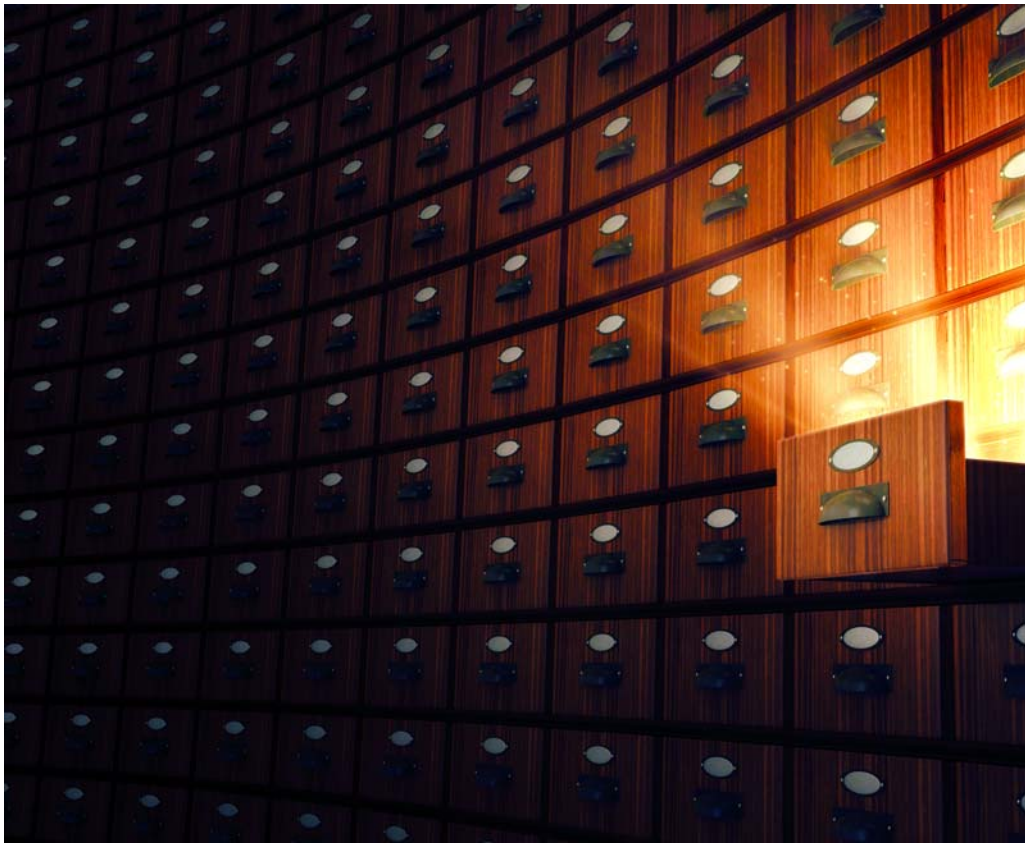
If a server breaks down, it means a short period of downtime, but when storage goes down, a CIO dreads the worst and fears losing the data assets. This is precisely why the rapid data proliferation has been giving IT heads everywhere the heebie-jeebies when it comes to storing and managing structured as well as unstructured data.

Massive explosion of unstructured data ,coupled with emergence of open hybrid cloud deployments is keeping the CIOs on toes. While virtualization is driving down server costs, making their business more nimble by making it easy to add new applications, it conversely is the reason behind the ensuing data tsunami. The simplicity of adding more applications has helped enterprises deploy applications that generate higher volumes of data. These high volumes are in turn driving up an enterprise's storage costs and the complexity of its infrastructure.

Data is being churned out and consumed by humans, social media and machines at an unprecedented pace. Industry reports expect data to grow at about 30-50% year-on-year. According to a survey conducted by Microsoft across global enterprises, about 62% of the respondents store at least 100TB of data, and nearly a third of the respondents expect the amount of data they store to double in the next two to three years.

IDC forecasts over 102 exabytes (EB) of external and over 36EB of internal storage system capacity will be shipped in 2017 and most of this growth will be driven by APAC and other emerging markets.

The Indian CIOs have had their share of storage related dilemmas. And they haven't yet been able to completely solve the big mystery around what to store and for how long. Enterprise storage has evolved from tape to traditional hard disk drives (HDD), to more sophisticated forms like solid state drives (SSD) and flash storage. While both vendors and IT heads seek solutions to storage strategy, industry experts suggest an easy approach to the storage puzzle can be four –fold based on volume, velocity, variety of data and value from data that CIOs plan to get.



Enterprises will need to focus not only on the primary, but on the secondary data as well that is generated through duplication and backups. With this, the total cost of ownership (TCO) for storage will go through a major change as operational costs will come down and capital costs begin to creep up. More so, as Barun Lala, Director-Storage, HP India puts it, of the total storage market, about 10% is NAS and the balance is other storage and backup.

Amit Luthra, National Manager for Storage Solution Marketing, Dell says, in India, most enterprises are second or third time storage buyers. In that sense, they are quite mature and have a clarity on their requirements.

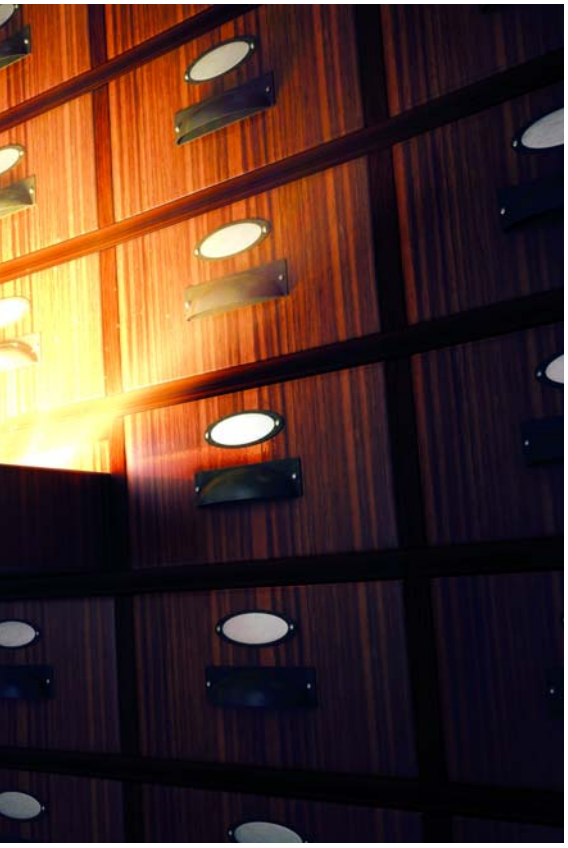
He says, "Earlier, backup was meant only for procedural layers and did not cover test and development layers. However, enterprises have realized the importance of backup right from the first level and that calls for storage capex."

In all, experts believe that some broad trends will rewrite the fate of the enterprise storage market in India. Let us look at them.

Breaking the IT silos

A concept that is not unique to Indian enterprises is the fact that most enterprises have heterogeneous storage environments. The applications run in silos with different applications like ERP, CRM etc., running on separate storage boxes. While some CIOs argue that these silos are critical for application performance, industry veterans believe such disparate systems instead make the environment more complex.

Vijayant Rai, Director- Sales, India & SAARC, Data Management, CA Technologies agrees. He says it is not just about complexity. "A siloed approach instead comes out to be a more expensive option as this means huge requirement of hardware, which needs capex. The



enterprises also end up paying more on maintenance for each of these vendors. It also calls for investments in space and skill to manage these systems."

A unified approach to procuring, provisioning, and managing enterprise data, is thus the logical way forward for the enterprises. Breaking the silos of block, file, and data, also means a shift in the way NAS (file-level computer data storage connected to a computer network providing data access to a heterogeneous group of clients), SAN (a dedicated network that provides access to consolidated, block level data storage) were looked at.

Solutions agnostic to the type of data, such as files, objects, blocks, and semi-structured or unstructured data are increasingly getting picked up, thanks to virtualization and consolidation. Rai believes that, by implementing unified solutions, organizations will start to realize the benefits, both in the form of

INFOSYS OPTIMIZES STORAGE USING HITACHI PLATFORM

With about 900 physical and virtual servers, and over half a petabyte of storage, IT services giant Infosys had to ensure that applications designed for both Microsoft Windows and Linux were always up and running.

The Enterprise Platform Management team at Infosys, responsible for end-to-end management of platforms to host custom-built applications as well as packaged solutions was looking at solutions that would help them scale.

Apart from the primary criteria of scalability and reliability, Infosys had other requirements for the upgraded system. The storage system had to have the ability to support a high volume of leading-edge product implementations.

Data preservation and disaster recovery to protect its massive amounts of mission-critical data also figured very high on the company's list of requirements. Infosys was also concerned about minimizing its capital expenditure and downtime costs in this large-scale data migration project.

Jitendra Sangharajka, Associate Vice President & Head, Enterprise Platform Management, Information Systems, Infosys says, "For this we incorporated Hitachi storage products in the new infrastructure, ranging from mid-range products to enterprise-class storage such as Hitachi NAS Platform (HNAS) 3200 to Hitachi Content Platform (HCP) 500. Other Hitachi software products that were a part of the solution suite enabled optimal resource planning and data management, delivering further efficiencies in resource utilization for Infosys. Storage virtualization allows us to quickly migrate high-volume data tied to month-end and quarter-end loads, an activity that traditionally placed heavy demands on storage systems."

Hitachi's NAS platform allows Infosys to consolidate its file-serving environments from multiple Microsoft Windows file servers. With tremendous growth in the shared file data stored within applications, Infosys recognized the need to have a scalable, high-performance, file-serving solution that would eliminate the risk of data loss.

SAVINGS ALL THE WAY

- **Storage:** Virtualization allows Infosys to save clear copies of storage, resulting in savings of up to 70%.
- **Utilization:** Dynamic provisioning yielded 30% savings on deployment with 20% savings expected on a recurring basis.
- **Energy:** Power and cooling costs decreased by 52%.
- **Data Center:** Costs tied to data center operations decreased by 32%

The HCP 500 helps Infosys bolster its ongoing effort to archive data, reduce backup overhead and preserve important documents. Implementing HCP 500 enables the company to reduce the cost of storage, as the older files are automatically moved from higher performance HNAS storage to the less expensive HCP storage tier.

Data moved to HCP also does not need to be backed up on the primary site, as it is replicated at a remote site in a tamper proof manner and within a reduced backup window.

Sangharajka says, "The solution has helped us consolidate our file serving environment with zero data loss across the data center, and its integration with HCP has allowed us to reduce the backup window." He adds, "The recent enterprise-class storage migration has given us 30% [cost] savings on deployment using Hitachi Dynamic Provisioning, with 20% savings expected on a recurring basis."

Infosys also sought to leverage Hitachi replication software, including Hitachi TrueCopy Synchronous and Hitachi Universal Replicator, to provide the preservation and disaster recovery features needed to protect its large volume of mission-critical data. A storage area network (SAN) that was installed provided booting support while delivering fast and highly predictable upgrades.

> Constantly evolving compliance regulations are forcing tighter recovery SLAs and requirements for more comprehensive DR solutions

Tarun Kaura,
Director - Technology Sales, India & SAARC, Symantec

> CIOs are demanding hybrid environments where data exchange on premises and the cloud happens seamlessly

Santhosh D'Souza,
Director - Systems Engineering, NetApp

reduced expenses and increased service levels to their end users.

Talking about running applications on disparate systems, Surajit Sen, Country Manager-Backup Recovery Systems (BRS) division, EMC India points out that all applications vendors now offer their own backup. For example, in a set up, Oracle DBA (database administrator) allows its own backup. Similarly, VMware VDR runs its own backup, and since all of them do their own back up, disk storage becomes high. "An emerging trend that we see in this situation is these vendors using backup as a service, in-house. So, the solution providers basically need to do the software layer and analytics and plug into the enterprise's storage system, be it at its data center or in private/public cloud," he says.

"Enterprises who are already stuck with silo storage structures have two choices — they can either virtualize and consolidate on a unified storage platform, by which they can continue to use the capacity from different vendors, but manage it through a single console; or they can use technologies like our Open Systems SnapVault that offer data protection and backup to open and mixed storage platforms," explains Santhosh D'Souza, Director- Systems Engineer, NetApp.

Dedupe, the smarter way

Over the past few years, enterprises have tried to tame the data deluge with strategies like thin provisioning, tiered approach and deduplication technologies.

Sen of EMC sums up the enterprise storage metamorphosis saying that traditionally tapes were used to store data, but they were not a reliable form of storage media, so when disks arrived, they were definitely more reliable but were also expensive. Deduplication has been around for a while now and is more mature. However, mere deduplication too could not solve the bigger concern of shrinking the backup window, which is almost non-existent now. Back-up now needs to be done in real time.

Tarun Kaura, Director - Technology Sales - India & SAARC, Symantec feels, data growth has obliterated the backup window. "Thousands of virtual applications create a scheduling nightmare. Enterprises are trying to figure out how to backup and recover millions of files in backup windows that no longer exist," he says.

According to Srinivas Rao, Director - Pre-Sales and Solutions, India, Hitachi Data Systems, about 70 to 80% of enterprise data is static in nature, which

keeps getting backed up in the data center like a toxic waste. Organizations direct about 40-60% of the storage spend on backup to protect data either on-site or off-site. He says, "Today, there are tools available that help differentiate between static and mobile data, and accordingly understand the kind of archival or object storage strategies the enterprises need to develop." He further adds that an effective deduplication plan can help enterprise reduce storage cost by 60%.

To help enterprises overcome backup hassles, vendors repackaged deduplication in a smarter avatar. In general, enterprises used to implement deduplication only on secondary storage, stored preferably on disk for better Recovery Point Objective (the maximum tolerable period in which data might be lost and Recovery Time Objective (the duration of time and a service level within which a business process must be restored after a disaster or disruption), he says.

Enterprises have now started moving to technologies that deduplicate at the source rather than at the target. Further, the target deduplication market is set to be disrupted and replaced by integrated backup appliances that combine source and target deduplication, backup software, replication, snapshots, security, and cloud integration in a single appliance.

Make way for flash

Until recently, traditional hard disk drives (HDDs) were the most preferred storage media, however, new technologies and applications that require much faster input/output operations per second have paved a natural way for flash storage and solid state drives. SSDs are designed to handle such faster speed of data traffic. IDC reports indicate that global SSD shipments are set to reach nearly 160 million units in 2015, from 22 million units at present.

Sen says that since flash technology offers greater input/output performance than the magnetic media, customers that have input/output intensive applications, even though data may not be huge can simply use flash rather than following a tiered approach.

Despite the fact that SSDs offer better performance and consume lesser power, price is still a deterrent for its growth. According to storagereview.com, cost per gigabyte on HDD is only around $0.075 (based on buying a 4TB model), while for SSD it is about $1.00/GB (on 240GB model). Even though the price of SSDs has been falling, the price per gigabyte advantage is still works in favor of HDDs.

Rao adds that CIOs isolated applications in silos due to performance scalability required by certain applications, but with flash, they don't have to do that.

> A siloed approach comes out to be a more expensive option as this means huge requirement of hardware, which needs capex

Vijayant Rai,
Director - Sales, India & SAARC, Data Management, CA Technologies

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Srinivas Rao,
Director - Pre-Sales and Solutions, India, Hitachi Data Systems

Tape - not dead yet

So, does that mean tape is heading to obsolescence? Not really. Going by the Enterprise Strategy Group Report, the capacity of archived electronic information worldwide is expected to grow to 300,000 petabytes by 2015, mostly due to the an increase in unstructured archive data. As a result, tape, in addition to external disks, will continue to be the preferred storage media for archival purposes. At present, tape commands a 38% share of the overall digital archive volumes.

For an enterprise, Rai of CA Technologies says; business continuity, app availability and regulatory compliance are compelling factors for investing in data backup and archival solutions, especially for verticals like BFSI and telecom. Most CIOs are therefore now insisting on incorporating archival and data recovery as a part of backup delivery and implementation.

Kaura shares a similar opinion that constantly evolving compliance regulations are forcing tighter recovery SLAs and requirements for more comprehensive disaster recovery solutions.

Open and software defined

Unlike in the past, storage industry is no more just a hardware driven market. Software and application play is getting equally important.

Vendors like Oracle are trying to innovate by engineering application and hardware together. Amit Malhotra, Senior Director - Storage Sales, Japan & APAC, Oracle, points out, "Horizontal designs of data centers are gradually being phased out. IT managers realize that general purpose storage cannot deliver high levels of performance for each application and it is better to have application engineered hardware to get optimized performance. It will save the cost that enterprises spend on tuning the storage to a particular application. Since these solution are OpenStack, there aren't any integrations issues."

A greater push is towards vendors decoupling their monolithic proprietary hardware and software layer. Lala of HP stresses that the industry is headed towards rapid commoditization and standardization at the hardware level combined with increased intelligence at the software layer. This makes all the more sense for the enterprises embracing virtualization, where the software forms the orchestration layer. "Software stacks help manage heterogeneous environments without compromising on scalability and flexibility," he reasons.

Interestingly, a slow yet steady, trend in the making is the software being written outside the walls of vendor. Vendors like Riverbed expect enterprises to gravitate toward the open source approach to solving storage challenges.

D'Souza agrees that CIOs are demanding hybrid environments where data exchange on premise and the cloud happens seamlessly. "In such cases, all

the APIs become a part of the set up and they see less lock-in. We too are working with the open standards community to help enterprises manage open hybrid cloud environments."

Storage or cloud administrators

It is now a given fact that corporate data now may reside in service provider data centers, and not on premise. The role of a typical storage administrator is evolving from managing the storage bit of the organization's IT infrastructure. While the private cloud allows the administrators some control, the public cloud mandates that the storage is deployed outside an enterprise's premise and it may offer no or restricted control. Experts believe in future, storage administrators will have to be prepared for scenarios where storage is without boundaries.

"Developing that skill set in an organization is a challenge, but the software platforms have made things look a bit simpler," Lala says, adding that new architectures require the administrators to be more equipped to manage other aspects of the infrastructure, including virtualization, networking, and business continuity planning as well.

Data security being a priority for any CIO, encryption of data is another trend gaining acceptance. Vendor-level encryption alone is not enough now and IT heads find it better to locally encrypt data prior to transferring it to the cloud. Topping it up with the service provider's encryption works as second level of security.

Backup forms a key component of enterprise storage. Luthra of Dell says, the fact is that when CIOs think storage, they don't think of backup alone. Enterprises look at backup for data protection, business continuity and compliance. Nevertheless, it will always be a tightrope walk for IT managers to keep storage small and low-cost — yet highly available — while data continues to bloat. A formula that will work in most cases is to have a clear mission while designing the storage plan, have blended strategies and most importantly, assign rupee value to data.

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YASH RAJ FILMS GOES WITH DELL FOR STORAGE

Yash Raj Films Pvt. Ltd., on an average, produces five to eight films per year. Till some time ago, the company's growing archive of films was being stored on a variety of devices, including tape drives and HDDs.

With the digitization of content giving the company greater flexibility to expand the distribution of their films and film footage over multiple media platforms, the company needed a solution to archive their catalog.

Dilip Patil, Senior Manager – Digital & Systems, Yash Raj Films, explains, "With the increasing number of digital platforms available through the internet and mobile technology and the growing global interest in the Indian film industry, our films are being distributed and watched more than ever before. To meet this demand, we needed a single solution capable of archiving our expanding film catalog for future audiences."

YRF considered solutions from HP, IBM and Dell. The studio wanted a dedicated storage solution that would ensure archived films remained highly available, and delivered reliable data protection.

"If we lose footage due to hard drive failure or disk corruption, then the entire film project could be lost. This would be an enormous cost to the company and detrimentally impact on our distributors and audience. We needed to guarantee to our studio that all film and film assets are protected," says Patil.

BENEFITS

- Provides protection for the entire film catalog
- Snapshot feature saves time through restoring specific film footage
- Open standards work seamlessly with film industry solutions
- Scales to meet the studio's growing catalog

When the final film is stored on high-resolution files, all the digital assets of a film can require up to 10-15 terabytes of hard disk space. The studio reviewed the Dell EqualLogic PS6500E virtualized iSCSI storage array with SATA disk drives, for archiving their film catalog and they concluded it was a perfect fit for their needs.

The simplified administration of the storage solution made it easy for any member of the IT team to manage it. Ease of management has reduced time spent on archiving from days to hours and has enabled the team to focus on new projects.

Besides, the Dell solution is based on open standards; YRF can integrate the storage array with industry software to add metadata tags to their digital assets to make their film catalog easily searchable in response to specific industry requests.

Patil comments, "We now have the ability to integrate the digital asset management software with our Dell EqualLogic storage solution, and this interoperability isn't available on other solution. Using our storage array, we can automate the tagging process and eliminate what was a time-consuming manual task. The open standards support our company's efforts to provide the customers an easy access to the content."

SECURING THE ONLINE WORLD

With a slew of regulatory pressures and ever evolving threats, the technology heads of e-commerce companies are busy upping their security game

BY MEHAK CHAWLA

Have you ever been wary of paying online? Or of sharing your personal details on an online forum? Most online shoppers in India will answer the above in the affirmative. Though part of this online shyness is based on unfounded skepticism, some things about the e-commerce industry in India do give us reasons to worry about security. According to Trend Micro's Q2 2013 Security Roundup Report, online banking malware saw a 29% increase from the previous quarter — with infections jumping from 113,000 to 146,000.

More online banking threats were seen in different countries this quarter, specifically in Brazil, South Korea, India and Japan. "Cyber criminals also came up with more diverse attacks that used various social engineering lures, single sign-on (SSO) and multi-protocol services, and blogging platforms for their malicious schemes," states the report.

The report also points towards an interesting trend — the shift of attacks from traditional PC to mobile platforms. The "Fakebank" malware spotted this quarter spoofs legitimate apps. It contains specific Android application package files (APKs), which it copies to a device's Secure Digital (SD) card. Using the APK files, the malware displays icons and a user interface that imitates legitimate banking apps. This technique is reminiscent of PC banking trojans that monitor users' browsing behaviors and spoof banking sites, explains the report.

This report, like several in the past year, asserts a familiar point — that online banking threats are no longer concentrated in certain regions like Europe and the Americas. The reasons are more than clear. The buzzing e-commerce space in developing countries, where security mechanisms are not as evolved, makes them ripe ground for cyber criminals. India, with its e-commerce boon and mobile penetration, displays a huge potential for online banking, and in turn, for all the threats that surround the online world.

Express Computer talks to top e-commerce players and security experts in India to perceive their take on online security and to determine just how safe is

> As e-commerce expands its reach, the focus of attacks is likely to shift from hacking to stealing consumer information.

Surendra Singh,
Regional Director,
India & SAARC, Websense

> One area where e-commerce firms end up building their own security tools is the application level security.

Amitabh Mishra,
VP, Engineering, Snapdeal.com

your financial and personal data when you pay for that swanky watch online.

Surrounded by threats

Being online and available 24x7 comes with a huge set of advantages. But it also comes with immense vulnerabilities, as criminals wait for an unguarded moment to enter your systems. Also, the threats in the online space often evolve faster than technology implementations of online firms. And while technologies around network security are abound, experts feel that we need to do much more for application level and embedded security mechanisms.

Mrinal Chatterjee, Vice President, Engineering, Shopclues.com, is of the view that security is still not a top of the mind concern for e-commerce entrepreneurs in India. "Tech platforms of e-commerce companies are often (lagging) behind the threats because security is inculcated as an afterthought. Security has to be a part of the engine design."

The e-commerce industry in India is gradually realizing that security is not just about securing the network by putting firewalls. It is also about defining access, application level scrutiny and internal monitoring. Today, most e-commerce CTOs are worried only about whether their site will get hacked. That is why there is an increasing focus on application level security, network audits and Domain Name Systems (DNS). On the other hand, aspects like data storage, safeguarding of corporate data and access are not being paid as much attention.

As far as the threat perception for online commerce goes, Ashish Thapar, Head - Global Consulting & Integration Services, India, Verizon Enterprise Solutions, says that the landscape for application layer attacks is very aggressive. So e-commerce companies need to protect themselves from the likes of Denial of Service (DDoS) attacks, SQL injections and Advanced Persistent Threats (APTs). Amod Malviya, Senior Vice President and Head of Engineering at Flipkart.com, corroborates, "The risk is continuously on the rise. We end up seeing some attack in the form of a DDoS or a SQL injection etc. every other week. There are also concerns about organized cyber crime. The attacks are shifting from the network side to application side." The security infrastructure of e-commerce companies thus needs to scale rapidly in order to fend off these attempts. According to Surendra Singh, Regional Director, India & SAARC, Websense, as e-commerce expands its reach, the focus of attacks is likely to shift from hacking to stealing consumer information.

Nitin Gupta, Co-founder and CEO, PayU India believes that when it comes to security, e-commerce companies face two kinds of problems — the first is that they have to integrate with payment gateways. In some cases, where proper technology is not applied, it is fairly easy to hack into the system somewhere in the middle of the process. The second big issue can be cases where the 3D password gets compromised. Also there is no 3D secure password for international transactions, since it is a regulation only for India.

The security blanket of an e-commerce firm is therefore influenced by a variety of factors like regulation, liability, accountability, and technology infrastructure.

Hybrid approach

When it comes to technology solutions for security, e-commerce firms are following a hybrid approach. They are using off the shelf solutions for intrinsic security threats and devising their own systems for things like fraud management, as that often requires identification of business logic loopholes. E-retailers are also using technologies like Data Loss Prevention (DLP) and packet scrubbing (a process where all incoming traffic is redirected to a DDoS scrubber and filtered). Security Information and Event Management (SIEM) are also popular with online players. A limitation with online trading, according to Thapar, is that e-commerce firms can't see threats that are beyond their own networks. That is one of the reasons why Web Application Firewalls (WAF) are gaining popularity.

"Most companies invest in perimeter

and network defense because they believe database and application data are inherently safe as they lie deep within the firewall of the company," explains Thapar. This is a dangerous assumption. According to a 2012 Verizon report, servers were the largest category of compromised assets (64%) and database servers were the source of 94% of compromised records involved in security breaches. Network infrastructure, by comparison, accounted for less than 1% of compromised assets. Keeping all these aspects in mind, it is imperative for merchants to invest in in-house risk and fraud management tools.

Sanket Atal, Chief Technology Officer, Makemytrip.com, advocates the hybrid approach for security. "We have in-built parameters like analytical engines that analyze several patterns and details to detect fraud. We also do device fingerprinting. Virtualization and personalization are other things we do in

Today, most e-commerce CTOs are worried only about whether their site will get hacked. That is why there is an increasing focus on application level security, network audits and domain name systems

the security space. There is also quite some industry collaboration happening now in this space for things like sharing black-listed card numbers—there is great group intelligence and we are integrated with several such channels." Makemytrip's security platform encompasses various layers like DDoS, DNS, Firewalls, UTM, Intrusion Prevention, WAF, SIEM system and offline malware gateway checks. Some of these components are open source, some SaaS and some are built in-house.

The opinions on 'in-house vs. off the shelf solutions' debate often vary. Chatterjee of Shopclues believes that e-commerce firms should build their own analytical apps and keep security paramount. "We have created common modules for several threats like SQL and these get integrated with every feature we launch. We have a monitoring system to look for abnormalities in patterns which includes monitoring employee access. We have a guest network for

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>
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> Co-Founder, Jabong.com

> The risk is continuously on the rise. We end up seeing some attack in the form of a DDoS or an SQL injection every other week.
>
> **Amod Malviya,**
> Senior Vice President and Head of Engineering, Flipkart.com

visitors which is outside of our corporate network. We also have protocols for people handling sensitive data."

However, security implementations for online firms often prove to be a complex affair as most of these sites end up building their own platform from ground up and need a security solution that can be molded as per their needs. Amitabh Mishra, VP, Engineering, Snapdeal.com explains that, "One area where e-commerce firms end up building their own security tools is the application level security. Since most of our apps are built in-house, it is not possible for vendors to provide security without knowing the app. We have an in-house fraud and risk management system. We have to write our own custom codes for things like security scan and then implement them." Other e-commerce firms too have been investing in algorithmically managing risk. "We attribute scores and have a comprehensive fraud detection system," says Malviya of Flipkart.

Mukul Bafana, Co-Founder, Jabong.com also believes that for any e-commerce firm, security has to follow a mix and match approach. "We mostly use in-house systems for application level security but go for over the shelf options when it comes to the back-end infrastructure. We built our online shop from ground up so we had to build a security stack that evolved with the platform. We also tie up with our technology partners for security at the content delivery network end."

Compliance scenario

Quite a significant part of the security infrastructure of e-commerce firms is governed by the regulatory landscape. From a regulatory standpoint, there are three key factors impacting security for online vendors.

There is PCI-DSS, which is a contractual obligation that many e-commerce firms are doing through third parties. The second is the RBI mandates for banks. Finally there is the IT Act, which in Section 43 and 43(A) talks about compensation for failure to protect data online — this penalty can go up to Rs. 5 crore. Section 66 also talks about computer related offenses.

The online industry is unanimous on the opinion that the regulations in India are significantly stringent when

compared to other countries. For instance, the second factor authentication, which is mandatory in India, is hardly followed by any other country. But is over- regulation doing more bad than good? Experts are still divided in their opinions on this subject. Says Gupta, "Our stringent regulation has ensured that fraud is very less. However, it is also preventing merchants from being proactive and investing in security solutions."

The other opinion floating in the industry is that regulations are negatively impacting the consumer experience and thus hindering online businesses. According to Atal, "The regulations formed by the Indian government are some of the most stringent in the world. One thing that is happening across the industry, is the desire to make security seamless so that it does not impact user experience. Regulations are great but often make things cumbersome." He however notes that the regulatory bodies are trying to collaborate with the industry, which is a positive step. "Since it is still a young industry, it is all about tech innovation to achieve a balance between security vs ease of use," he observes.

Chatterjee of Shopclues is of the opinion that regulations in India often prove to be anti-business. "There is no second level authentication in most countries. India needs to clearly define its liability framework and penalties need to be imposed. Regulation definitely needs to be relooked at," he says.

A key factor in this aspect is that since there is hardly any evolution on consumer protection in India, we need more conservative compliance. Opines Mishra of Snapdeal, "The limitation here is that the government does not let companies define their own liability. The regulation here is a diktat and not a discussion. Companies are ready to take liability but there is lack of engagement with the governing bodies."

When it comes to best practices like PCI-DSS, the players do end up following them because the industry played a significant role in defining them. The regulation debate therefore centers around the 2nd factor authentication.

> Tech platforms of e-commerce companies are often behind the threats because security is inculcated as an afterthought.

Mrinal Chatterjee,
Vice President, Engineering,
Shopclues.com

> One thing that is happening across the industry is the desire to make security seamless so that it does not impact user experience.

Sanket Atal,
Chief Technology Officer,
Makemytrip.com

While Malviya of Flipkart feels that the regulatory framework is in some ways intrusive for businesses and makes it complex, in the end it is good because it serves its purpose — it curbs frauds. "What we really need is to develop other mechanisms to validate 2nd factor authentication. The industry needs some flexibility with compliance." He gives another example of a regulation where the government, through their encryption standards, mandates a maximum size of the encryption key that can be used. Malviya says that defining this maximum level exposes e-commerce companies to security risks. "As the NSA story revealed, some of these standards are deliberately lowered so that these agencies can monitor. That is a completely wrong approach to security compliance," he asserts.

Says Bafana of Jabong.com, "There is a very thin line between a well regulated and an over-regulated industry. Some things like two-factor authentication are a necessary evil. However, our regulations provide less autonomy to vendors. The other thing is that internal security is left entirely to the organizations. As a result there are no clear definitions of liability fixation."

The industry strongly feels that the regulation needs to evolve in such a way that it becomes less onerous for consumers. It is also true that the mom and pop shops of e-commerce are not covered in the regulatory ambit, and that poses a challenge for the credibility of the industry as a whole. As Singh observes, "There is no regulation that makes security audits mandatory. Security is voluntary in India. That is the case worldwide also except the fact that other countries have strong reporting laws. They are compelled to inform all their customers in case of a breach. We don't have such evolved laws here, so we need more audits."

CIO speak

While there may be regulations and compliance factors to take care of, one thing came out loud and clear during our interactions with some top e-commerce CTO's — that security is paramount on their tech agendas. And when it comes to

Security implementations for online firms often prove to be a complex affair as most of these sites end up building their own platform from the ground up

security investments, not only are they trying out a variety of approaches, they are also taking a bottom-up approach to security. That basically means that the IT heads of online world are drawing security infrastructure blueprints in sync with their platform designs.

Take the example of Flipkart.com, India's largest online player, a company which according to Malviya, has always taken a proactive approach to security. "We invested in an internal security engineering team very early. Their only job is to try to hack the system so that we can figure out vulnerabilities. If one tries to strap security to an application, then friction is bound to arise. So e-commerce firms need to be proactive about security."

Elaborates Atal of Makemytrip, "An e-commerce company does need to have a lot of checks and balances in place and should keep all sensitive data in encrypted form. For a big firm like us, which is listed on NASDAQ, security is a top of the line issue. We face a lot of intrusion attempts. We get attacked thousands of times per quarter. Security with respect to mobile devices, both on WAP or through application is a focus area for us currently."

Although the security layer of e-commerce companies does become a complex web to manage, these CTOs believe that security is their responsibility and should stay in-house rather than be outsourced. Observes Chatterjee, "In an e-commerce firm, security is always the CTO's responsibility. There are several vendors who have good solutions on the network and end-point space but the onus of a breach always lies with the IT head. The other thing is that in a lot of cases, e-commerce firms, when they start out, outsource a good component of their site architecture in order to get the cost equation right. Security often gets compromised in these cases."

Bafana of Jabong.com adds to that by saying that integration between security and various features of the site is often a challenge. "We need to have the standard security stuff like network firewall, VPN security, application level firewall and encryption and supplement it with other security systems."

When it comes to security budgets, CTOs say that on an opex basis, roughly 5-10% of the IT budget goes towards security. If you include capex, this figure goes up to 15-18% of the technology budget, on an average. Malviya however opines that there is no percentage that one can attribute to security budgets in e-commerce, because that method works only when things scale in a linear manner. That rule does not apply to e-commerce.

Changing dynamics

Much like the underlying technology infrastructure which is undergoing a huge flux thanks to technologies like cloud, virtualization and mobility, the security landscape in e-commerce is also witnessing some transition. Says Mishra, "A lot is happening on the security front in e-commerce. It is mostly about how the underlining technology is changing. However, the basic tenets of security like the traditional firewall, the red layer firewall and the UTM etc. have remained the same."

What is changing then are the notions of security in the cloud, with things like security-as-a-service catching up in the e-commerce space. For instance, Snapdeal is taking web access firewall as-a-service from their content provider Akamai. "We also feel pretty secure with Amazon's public cloud because we have clearly defined SLAs and great remote support. In fact, sometimes security can be better in a public cloud than in your own data center," emphasizes Mishra.

Bafana furthers this view. "In an interesting development, vendors are getting increasingly involved in e-commerce security. CloudFlare is a good example of a US based security startup for online businesses. The business expanded so rapidly that it made others actively deliberate on the huge potential of this space."

Today, even large players like Akamai are entering the security game. Increasingly, Internet Service Providers (ISPs), hosting providers and Content Delivery Network (CDN) players are investing in analytics and monitoring tools to save capex for e-commerce players. So the security landscape is changing because of the volume of traffic that e-commerce is generating.

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SIVA PATURI
JDA SOFTWARE

Siva Paturi, Senior Director, R&D, and Head, Center of Innovation, JDA Software, talks to Mehak Chawla about the pressures faced by SCM systems today and the innovation that niche vendors can bring to the table

"Niche vendors bring focus and expertise that is often lacking in the big vendors"

With increasing economic pressures, retail and manufacturing firms are looking to innovate their supply chains. What are the kinds of solutions they are looking at?

The ongoing trend requires the supply chain user to be far more efficient and effective. In order to be effective, a supply chain system must be the first-guiding step to quickly and efficiently identify what a planner needs to focus on, that has the most impact to the business. Supply chain systems will evolve from "exception driven" to "business driven".

Businesses now understand that supply chain systems are of paramount importance. Business strategies need to seamlessly flow into supply chain configurations that drive the business keeping it efficient and effective. We are seeing that connecting all the dots effectively, is where the focus is currently laid, as we have the technology and there are still many more business problems to solve.

How are technologies like big data analytics and mobility impacting the way SCM is dealt with?

Supply chain planners can leverage big data analytics to make informed decisions in a very rapid manner. However, the real challenge lies in generating the right insights from a plethora of data that is made available to the enterprises.

With the availability of big data on a real-time basis from social channels and in the form of inputs from their mobile workforce, planners need to make decisions in a much more rapid manner. Today, shoppers demand personalized customer service and personalized product offerings.

With big data, retailers can analyze customer interactions across all channels — social, mobile, and web, to determine how the customer is using the products that they have already bought or are going to buy. The next generation SCM solutions will have to take these into consideration and provide valuable insights in real-time.

Which are the verticals that are investing in revamping their SCM systems?

The recent spike in investments in the manufacturing industry and the growth of organized retailing are presenting huge challenges in the supply chain domain. Logistics is another area where companies are looking to optimize and create efficiencies to offer superior service levels to their customers. We see this as a big opportunity and can extend our offerings to Indian businesses in their journey to overcome these challenges.

What are the implications of cloud computing on SCM and how are you capitalizing on cloud applications?

Running a supply chain on cloud creates a huge opportunity for accelerating business transformation, in addition to tremendous bottom-line cost savings achieved through off-site data storage, infrastructure and maintenance.

Our customers can use the JDA Cloud Launch service to evaluate running their supply chains in a very rapid fashion. These systems have the capability to go live with test scenarios in a matter of hours. We have other tools like JDA Cloud Perform to manage areas such as problem resolution, change management, and security. We also have JDA Cloud Optimize to provide the much needed recurring training and process optimization when the supply chains tend to get very complex with business maturity.

What is the SCM market landscape like, with mega vendors crowding the traditional application space? Do niche vendors thrive on their customized offerings, especially in emerging markets?

Niche vendors bring focus and expertise that is often lacking in the big vendors. Pure play SCM companies like JDA can help customers with their deep expertise in this area. Our best-of-breed solutions, for example, JDA Demand Forecasting to JDA Supply Planning to JDA Fulfilment, can help customers grow logically whereas the big bang ERP vendors tend to impose a 'one size fits all' approach on the customers.

We have seen challenges like legacy apps integration in both emerging and mature markets. Having a good Master Data Management (MDM) solution that takes data from these legacy applications, cleanses and transforms it for further usage is the key to success in such scenarios. Our platform's MDM capabilities along with its Service Oriented Architecture can easily handle the needs of emerging markets.

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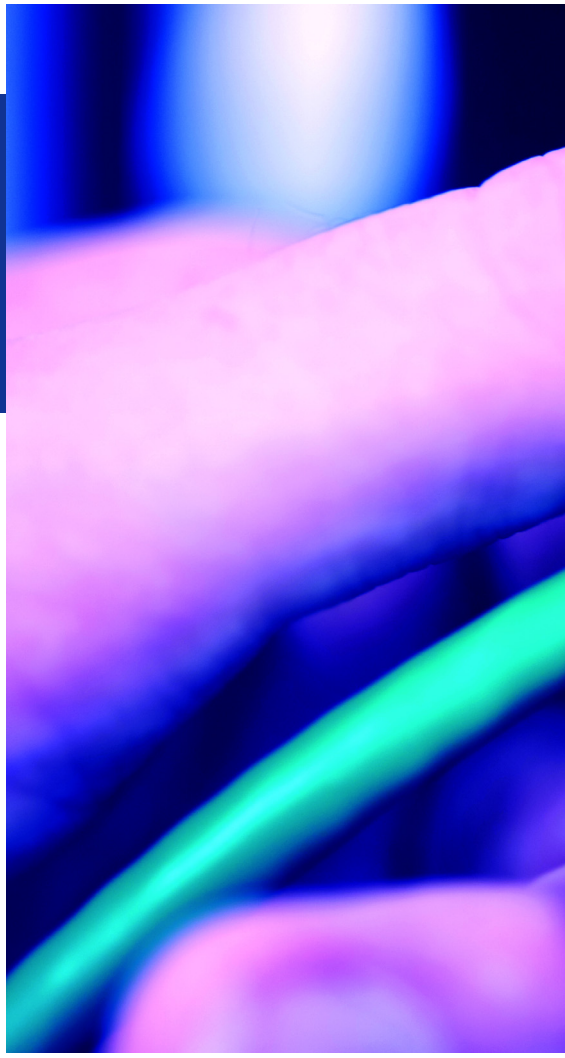
Making the Most of NETWORK TRENDS



Organizations need to maximize their gains from the three major trends in networking—convergence, distributed networking and software defined networks

BY AMANDEEP SINGH DANG

The unpredictable nature of the IT landscape leaves organizations with a lot to worry about their IT infrastructure, especially when it comes to networking. While there is a lot of technology available due to evolution and innovation, choosing the right networking infrastructure that takes into account the future needs of the organization is important.

Three major trends within the networking space that are currently shaping the industry are convergence, distributed networking and software defined networks. A lot is being said about these technologies as they begin to gain significance in the IT and corporate agenda. CIOs are beginning to develop their networking strategies around these technologies to benefit from new and innovative approaches and fresh and lower-cost options to traditional architectures.

Converged infrastructure

Convergence is not wholly a networking issue, but its impact on the way networks are managed and who manages them, should not be underestimated. Previously, IT functioned in silos with server, storage and network admins going about their business relatively independently. When someone within the organization wanted a new resource provisioned, working across these silos to make that happen could be a painful and unnecessarily cumbersome experience. Hence, in the last few years, a new paradigm for an x86 virtual computing infrastructure called converged infrastructure has gained initial acceptance.

An ideal converged infrastructure is an integrated system of compute, storage, networking that is managed holistically by a single software tool and provides pools of virtualized resources that can be used to run applications, virtual desktop infrastructure and private clouds.

There are a few key features which true converged infrastructure solutions should offer:

- **Modular infrastructure:** modular servers, virtual networking, and intelligent, automated storage platforms connected with merged SAN and Ethernet fabrics.
- **Converged management:** unified infrastructure operations for infrastructure teams using simple and intuitive tools for repetitive, common tasks.

- **Delivery models:** flexible means for customers to deploy converged systems, ranging from fully pre-integrated systems to a do-it-yourself (DIY) approach.
- **Full reference architectures:** flexible blueprints to deploy enterprise applications, VDI, and private cloud solutions.

Where there is some disagreement is around who 'owns' the converged infrastructure. Most networking vendors understandably want to keep control in the hands of network administrators, or at least approach the issue from a very networking-centric perspective. These solutions will allow network administrators to manage servers, but not necessarily vice versa.

A truly converged solution should offer both options — server administrators should be able to manage the network, while network professionals should have access to the server infrastructure. Flexible tools at the switching layer can offer this ability to be configured to fit a networking based domain or put control in the hands of server admins. Again, this openness is key to delivering the flexibility required by the business.

Software defined networking

Although the technology is still in its infancy, software defined networking (SDN) is widely touted to revolutionize network infrastructures on the same scale as virtualization in the server market. Traditional networking has been unable to offer the flexibility that networking managers require today — there is little to no ability for developers to modify or transform networking devices to provide deep integration between applications and the network infrastructure. Networking switches have always worked by routing data using the CPU built into the networking hardware, which has meant that IT staff have had relatively little control over the flow of data across a network.

The emergence of SDN, has provided IT administrators with a controller which is decoupled from the switch from which they can harness and shape data traffic flows, without having to manually configure individual networking pieces of hardware. Administrators can take control over entire networks of switches from this single control plane, providing a flexible virtual network architecture that can keep pace with modern IT demands. This provides a far more pragmatic approach to network management which eliminates hours of manual routing and managing policy, whilst providing the ability to respond far more quickly to business demands.

SDN is relatively new as a concept but the benefits are well speculated — networking managers anticipate far

diminished reliance on expensive proprietary networking switches and routers as SDNs can be configured on less expensive hardware.

Distributed architectures

Several developments have rendered the traditional centralized, monolithic chassis-switched network unfit for the modern business' requirements. Firstly, the workforce has become extremely disperse and mobile. Secondly, virtualization and cloud computing have resulted in much higher server-to-server traffic flow than before. Finally, enterprises now have vastly larger volumes of data to process, store, and analyze than was previously the case.

Monolithic networks are simply not architected to efficiently handle this new type of dispersed 'horizontal' traffic. Traditional networks are designed to handle linear 'north-south' traffic in and out of the data center. Scaling up these networks is a costly and painful process — adding switches from one vendor until all the slots are filled and then performing a potentially disruptive rip-and-replace forklift upgrade. Core switches are the heartbeat of the network, so enterprises have invariably ended up being locked-in to their switch vendor long-term.

Alternative distributed approaches, which are more easily scalable, are now beginning to hit the market. Compared to the traditional design, the distributed core architecture can be scaled through low-cost Ethernet switches while the architecture improves reliability by eliminating the single network point of failure and providing better performance for any-to-any traffic flow.

However, not all distributed networks are equal and many networking vendors have taken proprietary approaches to building distributed networking equipment, locking customers in just as completely as the monolithic approach. The core may be distributed, but with proprietary standards, protocols and OS', the network must be managed as a complete entity, without any scope for interoperability. However, an open standards approach to distributed core architectures allows for a much greater degree of flexibility, allowing IT organizations to mix and match components based on their needs and budgetary capabilities.

Keeping a track of the networking trends is a great benchmark with which CIOs can map the future of networking. However, for it to make sense within your organization, you must be willing to adapt the trends to suit your organizational needs. An ideal approach to choose for your networking infrastructure within this climate is one that is open and scalable. The rise of open standards, frameworks and architectures, and a growing realization that proprietary models do not have the customers' best interest in mind is giving way to new solutions to old and new challenges alike. In the new world of networking, the future is bright, the future is open.

Amandeep Singh Dang is Country Manager – Networking, Dell India.

MICHAEL COUNSEL
ORACLE

Michael Counsel, Vice President - Enterprise Architecture, Asia Pacific, Oracle Corporation, explains to Heena Jhingan how the Cloud Application Foundation (CAF) helps enterprises achieve more with cloud

"A lot depends on how much the customers want to transform"

Tell us a bit about Cloud Application Foundation and why it is such a big bet for Oracle?

Oracle has constructed a Cloud Application Foundation which acts as a building block to help companies accelerate their efforts of development and delivery of applications on cloud environments — private or public. It is an integrated, flexible middleware platform built on standards-based technologies for portability. It brings together key industry-leading technologies: Oracle WebLogic Server for Java EE; Oracle Coherence In-Memory Data Grid; Oracle Tuxedo for C/C++/COBOL; Oracle Virtual Assembly Builder; and Oracle Traffic Director for load balancing capabilities.

CAF provides enterprises with choice across conventional systems and cloud environments. It is optimized to run on Oracle Exalogic Elastic Cloud for on-premise cloud deployments and is available on third-party clouds for increased flexibility and scalability.

Today, there are many cloud providers in the market and most of them have the best of the breed application challenges, something that started happening in the late 1990s. What was happening in an organization was that various applications were going through various vendors, integrating all those system break ups was a complex problem, involving a lot of investment.

In the cloud era, similar problems started emerging, because companies started buying from different cloud providers. However, there needs to be some consistency and this is another area that Cloud Application Foundation targets. A lot of people did not see or predict these hurdles coming.

But Oracle did and we have been doing integration for our applications for years. Oracle has also integrated all the acquisitions that we have been undertaking over the last several years. We have brought all the applications together. We know how to solve the integration issues better as we have solved the problem for ourselves, as well as for our customers, who have extensively deployed our integration solutions. The good part is, Cloud Application Foundation lets customers run designs built on on-premise or on the cloud and include them as per the business needs.

What kind of business traction are you expecting from the platform?

We are actually working with every industry, be it education or healthcare. However, a lot depends on how much the customers want to transform; we are ready with our offering. At present the work with the banking sector may be the slowest because of [certain] reasons, [but] we have still been one of the fastest takers of the technologies. We want to address the customers' mobile banking requirements and new technology interactions.

What has been the response to the platform globally? What kind of customers are opting for these platforms?

Oracle has every industrial capability to offer to the market that cloud requires. We offer the maturity of developmental tooling in areas like WebLogic Server, Oracle WebCenter, Oracle Identity Management, Oracle Access Management capability, Oracle database management and access management capability and we developed the tooling that is based on Java. All these components have actually been mature products for a long period of time and we realised that we need to put together a cloud implementation process, which can run these on the cloud or on premise or move the applications between them.

So, we industrialised the way we pasted these things together. We integrated the pieces and many customers are running this today because they are seeing the benefits of the components involved in the cloud application over a long period of time.

We have customers in Australia who have seen years of project delivery reduced to months. In India, we recently introduced some of the features in the 12c releases of Oracle Fusion Middleware. We are seeing a number of customers already utilizing the capabilities of the 11g version of Oracle Fusion Middleware and the extra step they get from the cloud is the ability to relocate the services and to secure and deliver them on cloud.

There are customers who are already successful with this kind of approach and we are building on that success in the new release as well. It gives the enterprises the ability to re-use their skill set. They are accelerating their projects because all the delivery cycle discussions is now so much more industrialised in terms of the project life cycle.

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Customers Steer BUSINESS STRATEGY

Business leaders are breaking down barriers to open up new paths of collaboration, innovation and growth: a majority now claim that customers have a strategic influence on their organizations

BY JEBY CHERIAN

A new era of connectivity, massively available user-generated information and the mandate for open, ongoing communication is demanding new levels of transparency across an organization. Business leaders are breaking down internal and external barriers to open up new paths of collaboration, innovation and growth.

Today, CEOs recognize that they can't do it all alone. Opening up their organizations, they are actively engaging with customers and providing them a seat at the table to help shape business model and strategy. Outperforming companies are inventing new ways to gather customer input to understand critical market shifts, solve challenges and uncover emerging opportunities. More businesses are turning to customer advisory boards to set strategic direction, share best practices, better understand market segments and fine tune business models. Increasingly, these boards serve as an instrumental vehicle to provide direct input across the customer lifecycle — from defining the customer opportunity to influencing go-to-market plans. And, the speed at which CEOs are opening the doors to enable collaboration is extraordinary.

This is one of the most intriguing findings in the most recent Global C-suite study, conducted by the IBM Institute for Business Value based on over 4,000 in-person, sit-down interviews with business leaders across a wide range of industries, in 70 countries. In this, the 10th year of the annual study, three preeminent themes point to how businesses will prepare for the future: "Open up to customer influence, pioneer digital-physical innovation, and craft engaging customer experiences." We see these themes coming together to create new competitive advantages for early adopters of what we're calling The Customer-activated Enterprise. Let's look at each of these themes:

In search of innovation and transparency, more than half of the C-suite executives (Chief Executive Officers, Chief Financial Officers, Chief Human Resource Officers, Chief Information Officers, Chief Marketing Officers, and Chief Supply Chain Officers) plan to substantially extend collaboration beyond their company's borders with customers.

CEOs are the most aggressive in this regard. CEOs ranked customers second to the C-suite — and higher than their boards of directors — in influencing the overall direction of their organization. More specifically, the study showed a 40 percent increase in the number of CEOs who plan to include customers in developing business strategy. This is a massive shift from ten years ago during our first such study, when CEOs ranked customers sixth in overall influence.

CEOs are not just paying lip service to customers. For example, Lego has introduced its "Cuusoo" website, where any person or group can submit ideas for future Lego products. If the idea is commercialized, the submitter receives one percent of net sales. Lego also established online interaction between customers and virtual expert Lego developers.

Visit Nike, Adidas and many other state-of-the-art shoe and apparel makers on the Internet and you'll see digital-

physical innovation at work. For just a few dollars extra, you can customize many of their shoes, designing them to your personal preferences in color and with inscriptions and get delivery to your home in just a few weeks. Choices abound. In fact, there are enough options that you can buy a new pair of shoes every second for the entire population of the world for their entire life, and you would still be left with choices.

The proliferation of social, mobile and other digital networks has begun to balance the power and relationships between organizations and their customers. A few years ago, many of us heard about the merging of the digital and physical worlds from teenagers. Now, we hear it from chief marketing officers. CMOs are leading the charge to put comprehensive digital marketing strategies into place.

Today, when asked about digital strategy, only 10 to 20 percent of CMOs say their companies have any of the various components in place. However, 70 to 80 percent say they'll have them in three to five years. We asked Watson, IBM's computer that won on the quiz show, Jeopardy!, to analyze more than 10,000 quotes we collected during the interviews about why it's so difficult to create a digital strategy. Interestingly, the biggest stumbling block for C-suite leaders is social media. The responses indicate there's a struggle in how to strike the right balance among the social, digital and physical worlds. Chief information officers echo the CMO sentiments that digital strategy is a priority. Fully 83 percent say they plan to digitize their front office within three to five years to better align with their customers.

More involvement with customers

As part of the study, we asked the C-suite where they plan to increase their personal involvement in the next three to five years. The clear answer was that they would expand their activities around customer experience management while they de-prioritize risk and security among other elements.

Fewer than 4 in 10 of C-suite executives said they understand their customers very well today. They plan to double how well they understand customers in three to five years. While the biggest driver to that planned improvement is in digital interaction with customers, only 37 percent say they have initiatives in place to engage customers with social business. In addition, the study showed a clear link between understanding customers and business success. The number of outperforming enterprises that said they have a strong understanding of their customers was 62 percent higher than it was with under-performers.

MORE THAN HALF OF THE C-SUITE EXECUTIVES PLAN TO SUBSTANTIALLY EXTEND COLLABORATION BEYOND THEIR COMPANY'S BORDERS WITH CUSTOMERS

Jaguar Land Rover has taken the notion of an enhanced customer experience to a new level. Its Virtual Experience system allows a customer using a tablet to choose a car, which can also be projected on a life-sized screen at the dealership, where instant further customization is possible. A customer, using highly-intuitive gestures can inspect its features, such as opening the driver's door to examine and make changes to the upholstery, etc., adding or deleting features with the touch of a button, and even starting the car to experience the life-like engine sounds.

The common denominator among all three themes is the desire of leading business executives to increase their engagement with customers — in formulating strategy and driving innovation. To do so, C-suite leaders will have to find new ways — including digital ways — to understand their customers as individuals. It's not a coincidence that in two-thirds of outperforming enterprises, the leaders are reorienting from internal efficiency and productivity to a new agenda where innovation, collaboration and strategy are the result of external engagement. These leaders are creating a blueprint for business success in the 21st century.

Jeby Cherian is Managing Partner and Vice President, Global Business Services, IBM India & South Asia.

RAVI NAIK
SANDISK

As SanDisk celebrates its 25-year journey, Ravi Naik, CIO, SanDisk Corporation, talks to Pankaj Maru about the company's focus areas, how flash is faring in enterprises, and the future of this technology

"We expect 25% revenue to come from SSDs by 2014"

What is the focus area of SanDisk in the flash memory space?

Most people know SanDisk's flash memory in consumer retail products like smartphones, laptops, cameras, e-book readers and tablets, but not many know about flash in the enterprise and the growth potential of that market. Finally, we are in a position to bring out our products in the space that are used and managed by CIOs. So our focus is flash in the enterprise, which includes client SSD, enterprise SSD and software bundle for performance. Overall, 10% of our revenue in 2012 came from SSD and we expect 25% revenue to come from SSDs by 2014. There is actually a large penetration and huge demand of SSDs in the market. Laptops from Apple, Lenovo and other brands are coming up with SSDs.

How are you dealing with enterprise customers on the flash memory front?

Coming back to the three focus areas — client SSD, enterprise SSD and software, enterprise customers are very different from retail or end consumers. For instance, client SSDs are basically drives that are not going to be in the laptops or desktops. These traditional SSDs are going to be replaced with flash memory as it offer significant advantages to enterprises. It offers significant reduction in boot times, power consumption and enhances overall application performance.

We are among the very few companies that have actually deployed SSDs internally in 5,000 laptops of our employees. Given the swappable form factor of SSDs, we didn't actually go out and purchase new laptops with SSDs but just replaced the hard drives with flash-based SSDs. Not only does it benefit and improve productivity of employees but also extends the life of laptops and computers compared to non-flash, non-SSD computing devices.

On the enterprise SSD, as it is said 'flash is the future of storage in the enterprise' — we are talking of data centers. Traditional spinning disks consume more power, generate lot of heat, which in turn increases the data center management cost. More importantly, the fact that spinning disks just take longer time to store and retrieve data, flash memory or flash based SSDs acts as huge performance enhancer for enterprises. So, we are looking at our enterprise SSDs to get introduced in data centers and benefit enterprises.

It's been 25 years since we started off the journey, and the cost of flash has reduced 50,000 times and the capacity in the same duration, has increased 20,000 times. So, the capacity goes up while the cost also goes down and that's the perfect point in time when it becomes indicative that flash would be the first choice for application performance and productivity gains.

To benefit from SSDs, will enterprises and data centers need to change or realign their overall IT architecture?

You really don't need to worry about the applications architecture. The applications that run over the underlying storage would not even know that now they are retrieving data from the SSD box. Enterprise SSDs can be introduced in data centers in a number of ways — full flash array, layer of flash as well as thin layer of flash with software. Besides, we have a software component that we got through the acquisition of FlashSoft sometime in 2012. This caching software helps to write data to the SSDs and improves the performance of SSDs further from the natural advantage it offers. Hence, enterprises can use SSDs through specific software for specific applications, including some that demand a thinner layer of flash to drive performance and productivity.

By when do you think will flash memory-based products become mainstream, with massive adoption in the enterprise IT world?

We are seeing a significant demand for flash memory products today. It's been 25 years since we started off the journey, and the cost of flash has reduced 50,000 times and the capacity in the same duration, has increased 20,000 times. So, the capacity goes up while the cost also goes down and that's the perfect point in time when it becomes indicative that flash would be the first choice for application performance and productivity gains. We could see this happen, maybe in the next 12-24 months. There will be spinning disks (where it makes sense to have spinning disk for certain applications) as well as SSDs co-existing in the market.

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MAKING APPLICATIONS A BREEZE

Bharat Forge was grappling with several issues including frequent application link breaks because of its thick-client IT setup. The virtual desktop solution from Citrix came to its rescue

BY JASMINE DESAI

For many organizations, a thick client architecture for certain applications results in huge bandwidth consumption. One such firm that was facing multiple issues is Pune-based Bharat Forge, the flagship company of the Kalyani Group.

The IT organization of the group had its share of bottlenecks that needed immediate redress. One of the most critical issues was the thick client architecture, which posed the perennial problem of bandwidth. Says Yogesh Zope, CTO, Bharat Forge, "There were frequent link breakages. Practically, applications were not working in such a setup. To run the thick client server

application, we were desperately looking for some immediate solution." The organization tried to make it work with a typical MPLS link but to no avail.

Alongside, Kalyani Group's geographical expansion also threw up typical challenges like support and security. "Some of our key company sites are located in remote areas. For instance, we have an office at the Mundra port in the state of Gujarat. To provide support at such a remote location is cumbersome," says Zope.

Another critical issue was to ensure the security of data across the company's six different sites in India.

"Also, we wanted our accounting software Tally to be on a central server. However, the architecture of Tally didn't support this. We therefore needed a solution which could help us overcome these issues," says Zope. The organization also wanted to save on power consumption.

To help the Kalyani Group overcome some of the pertinent issues quickly, Zope began the process of evaluating various available solutions. "It was a detailed process wherein solutions from VMware, Microsoft and Citrix were evaluated," he says.

The VDI solution

The process of finalizing a solution included setting up of a Proof of Concept (PoC) for all the applications. "The organization's aim was to support all the applications — be it on iPad or on the thin client," says Zope. The applications in use included ERP, homegrown HRMS, a portal application on .NET, Oracle, SharePoint Portal, and workforce management and BI solutions from Maya and SAP. Some of the group companies also have Tally as the accounting software at their end locations.

After an extensive PoC, the organization decided to zero in on XenDesktop from Citrix. "The comfort level with Citrix was very high. Citrix also extended the thin-client support for iPad. Other vendors, including Microsoft, weren't supporting non-Windows applications and in the future, we were looking at deploying non-Windows applications too," explains Zope. Citrix also scored high on the flexibility front in terms of desktop sharing.

The implementation began with the applications that were used by IT. It was then extended to ERP, followed by Tally and then a host of other applications in the group. "In total, it took them [Persistent Systems, a Citrix partner] nearly a month to complete the deployment. As the primary concern was the 50 machines located outside the main office in remote locations where we wanted support and control, the solution was implemented at the UK office, Mundra port, Ranjangoan and Baramati," says Zope. The company's data center is located at Pune. The entire process of PoC was taken care of by Citrix.

Talking about the challenges in VDI implementation, Zope says, "The challenge is mostly understanding the application well. Such solutions need to be deployed with a lot of thought, as it [the implementation] might cause a bottleneck to other businesses."

The implementation led Kalyani Group to consolidate all its servers at one central location while ensuring application availability. Apart from this, the company realized several tangible benefits.

First and foremost, XenDesktop helped in achieving the desired level of data security and manageability. "With the applications now hosted on the central server, we are able to stream a single desktop image over the local area network to be accessed by thin clients. This has helped us improve security and manageability. Also, we have increased the availability of some of the critical apps," says Zope.

The organization has not yet gone for full-fledged VDI implementation across all users. But it will certainly consider implementing VDI across the board during its next desktop refresh cycle.

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>
> **Yogesh Zope,**
> CTO, Bharat Forge

The organization's aim was to support all the applications – be it on iPad or on the thin client

PROSPERING WITH TALLY

Plastic goods manufacturer Samruddhi Industries deploys Tally.Server9 to reap multiple rewards, including improved efficiency and higher dispatch capacity

BY KTP RADHIKA

Founded in 1992, Samruddhi Industries manufactures unbreakable plastic articles and environment friendly plastic goods. Headquartered at Sangli in Maharashtra, Samruddhi has six manufacturing plants and 11 sales offices across India. The company also has over 3,000 retailers, dealers and distributors throughout the country, and it uses innovative techniques and processes to constantly engage with its marketing network for achieving its business goals.

Ever since its inception, Samruddhi had been using basic Tally solutions for its accounting and management purposes. But then the company started expanding their business and witnessed a

sharp growth. Pramod Malu, Director, Samruddhi Industries, says, "We were a one crore company in 2001. We crossed Rs 100 crore mark in 2010 and today we are a Rs 150 crore company."

Over the years, Samruddhi has added to its employee base also. "Tally users in the organization also grew substantially in recent years. Overall 53 Tally licenses are being used by over 150 people across the corporate office, manufacturing unit, trading units and dispatch units," states Malu.

Because of increased level of operations and data flow, Samruddhi felt the need for a robust IT system.

"As the company started growing, we needed better and more advanced solutions for our administrative purposes and to manage our data," Malu states. Over the years, Samruddhi was upgrading their accounting software. However the company faced problems like data security and data failures frequently.

Deepak Jadhav, Manager - IT at Samruddhi, explains, "We were facing problems like data security and frequent data damage. Rewriting of data was a big problem. Another major issue was single location administration." With the basic Tally solution, everything was managed locally and data had to be updated from each location. Samruddhi also faced problems in syncing, processing information and getting confirmations.

The solution

After an in-depth market study, Samruddhi decided to implement a solution from their long time vendor Tally itself. The company implemented Tally.Server9 with help from Tally partner Ultimate Infotrade last year.

Tally.Server9 is touted as an enterprise class product for medium and large businesses. Built with multi-version concurrency capabilities for scalability, Tally.Server9 can manage requests from multiple users with equal priority and solves them in parallel with others, rather than sequentially. It is said to be capable of ensuring that the data access and modification by one user is isolated to his or her own snapshot, so that other users can operate smoothly.

Samruddhi implemented the software in their 4 locations with multi-user licenses. The implementation took 10 days. The Tally team helped Samruddhi throughout the process and Tally partners also imparted training for Samruddhi employees. "There were challenges like synchronization, import and export of data. However, the Tally team solved all of them immediately," says Jadhav.

The benefits

With the implementation of Server9 , Samruddhi is now able to do all their business administration from a single location. Programs and software updates have become easy for the IT team. "Earlier we used to upgrade new functions or programs on each individual PC separately," states Jadhav. Tally.Server9 also allows users to save entries within seconds. After the deployment, users are not experiencing any downtime even during operations like backups. The system also ensured data consistency in intense use environments with near zero impact on system availability. With the new Tally.Server9, lower configuration PCs are also working fine for Samruddhi," says Jadhav. "We used to faced problems like low speed and hanging issue because of lower RAM. With Tally.Server9 all these issues are solved."

With a multi-user license, any number of users can be added to the new Tally system without any additional fee. Business turnaround time also has increased and report generation has become easy. "Everything is a click away," says Malu.

All these features and benefits have resulted in a phenomenal increase in Samruddhi's business efficiency and customer satisfaction level. The company has now doubled its dispatches with the same employee strength. "Earlier, we used to do business worth about Rs10-15 lakh per day. With the new solution, we are able to do about Rs 40-50 lakh of business in a single day. Our turnaround time also increased substantially and we have re-deployed people in more productive jobs. Doing business is an easy process now," claims Malu.

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>
> **Pramod Malu,**
> Director, Samruddhi Industries

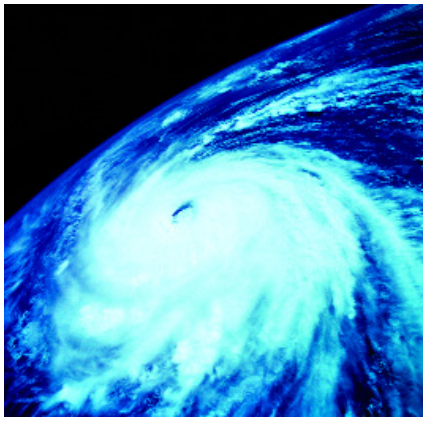
With the implementation of Tally.Server9, Samruddhi is now able to do all its business administration from a single location

COLUMN

JASPREET SINGH

DR LESSONS FROM A CYCLONE

While Phailin did cause a lot of damage, quick and coordinated action coupled with efficient communication saved thousands of lives in Andhra and Odisha



The government agencies were able to pull off a miraculous rescue effort, moving nearly 1 million residents out of the storm's path

Reports of thousands of deaths and millions displaced from their homes has become somewhat synonymous with disasters in India — be it the super cyclone in 1999, the Indian Ocean earthquake and the tsunamis that followed in 2004, or the recent floods and destruction in Uttarakhand. And every time such a disaster strikes, Government efforts face immense criticism, being dismissed publicly as being far too less or ineffective.

However, things have surely started to look positive on the disaster preparedness front for India with the Indian agencies turning the tide during the recent cyclone Phailin, which hit the coasts of Odisha and Andhra Pradesh (AP) in south-eastern India. With torrential rains and winds topping 200 km per hour, it had all the makings of unearthing the insubstantial government claims of 'learning lessons from the past' and being prepared for such calamities yet again. But, instead, the government agencies, at both central and state levels, ensured that Phailin did not cause a heavy human toll, by better anticipation of the situation and moving swiftly during the most critical times, two of the things absent in most of the previous such scenarios.

The cyclone caused massive destruction though, with reports of tens of thousands of homes being destroyed, along-with widespread destruction of crops and livestock across the two states. Phailin weakened significantly after making landfall as a Category 4 storm, with sustained winds of up to 210 km per hour, according to Indian meteorologists. The government agencies were able to pull off a miraculous rescue effort, moving nearly 1 million residents out of the storm's path and into the shelters run by government agencies. This ensured that the overall death toll was kept low, with the reported count standing at 44.

There were several factors which were responsible for such a commendable effort by the agencies. Firstly, there were accurate predictions by the Indian Meteorological Department (IMD), which were, interestingly, in stark contradiction with their American and British counterparts, which predicted a much wider impact area and a 'record-breaking cyclone', on the lines of Katrina. The IMD relied on satellite imagery and inputs for their predictions on the situation in the Indian Ocean, a hotspot for cyclones due to the presence of warm waters, with 27 of the deadliest 35 storms documented in history either originating or coming through the Bay of Bengal area. The accurate prediction, 4-5 days in advance, was a massive boost to the preparedness and the results are evident: casualties were down drastically from nearly 10,000 in 1999's cyclone that affected this region.

Secondly, the swift movement of government agencies post the receipt of the forewarnings from the Met department, ensured a coordinated effort for rescue. The NDMA's (National Disaster Management Authority) project of National Cyclone Risk Mitigation ensured that the cyclone shelters were both sufficient in terms of numbers along the coastline and the supplies of food and medicines. There were also around 2,300 personnel deployed by NDMA and other agencies, clearing roads and ensuring that the nearest rescue shelter was not more than 2.5 km away from the cyclone hit areas. The coordination between the center, the state, NDMA and the defense services, who are at the forefront whenever any such situation arises, was instrumental to the success of the whole activity. Not to miss the role played by the local groups everywhere, arranging for food and clothes, and coordinating with the blood banks for the needy.

Thirdly, it was better planning and execution that saved the day. The rescue shelters were a result of years of

careful planning and its implementation by both the central and state government agencies. State government opened control rooms in all the cyclone hit districts, continuously monitoring the supply of medicine and food. There were even reports of cancellation of Dussehra leaves for government employees.

Lastly, but perhaps the most important underlying factor for this successful disaster response, was the role of communication. Announcements were made via radio and TV to prepare people for leaving their homes for the rescue shelters well in advance. Some didn't feel very safe leaving their homes and belongings, and had to be pacified by the volunteers; in some cases, even force was used to make the people movement happen. More people had access to cell phones, which enabled a coordinated rescue effort. Although there were reports of over 7,500 telephone towers being damaged in Odisha and AP, various telecom operators came together to share their telecom infrastructure for enabling mobile services to the people of the two states.

Although a lot of damage was eventually caused by Phailin as it receded and moved to Jharkhand, there are now a lot of problems to be confronted by the people that were affected. Farmers have lost their crops, fishermen have lost their boats, everyone associated with the local economy, directly or indirectly, is facing the aftermath of the cyclone. While the governments have set up relief efforts by coordinating monetary support and grants, returning people to their livelihoods and connecting them to the mainstream economy is going to be a major challenge, one which will take significant time to execute, and a lot of support from both public and private agencies would be required for rehabilitation of the impacted area and its people.

> One of the most important underlying factors for the successful disaster response to Phailin was the role of communication

The efforts this time around would certainly be the benchmark for any future tragedy, and hopefully, things would improve from hereon in terms of disaster preparedness and response and rescue efforts.

Jaspreet Singh is Associate Director - Advisory Services, Ernst & Young LLP.

COLUMN

SARAVANAN KRISHNAN

TAKING A LEAP WITH BIG DATA

Companies across various industries are moving quickly to adopt innovative data management methods for business benefits

According to a recent Economist Intelligence Unit report, the financial services sector, technology companies, and professional services firms are most prepared for the data age

Innovation is no longer a buzzword in today's economy. It is a prerequisite not just for success, but for survival. Innovation is the essential engine of positive change, and information is its fuel. It follows that the ability to discover, analyze and use information accurately and quickly is paramount to business success. It may be that only the organizations that adapt will survive and proliferate.

Information has changed the rules of innovation. And big data has changed the rules of information itself. The importance of big data becomes clear when one goes beyond the strict definition of the 3 Vs of volume, variety and velocity. Big data is ultimately about gaining insight from new and expanded sources of data — it is really a transformation of the way companies generate, capture, store, process and gain insight out of data.

Different industries are at various stages in establishing and implementing data management strategies to support their business. According to a recent Economist Intelligence Unit report, the financial services sector, technology companies, and professional services firms are most prepared for the data age. By contrast, data management strategies are least often found amongst manufacturers or retailers.

Financial institutions use data extensively to calculate the risk premium of financial products. Pharmaceutical companies are using human DNA data to support drug discovery while telecommunications operators analyze usage patterns to offer better network coverage and services.

Managing and utilizing data in planning and operations can have potential business benefits across almost any industry today, including manufacturing, pharmaceutical, telecommunications, government, and the like. This article will highlight examples from various industries that are moving quickly to adopt innovative data management methods to realize results.

In recent years, the health and life sciences (HLS) industry has undergone a data evolution that has seen organizations such as hospitals, genomics institutes and pharmaceutical enterprises generate and amass terabytes of data.

Hospitals are shifting to electronic health records (EHRs) in order to allow patient records to be stored, managed and searched among different organizations. This new practice allows more efficient storage and retrieval of patient records and relevant data. Various medical data such as x-rays, computed tomography (CT), and magnetic resonance imaging (MRI) scans are acquired and presented in a digital format and processed through a picture archiving and communication system (PACS). A patient's medical records may be stored for more than 80 years, and needs to be available 24/7. This huge, ever-increasing volume of data must be digitized, shared and stored, creating a critical need for robust, automated and continually scalable medical storage infrastructure.

The media and entertainment industries have seen phenomenal changes in the way they work over the last few years. Among film, television, gaming, advertising and graphic design, the demand for digitally created content has been escalating due to increased dependence on CGI, 3-D animation, motion capture and other technologies. The advent of high definition (HD), UltraHD and evolving video resolution standards like 4K mean that data volume is only going to rise.

That's not all. The creation of these special effects blockbusters needs robust data systems that allow for smoother post-production. This capability is made possible by enabling better I/O and throughput, faster

renders, speedier downloads, diminished throughput bottlenecks, and smaller time windows for transcoding.

Public utilities, by their very scale, generate enormous amounts of data that can be analyzed to improve efficiencies and reduce wastage. For example, a water authority in Australia saw 50% year on year growth in data, thus requiring a data solution that could scale up as the data was collected and stored. The authority also embarked on an initiative to analyze water consumption and prepare for unpredictable supply.

The importance of the oil and gas industry in today's world cannot be over-emphasized. Depleting resources, increasing costs and an incredible number of unpredictable factors make it one of the most data-intensive industries. The gathering and analysis of data can have an impact on every aspect of the business. For example, advanced analytics, such as pattern recognition, applied to a comprehensive set of seismic data can identify potentially productive seismic trace signatures that were previously overlooked.

Public utilities, by their very scale, generate enormous amounts of data that can be analyzed to improve efficiencies and reduce wastage. For example, a water authority in Australia saw 50% year on year growth in data, thus requiring a data solution that could scale up as the data was collected and stored

Another industry that can benefit greatly from big data is telecommunications. The explosive growth of Internet-connected devices has seen telecommunications companies saddled with massive amounts of data. According to TM Forum Report, data has grown at a compound annual growth rate (CAGR) of 29% over the past 5 years, and is likely to grow at double-digit rates in the future. Today, there are nearly 6 billion phones in operation. These companies have more to contend with than the vast amounts of data being produced by, and passing through their networks. Communications service providers also need to analyze customer data to gather business intelligence in order to improve customer experience, plan their network expansions, and control costs.

With big data poised to make an even bigger impact on businesses across all industries, the need for deploying the right infrastructure has become vital. Today's data challenges are a far cry from the challenges of yesterday. Business driven, structured data — such as OLTP and databases — has been surpassed in volume by human-driven unstructured data — such as email and social media. However, the future of information really lies with machine-driven data — such as sensors and satellites — which will create exponentially larger volumes.

Organizations have to keep in mind that it takes a robust strategy for information management across all data types to turn available data into the insights that deliver on the promise of big data. With competitors actively improving information management technologies and practices, it will be "survival of the smartest" in the market place.

Saravanan Krishnan is Director of Storage Platforms and Solutions Business, Asia Pacific, Hitachi Data Systems.

UPGRADING to EFFICIENCY

Financial Technologies cuts roaming costs by up to 70% by using BlackBerry Mobile Voice System solution on BES10

BY HEENA JHINGAN

Indian financial services company Financial Technologies (India) Limited (FTIL), which provides technology IP to create and trade on next-generation financial markets, introduced the country's first derivatives trading platform in 1995. Today, it delivers a combination of brokerage and exchange solutions and management products.

FTIL's workforce needs to stay constantly connected to deliver round-the-clock service. Even on the move, the company has to ensure that data security is not compromised under any circumstances. So, about six years ago, they deployed the BlackBerry Enterprise Server (BES) and recently upgraded to BES10.

Rohit Ambosta, Senior Vice President - IT at FTIL, says not all the employees need access to sensitive data and most of them work in shifts. As such, the BlackBerry devices have been provided by the company to only select employees; however, they are free to upgrade to BlackBerry handsets of their choice.

Even though a BlackBerry fan from the security perspective, the FTIL workforce wasn't too satisfied with the experience on BlackBerry Balance. Ambosta says, "The platform, though offered impeccable security features, but containerization of work and personal application environments through the BlackBerry Balance was not up to our expectation."

"There was little clarity on the work and personal app environments, besides, there were certain other minor issues that we had reported to BlackBerry," Ambosta elaborates.

He further adds that downloading apps had never been so convenient and even from a normal user's perspective, the work/personal space segmentation is clear. The platform ensures that there is no compromise to work data and security. The users appreciate the contrivance and flexibility brought in by BlackBerry on the new platform."

As a long standing BlackBerry customer, FTIL was hoping for an upgrade on the platform that will help them better manage work/life balance with a greater experience.

The wait ended with BES 10 availability, which Ambosta says provided unified device management and security that was able to manage non-BlackBerry environments as well, which would mean FTIL could offer the employees the flexibility of choosing devices other than Blackberry also.

In the past, despite the BlackBerry Balance feature enabled on BES, many FTIL employees chose to carry two devices: one for work and the other for personal applications. However, with BES10, they will now be able to manage Android and iOS mobile devices.

"We have already tested the platform for iPhone (iOS) and tests are on for some of the popular Samsung devices (Android). We will soon have a list of devices that the employees can use and latch them on to the corporate network," says Ambosta.

The upgrade

When the company decided to upgrade, they were least worried as they were confident that BlackBerry would ensure that the upgrade is a smooth transition.

As FTIL already had BES5 servers deployed in the virtual environment, over

> Downloading apps had never been so convenient and even from a normal user's perspective the work/personal space segmentation is clear.

Rohit Ambosta,
Senior Vice President - IT, FTIL

ADVANTAGE BES10

- Provides unified device management
- Reduces roaming cost with MVS solution
- Allows screen share to aid better collaboration

BES10, coupled with BlackBerry 10 devices, has brought FTIL - a real-time organization with no tolerance for downtime - time savings, enabling the workforce to act faster

the VMware infrastructure, moving on to BES10 was a simple upgrade.

"We were among the early adopters of the BES10 platform, and there were very minor initial hiccups like Mobile Voice System did not work properly; yet we were able to complete the upgrade processes barely within a month, which is not too long a duration for an enterprise of our size," says Ambosta.

He says it was mostly the approvals, provisioning of servers, procurement of test devices and testing of these devices which took about three to four weeks.

FTIL migrated to BlackBerry Mobile Voice System, enabling workers to transfer calls to their mobile devices when they are away from office, and this has been a huge benefit to employees traveling for business. "The solution has reduced roaming costs by up to 70%, while the encryption has ensured that communications remain secure from anywhere in the world. The capabilities like screen share are excellent collaborative tools," he says.

"It was important that the users fully utilize the power of BlackBerry 10, which is why we trained them not only for work use, but for personal use as well. The results have been great. The users now enjoy the apps they want. And they can even enjoy watching movies on their TVs at home, simply by pinging the TVs wirelessly via their BlackBerry 10 devices; other applications like MapMyIndia are very popular on the personal use front."

BES10, coupled with BlackBerry 10 devices, has brought FTIL - a real-time organization with no tolerance for downtime - time savings, enabling the workforce to act faster. At the same time, BlackBerry Enterprise Service 10 has created the flexibility for workers to choose their preferred BlackBerry devices without compromising company security. Overall, the solution has delivered the balance, flexibility and security. According to Ambosta, currently about 20 users have already upgraded to BlackBerry 10 devices.

Future call

As Ambosta puts it, technology is never static, and the organization has come a long way since it first started using BlackBerry Enterprise Server. BES, he says, has now evolved to provide a unified device management platform that includes iOS and Android devices, and it is expected that BlackBerry may expand it to cover Windows devices as well.

For the moment, FTIL is experimenting a lot with its new upgrade to BES10. And they seem to be loving it.

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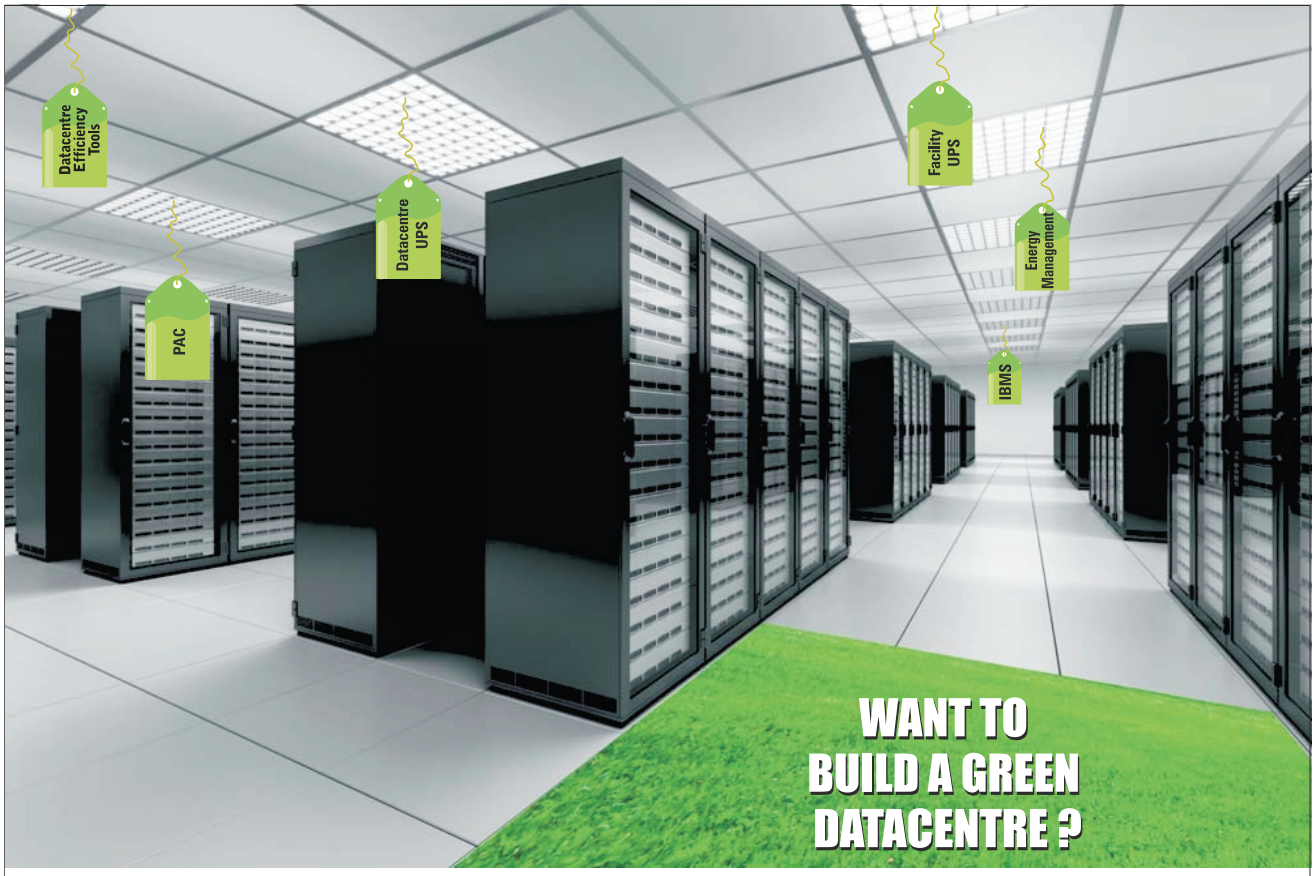

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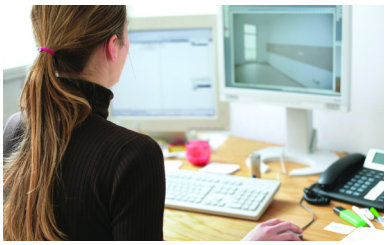
Zinnov: Big data top IT investment priority for Indian cos. next year

DESPITE DECLINE IN dollar revenues, Indian enterprises are aggressively investing in IT, reveals global research and advisory firm Zinnov. In their latest study titled, 'Opportunities with large enterprises in India', that highlights IT investment and trends among the large Indian corporations, the firm found out that technology investments are a critical part of India Inc.'s growth strategy for FY14.

The Zinnov study revealed that while almost 50% of the CIOs of these firms are focusing on mobility, private and public cloud investments next year, big data is their top priority for over 60% of the firms, driven by manufacturing and media companies. The study also found out that 30% of IT spend by Indian enterprises, in FY2013, was aimed at transformational projects, especially in the areas of mobility, cloud and big data. The top 50 Indian companies — selected on the basis of total annual income excluding IT companies.

Commenting on the report,Praveen Bhadada – Director, Market Expansion, Zinnov, said, "Large Indian enterprises – with their aggressive growth plans and perception of technology as a growth driver, present a massive opportunity for global and Indian technology vendors. To win in this market, technology firms must develop a targeted understanding of each enterprise's growth strategy and the role of IT in supporting this trajectory. Vendors must engage with CIOs strategically, building joint business cases for advanced technology adoption and demonstrating the ability to take joint risks by exploring revenue share models."

Graebert announces ARES Commander Edition 2013



GERMANY-BASED GRAEBERT HAS announced a new version of its CAD software for creating, editing and viewing technical drawings, ARES Commander Edition 2013.
The software has a familiar interface for most CAD users and it can read and write AutoCAD DWG files.

According to the company, ARES technology is used by CAD giants such as Dassault Systeme Solidworks and Corel Corporation, among others, in their own CAD products.ARES CE is available on Windows (both 32 and 64 bit), Mac and Linux. Minimum system requirements are such that most existing Windows computers can run this software, claims Graebert.

The common drawing commands such as Line, Arc, Circle, Polyline work like their counterparts in other CAD software. According to Graebert, this means that there is no learning curve. ARES CE supports linetypes, lineweights, blocks, multilines, true colors, referenced files, referenced images, and OLE objects. It even includes basic solid modeling with support for primitives and boolean operations.

Among other features, ARES CE allows users to directly convert a PDF file into an editable vector drawing. This can be useful for companies which have lots of paper drawings that are otherwise painstakingly converted by skilled draftsmen into digital drawings.

Tally Solutions, Osmania varsity to provide vocational training

TALLY SOLUTIONS HAS partnered with Osmania University to provide vocational training to students through distance education. This collaboration with one of the oldest universities in the country— which according to the company, is a first of its kin — will provide Tally Solutions a strong platform to reach out to the youth across India and help them find a sustainable livelihood.

Employment is a key contributor to economic growth. However, according to the company, with majority of the Indian youth striving to gain some form of occupation, the country's economic and social development continues to be unevenly distributed. This initiative, focuses on expanding employment opportunities by imparting vocational skills to the youth of the country.

Commenting on this development, Shoaib Ahmed, President, Tally Solutions said, "We strongly believe that providing the right vocational training will go a long way in addressing the unemployability crisis that the country is facing. Students have to be skilled enough to sustain in this competitive industry. With this partnership, Tally brings in a significant change in the employability scenario of India by uplifting the Indian youth. In Tally, we look forward to many more of such collaborations with top universities to make our effort a successful one."

As part of the collaboration, students undergoing the program are offered a one-month long training, for which all the learning material will be provided by Tally. Osmania University will award them with a certificate on successful completion of the course.

The plan is to extend this program to more number of colleges in and around Hyderabad under Osmania University.

Aspect unveils cloud-based contact center solution

ASPECT SOFTWARE HAS announced a cloud-based contact center solution called Zipwire. Designed to bring greater ease and simplicity to contact center solution operations, while reducing demand on IT, Zipwire promises features such as unlimited elasticity, provisioning simplicity and 24/7/365 support.

According to the company, being easy to deploy and highly scalable, Zipwire can meet the demands of the largest enterprise contact centers while also addressing the unique needs of smaller contact center operations.

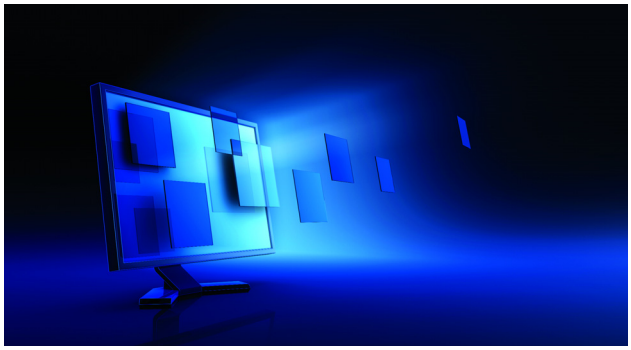
With its simplicity and speed of setup, organizations can be up and running in hours with no setup costs, helping to speed the time-to-value for contact centers by quickly getting agents serving customers.

"With nearly limitless scale, and being deployed through Aspect's market-leading Voxeo cloud infrastructure gives Zipwire clear competitive advantages compared to other solutions in its class," said John Amein, vice president, product management, Aspect.

"These features address the primary concerns startups and smaller companies face operating and servicing contact centers, by offering unlimited upward and downward scalability, giving them the ability to create a service footprint that puts them on par with larger corporations," he further added.

This scalability along with a robust feature set also enables the solution to meet the needs of larger enterprises. Companies can easily add functionality or additional seats as their business grows or as it cycles through seasonal or situational volume influxes.

Red Hat launches latest version of Red Hat Enterprise Linux 6



RED HAT ANNOUNCED the general availability of Red Hat Enterprise Linux 6.5, the latest version of Red Hat Enterprise Linux 6. The new version is designed for those who build and manage large, complex IT projects, especially enterprises that require an open hybrid cloud. From security and networking to virtualization, the latest version promises to provide the capabilities needed to manage these environments, such as, for instance, tools that aid in quickly tuning the system to run SAP applications based on published best practices from SAP.

The addition of a centralized certificate trust store, will enable standardized certificate access for security services. Also included are tools that meet leading security standards, including OpenSCAP 2.1, which implements the National Institute of Standards and Technology's (NIST's) Security Content Automation Protocol (SCAP) 1.2 standard.

The latest version also fully supports sub-microsecond clock accuracy over the local area network (LAN) using the Precision Time Protocol (PTP). These new capabilities will enable sysadmins to inspect IGMP (Internet Group Management Protocol) data to list multicast router ports, multicast groups with active subscribers and their associated interfaces, all of which are important to many modern networking scenarios, including streaming media.

The handling of memory intensive applications as Red Hat Enterprise Linux guests has also been improved, with configurations supported for up to 4TB of memory on the Kernel-based Virtual Machine (KVM) hypervisor.

Red Hat Enterprise Linux 6.5 stays current with the advancements in Solid-State Drive (SSD) controller interface, by introducing support for NVM Express (NVMe)-based SSDs. The NVMe specification aims to standardize the interface for PCIe-based SSDs .It will now be possible to configure more than 255 LUNs connected to a single iSCSI target.

Says Jim Totton, vice president and general manager, Platform Business Unit, Red Hat, "The newest version of Red Hat Enterprise Linux 6 forms the building blocks of the entire Red Hat portfolio, including OpenShift and OpenStack, making it a perfect foundation for enterprises looking to explore the open hybrid cloud."

PayU launches release on delivery payment option for e-commerce customers

PAYUPAISA RECENTLY ANNOUNCED the launch of "release on delivery", a new payment delivery option for e-commerce merchants in India. Release on delivery or RoD, is a payment mechanism wherein the buyer can make the payment which will remain parked with PayU, until the buyer is satisfied with the product and gives a consent to release the same.

According to a survey done by PayU, CoD (cash on delivery) constitutes more than 60% of any merchant's total transactions but they dislike it because the average cost per CoD transaction borne by them is as high as 8% to 10% (as compared to an online transaction which costs 2% to 2.5%). In fact, such high CoD charges are eroding the margins of e-commerce firms and pose a serious question on their overdependence on CoD.

Nitin Gupta, Co-founder and CEO, PayU India said, "With the launch of RoD, we are expecting 20% of all CoD transactions to shift to RoD."

PayU will charge about 2.9% per transaction from the merchants as their RoD fee. The company already has about 50 companies in the pipeline for a possible tie-up. "We plan to add about 100 merchants by the end of this quarter," Gupta said.

About 20% of the transactions done in the $6 million e-tailing industry are CoD. RoD is expected to reduce the cost incurred through CoD by almost 4 times. RoD is prepaid mode of payment. i.e. a merchant get paid via credit/debit card or Netbanking instantly. In this case payment gateway charges are applicable to a merchant which is between 2% to 2.5%.

57% of enterprises making BYOD investment plans: IBM survey

IBM ANNOUNCED the results of a survey that it recently conducted with CIOs, CMOs, CTOs and decision makers across various industry verticals. According to the findings of the survey, 57% of enterprises are planning to invest in BYOD and mobile technology for their companies while 67.4% expressed personal interest in owning this technology. Almost 47% of the respondents perceived IT investments in big data, analytics and cloud as imperative.

Besides planning to invest in BYOD and mobile technology, 63% of the respondents from the survey believe that cloud computing is an area where they are likely to make their IT investments. Additionally, 53% of the leaders think that big data and analytics is the area which needs adaptation in a large scale.

Viral Gandhi from Cox and Kings said, "The next big thing in IT that we would like to leverage is this entire idea of Social Business. And as the CIO of my organization, I believe that the way to optimize this is through big data and analytics. What we have today is access to information, where we can connect with people and businesses with similar problems and look for solutions together."

Satish Kotian, CIO, Dewan Housing Finance Corporation Ltd., added, "Data is indeed the basis of competition in this new era. The business will have competitive advantage from big data, and the insights from this data. Access to cloud infrastructures, mobile devices and social networks will also benefit businesses. This is also paving new ways of working for Enterprises in India — one that is flexible, innovative and collaborative."

Furthemore, the survey results also suggest that hardware optimization and virtualization is catching eyeballs with 42.9% interest from enterprises across India.

Additionally, 36.7% CIOs said they reap maximum benefits from the existing resources, while 44.9% CIOs believe in gradually building the field. They work towards a proper consensus amongst the team to be able to take effective business decision. 18.4% CIOs prefer change and are open to drastic reorganization in their company. According to the survey, 51% of the CIOs agreed to be keeping their ears to the ground by keeping themselves updated about the relevant information. They seek reference from past case histories, demos and proofs as well as constantly learning from people's experiences in similar industries.

Considering new and challenging solutions without waiting for proofs, 26.5% CIOs are mostly eager to experiment while 22.5% of the surveyed CIOs are reaching out to people who have encountered similar problems and understanding the proven IT solutions deployed to overcome organizational problems. More than 51% CIOs are open to experimenting with new ideas, followed by 40.8% who wants to stay methodological and 8.2% who wants to work as a silent team player.

NetApp introduces new flash array storage systems

NETAPP INTRODUCED TWO new hardware platforms and updated a third to address the broad performance requirements of data-intensive applications. The new NetApp EF550 flash array, which delivers high performance and consistent low latency for business-critical applications for which responsiveness and enterprise reliability are critical. The new NetApp E2700, is meant for small remote/branch offices requiring optimal price and performance

By offering the broadest and most complete flash portfolio in the industry, NetApp claims to maximize the value of flash across the entire compute, network, and storage stack, improving efficiency and accelerating business-critical application performance. According to the company, the new platform releases continue to execute against the storage industry's most innovative roadmap, which recently included NetApp's unveiling of a comprehensive strategy for cloud integration. As organizations turn to hybrid cloud environments to optimize costs, seize opportunities, and mitigate risks, NetApp is providing its clustered Data Ontap platform for seamless cloud management across any blend of private and public cloud resources. The company claims that already more than 175 cloud service providers deliver cloud services built on Data Ontap.

George Kurian, Executive Vice President, Product Operations, NetApp said, "Our product innovation strategy is to deliver the industry's leading portfolio of cloud-integrated and flash-accelerated storage and data management solutions. These solutions satisfy our customers' needs for their multiple workloads and deployment models — either dedicated or as part of a shared infrastructure. By expanding our EF-Series all-flash arrays and E-Series platforms we are meeting growing market demand for dense, performance-oriented architectures and delivering superior performance, reliability, efficiency and scale."

Array Networks bags Rs 5 crore ADC deal in aviation sector

ARRAY NETWORKS INC, a global application delivery networking provider, has bagged the company's largest Application Delivery Controller (ADC) order in the aviation sector approximately valued Rs 5 crore. This solution consisted of Array's Link Load Balancers, Server Load Balancers, Global Server Load Balancers (GSLB) and IPv6 licenses.

Array Networks engineers created an innovative technical solution to help its partners offer a competitive solution to meet key customer SLA (Service Level Agreement) requirements, one of the key qualification criteria, which according to the company, helped them win this deal.

One of the key selection criteria was high availability since the customer is running a very critical application. These key requirements were addressed by server level, link level and data center level high availability. The ADC solution will be deployed in more than 16 airports across India, including all metros.

Shibu Paul, Country Manager - IN, ME & ASEAN, Array Networks said, "This is a momentous achievement for Array Networks and the India team as it extends its leadership position in various verticals to now include aviation. Providing superior SLA was one the key qualification criteria to bag such orders and our engineers have done extremely well in developing this technically superior solution."

Microsoft launches cloud linked Visual Studio 2013 and Visual Studio Online

MICROSOFT HAS TAKEN the next big leap in the development of modern applications by launching Visual Studio Online, a new set of development services and offerings, part of Microsoft's Cloud OS, and a connected development experience for helping customers create next generation applications. The next version of Visual Studio – Visual Studio 2013 and .NET framework, .NET 4.5.1 have also been made available simultaneously.

Microsoft has also made available a preview of Visual Studio Online "Monaco", a lightweight browser-based coding environment using standards-based HTML and JavaScript to build cloud services. "Monaco" is complementary to the existing Visual Studio IDE and is an easy way for developers to get started and make quick updates to cloud services on the Windows Azure platform.

As part of Visual Studio Online, Microsoft is releasing a limited preview of Visual Studio Online Applications Insights. "Application Insights" will enable teams to support agile application delivery across an organization by providing visibility into how an application runs and is being used by customers. "Application Insights" collects live telemetry data across development, test and production environments and captures availability, performance and usage data, providing teams with a 360-degree view of an application's health.

S. Somasegar, Corporate Vice President – Developer Division, Microsoft, said, "More than ever, organizations are looking for help in taking advantage of the cloud to transform the way they do business. Visual Studio 2013, Visual Studio Online with Windows Azure and MSDN enable businesses to achieve results faster, more affordably and through more well-informed quality decisions than ever before."

Core new features in Visual Studio 2013 include:

- Peek Definition lets developers view a definition in an inline view without leaving the context of their line of code.
- CodeLens in Visual Studio 2013 uses information from both the project metadata and Team Foundation Server 2013 to place decorators on each of the methods in the code that show information such as what changesets led to the creation or recent change, who was the last person to work on the code, what unit tests cover the method (including the latest pass/fail state), and what code references exist. It is also possible to quickly jump into that data, such as an associated changeset or referenced code file with just a click.
- Browser Link connects Visual Studio to one or more open modern browsers in an interactive development experience to keep them in sync with markup changes without needing manual browser refreshes to see the changes the developer is making.
- Office 365 Cloud Business Apps run in the cloud, taking advantage of the rich platform capabilities exposed by Windows Azure and Office 365. As cloud-based apps, they are available to a myriad of devices to aggregate data and services from in and out of an enterprise, and integrate user identities.
- Performance and Diagnostics hub in Visual Studio 2013 provides a unified experience for various tools available in Visual Studio. The hub will also make it easy to identify the performance and diagnostic tools that work with the project and will enable developers to quickly start using them to improve their application.
- With Agile Portfolio Management developers can manage large and complex workloads in an agile way. They can define a hierarchy of backlogs to understand the scope of work across several teams and see how that work rolls up into broader initiatives.
- Team rooms provide an area for fostering and capturing communication among team members, both near and far. A team room is a team projects activity feed for keeping the team informed of code check-ins, build status, work item changes, and more.
- With support for cloud-based load testing in Visual Studio Online, developers can generate scale tests in seconds that utilize the elastic resources of Windows Azure to execute requests from thousands of virtual users; providing them with insight into the performance bottlenecks of their web applications and services without the hassle of managing hardware or a virtual lab.
- The XAML editor now provides advances in IntelliSense, which is now also available for data binding, template binding, and resources. It also enables a more productive transition between design markup and code behind; including support for finding references, going to definition, and switching to the view model.

Bharat Light and Power collaborates with IBM for cloud and analytics

BHARAT LIGHT AND Power (BLP) has formed a strategic engagement with IBM to drive business growth, enhance revenue and increase operational efficiency. In this 10-year collaboration, BLP will use IBM's SoftLayer cloud capabilities, built on open standards, as well as IBM analytics and mobile solutions to increase its power generation capacity.

"The Indian power sector has doubled its capacity in the last 10 years and is projected to add another 100GW in next five years. With the issues facing fossil-based fuels, a good share of this growth will come from renewable energy sources. The scope of investments for renewables is estimated to be $10-12 billion in next five years making it ripe for global investments in India," said Tejpreet S Chopra, president & CEO of BLP.

BLP is said to be one of the largest clean energy generation companies in India. It aims to address the sustainable energy challenge by increasing its renewable energy generation capacity to one giga watt (GW) over the next few years. The company focuses on wind, solar, biomass and hydro technologies for power generation and is exploring other advanced technologies such as energy storage, and smart grid to better integrate renewable energy to the grid. BLP also uses its years of expertise in building, owning and operating power plants around the globe to offer pre-development and post commissioning services to wind farm developers, operators, owners, investors and lenders.

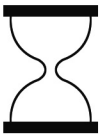
IBM will work with BLP to help the company manage, and effectively use the vast amount of data generated by the power generation sources. With efficient and predictive analysis of data, energy producers will be able to better manage their resources, take necessary precautionary measures, and improve overall productivity. IBM will deploy its SoftLayer cloud infrastructure as a service to centrally monitor and manage BLP's existing and future generation plants, as well as store and manage the data on cloud.

IBM and BLP's big data analytics capabilities will help gather valuable insights from the data generated, which will ensure that BLP has an integrated view of its operations and is equipped to take pro-active measures. Using IBM's mobile technology the company will be able to provide all the information, analyzed on the cloud platform, to its ground staff on their handsets and alert them well in advance. This will enable BLP to build smarter operations with higher efficiency and greater utilization.

"The focus of power generation globally, and especially in India, in the next five years is going to be about operational efficiency and productivity enhancements. This requires an intelligent and innovative collaboration between the power and the IT sector. BLP has ambitious growth plans for providing this service and we needed a strategic partner who understands, and helps us realize, our vision," said Balki G. Iyer, chief development officer, BLP. "A significant factor in selecting IBM was its rich global experience in the renewable energy sector and scalable technology capabilities that suits our requirement."

The solution is expected to significantly improve BLP's Plant Load Factor (PLF), which is essentially the generation efficiency of the installed capacity. IBM will also bring its subject matter experts to help BLP take effective business decisions and make efficient planning, based on the data analysis.

"By making clean energy widely available and affordable, BLP is solving a very important challenge for India and we are excited about collaborating with BLP on this transformative journey. We see tremendous potential for smarter operations, using cloud and analytics, in achieving scale and efficiencies in this business. As a strategic partner, we will deliver measurable business outcomes to BLP by bringing together expertise and capabilities across IBM," said Ajoy Menon, director of strategic outsourcing, Global Technology Services, IBM India South Asia.



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