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Even as efforts are being made to clean up the e-waste mess, the challenge lies in making e-waste management economically viable for various stakeholders in the value chain

THE ECONOMICS OF E-WASTE

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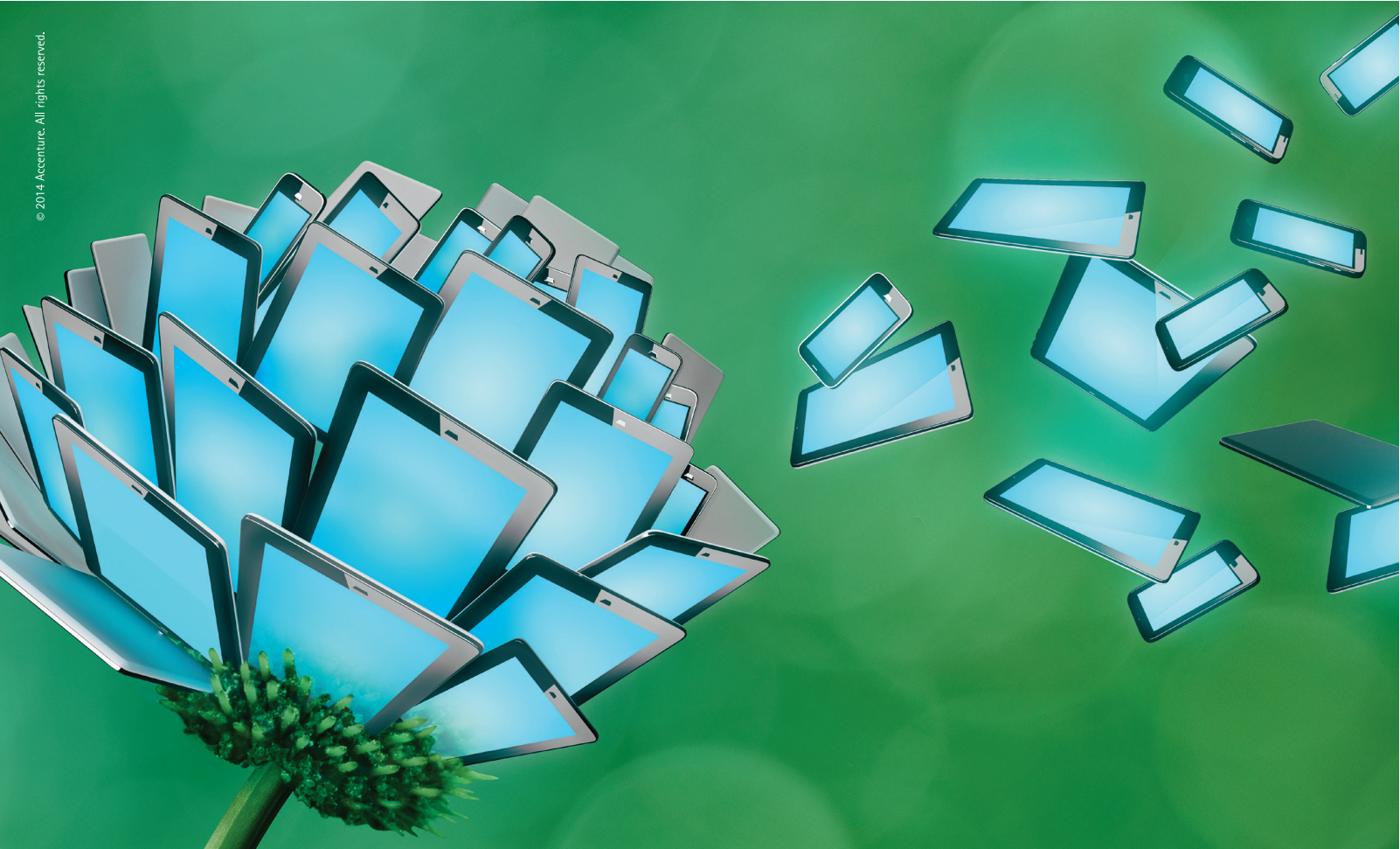
CASE STUDY: Nilkamal lowers power consumption with Dell servers

CLOUD FAILURES Multiple challenges ahead



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THE E-WASTE MENACE

INDIA MUST DO MORE TO PROPERLY MANAGE ITS GROWING PILE OF ELECTRONIC WASTE

My first recollection of waste recycling is that of disheveled kids roaming the streets of Delhi. They have large plastic bags and whenever they spot a discarded but "valuable" item—a plastic bottle, a rusted iron rod or the like—they toss it into the bag and move forward in search for more.

At that time I was amused by what I saw (I knew they would sell their stuff to the local *kabadiwala*, the scrap dealer, for a paltry sum.)

Now, several years later, amusement about a curious aspect of waste collection has turned into a loathing for how the entire "waste situation" looks. As I came to know about the trash piling up in landfills, about chemicals from discarded objects leaching into soil and water (often winding their way into the bloodstream of humans and other animals, with toxic effects), and about the devastatingly fast-growing proportion of e-waste in the overall junk, my disgust only intensified.

An estimated 40-50 million tons of electronic waste (from computers and phones to TVs and washing machines) is generated globally each year. In India, it is around 1 million tons, but growing faster than many developed countries.

What is more appalling is that much of this e-waste—a whopping 85-90%—is either dumped or handled hazardously. And while advanced economies such as the U.S. regularly consume and discard the bulk of electronics, the trash ends up in third-world countries of Asia and Africa.

But there is a glimmer of hope. A growing awareness and sense of responsibility at government, corporate and individual levels is driving home the need to deal with all that e-waste in an environmentally friendly manner.

In India a right step in that direction was taken in 2011 in the shape of the e-Waste Management and Handling Act. A key part of this regulation is the EPR (extended producer responsibility) clause, which puts the onus of responsibly warehousing or disposing of the e-waste on manufacturers.

Another green development is that several watchdogs, recyclers and e-waste services firms are cropping up in the country.

However, all this is still a small start to a very large and complex problem. For one, recycling should not be equated with passing on the collected e-waste to the unorganized sector (which often employs women and children to retrieve metals and components from the devices through burning or manual dismantling).

In addition, both the government and the corporate sectors should make efforts to grow awareness about the regulation and product take-back programs—and there should be a proper mechanism to monitor such programs and provision for punitive measures, if necessary.

Managing e-waste well is more than a matter of health: it is a big question mark over the survival of the whole planet.

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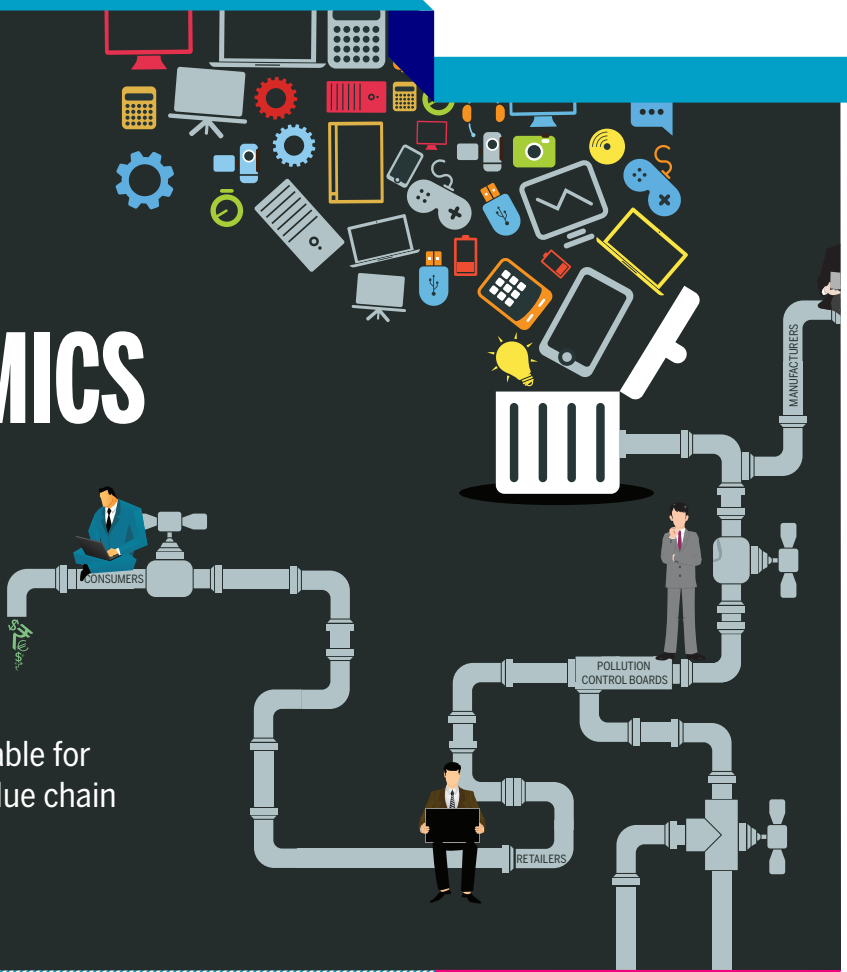

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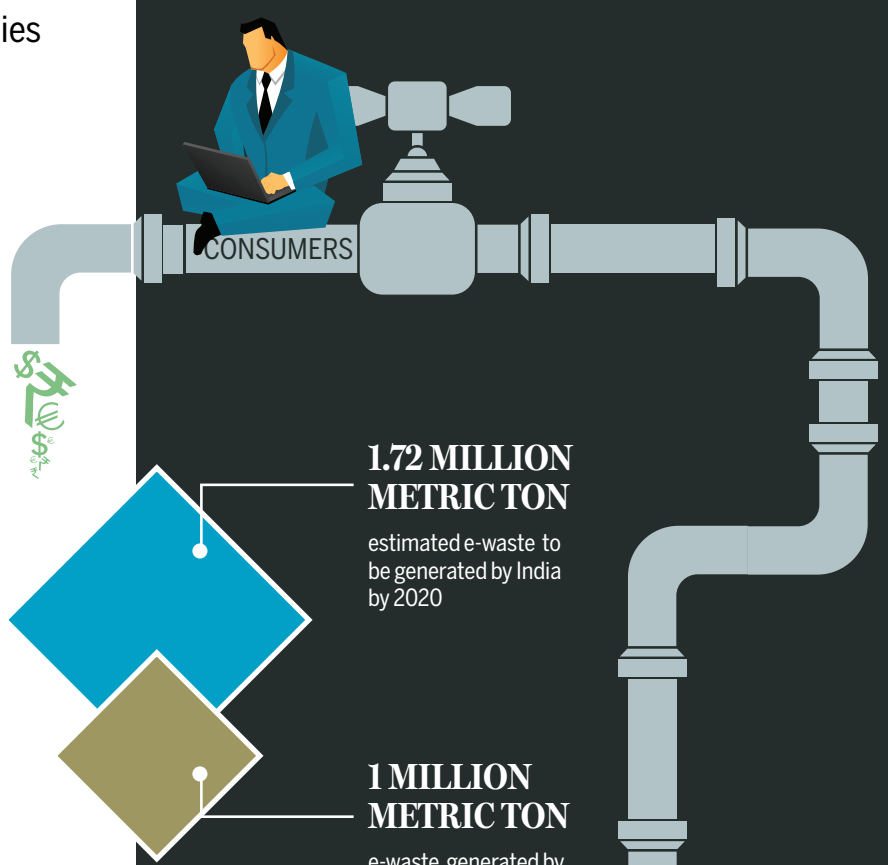
THE ECONOMICS OF E-WASTE

Even as efforts are being made to clean up the e-waste mess, the challenge lies in making e-waste management economically viable for various stakeholders in the value chain

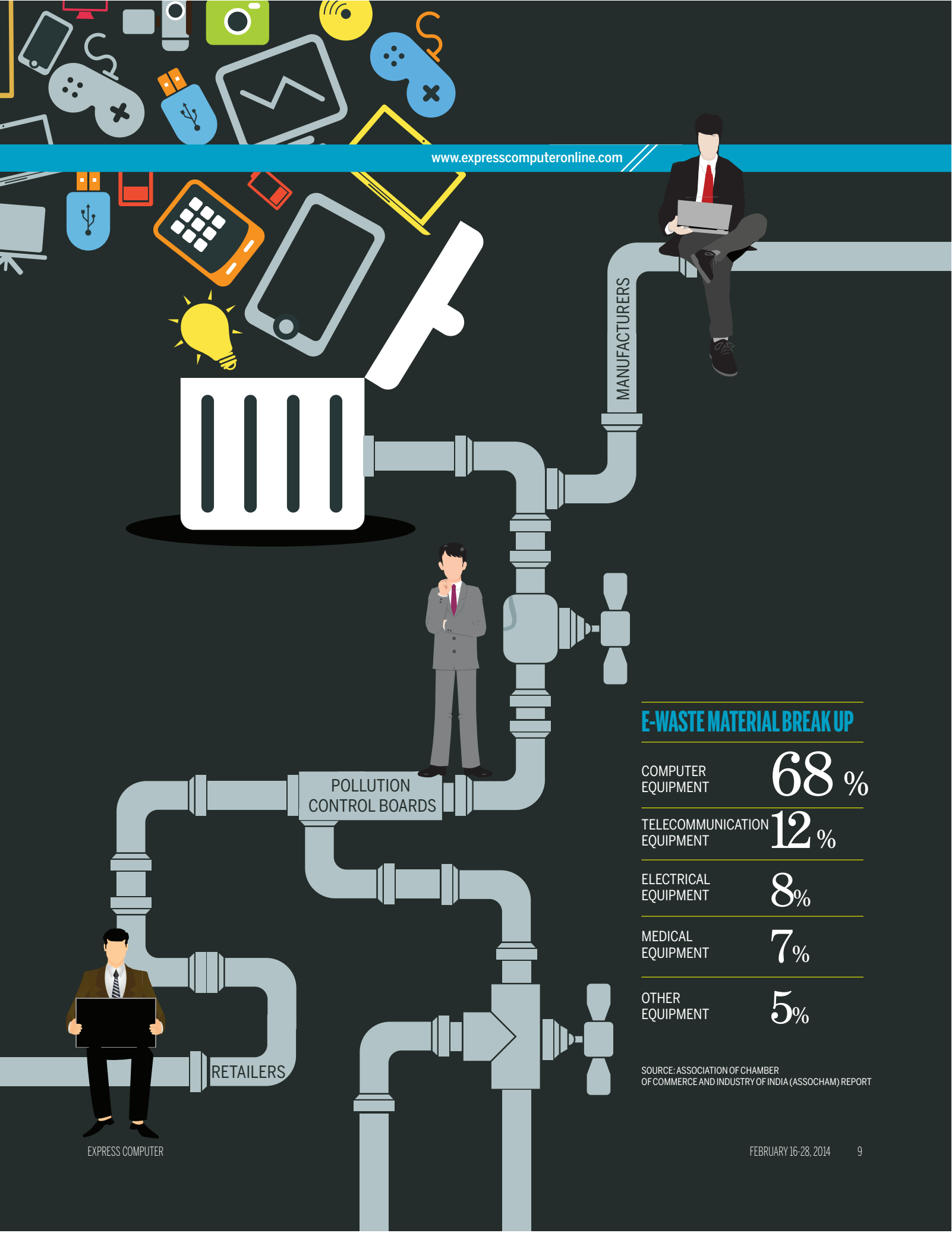
BY HEENA JHINGAN



After years of being passed around, the proverbial electronic waste buck in India seemed to have come to a stop, with the central government putting the responsibility of disposing of a product on its original producer.

The e-Waste Management and Handling Act was passed in 2011, bringing in the concept of extended producer responsibility (EPR) that puts the responsibility on the producers and proposes an elaborate framework for recycling and warehousing of e-waste.

Though the implementation of the act began in May 2012, observers say very little has changed since then. Some of the reasons being as plain as lack of awareness and willingness to let go of a waste product without getting any reward from it. This is the underlying factor that despite over 70 certified collectors, dismantlers and recyclers in the country,



E-WASTE MATERIAL BREAK UP

COMPUTER EQUIPMENT	68 %
TELECOMMUNICATION EQUIPMENT	12 %
ELECTRICAL EQUIPMENT	8%
MEDICAL EQUIPMENT	7%
OTHER EQUIPMENT	5%

SOURCE: ASSOCIATION OF CHAMBER OF COMMERCE AND INDUSTRY OF INDIA (ASSOCHAM) REPORT

"We understand that Individual Producer Responsibility allows producers to internalize the costs of responsibly managing their own brand of products at the end of the products' useful lives."

A Prem Ananth,
Producer Responsibility & Takeback Manager, Dell India

"Over the last one and a half years, we haven't seen the OEMs gear up to take up the responsibility with the level of sincerity that they were expected to.

Priti Mahesh
Senior Programme Coordinator, Toxics Link

e-waste heaps continue to grow.

According to the Association of Chamber of Commerce and Industry of India (Assocham) report, India generates close to 1 million MT (metric ton) e-waste (all types of electrical and electronic equipment that has or could enter the waste stream. It can apply to televisions, computers, mobile phones, 'white goods' such as refrigerators, home entertainment and stereo systems, toys, toasters, kettles, etc. Essentially, it includes almost any household or business item with circuitry or electrical components, with power or battery supply). This number is expected to rise to 1.72 million MT by 2020.

The report finds that computer equipment accounts for almost 68% of e-waste material followed by telecommunication equipment (12%), electrical equipment (8%) and medical equipment (7%). Other equipment, including household e-waste, account for the remaining five per cent. It notes that less than 5% of all the e-waste generated gets recycled.

Even though there are today, specialized recyclers ready to handle and manage waste, most of them are running much below their capacity, complaining of unavailability of enough e-waste to process while the industry hears the messy bomb ticking.

Priti Mahesh, Senior Programme Coordinator, Toxics Link, reasons that awareness about the potential risks of e-waste existed even before the legislation, unfortunately, most manufacturers have not taken the law very seriously. "Over the last one and a half year, we haven't seen the OEMs gear up to take the responsibility with the level of sincerity that they were expected to. It is more a matter of tokenism as of now," she says.

"The OEMs have not been able to incentivize collection or de-incentivize informal channel, which could have been a game changer."

She adds that though the responsibility of enforcement has been bestowed upon the states, the state Pollution Control Boards have different standards and are not aware of the intricacies involved with the management of hazardous material. There are about 15 pollution control boards in the country, each with its own ways of implementing the law. States like Karnataka, Tamil Nadu, Maharashtra are doing better, while in Bihar and Bengal there is little or no work done.

WHAT ENTERPRISES LOOK FOR IN RECYCLING

- Revenue enhancement
- Better asset management
- Prevention of brand dilution
- Association with a vendor with a pan-India presence

Responsible OEMs

While the industry feels that the producers have been pulling back from taking up the responsibility, some of the OEMs have already taken strides.

Anwar Shirpurwala, Executive Director, MAIT says that it is a general perception that the manufacturer community is not doing enough, but that is not true as many players like Dell, Panasonic and Nokia have undertaken several initiatives around take back, green production and procurement. In 2011, Lenovo India offered a voluntary PC recycling service for its products from households and business customers. Under this, they are reported to have collected and recycled 2.12 metric tons of customer returned equipment.

"The pace of things might be slow, but it would be unfair to brand OEMs as insincere. I believe, at the end of the day, the responsibility gets transferred to the end user as he has the ultimate control of the product and choice to give it back or not," he says.

According to A Prem Ananth, Producer Responsibility & Takeback Manager at Dell India, in FY13, the company recycled more than 170 million

pounds of electronics globally.

He says, "We understand that Individual Producer Responsibility allows producers to internalize the costs of responsibly managing their own brand of products at the end of the products' useful lives, and thus factor those cost impacts into product design decisions."

Dell, as a producer has been investing in raising awareness among the consumers, Ananth says. And to motivate end users to participate in the company's e-waste management initiatives in India, Dell launched a free laptop battery recycling program in June 2012.

"When consumers return their non-working lithium ion batteries from the Dell Inspiron, Studio, XPS and Vostro laptop ranges for recycling, Dell offers a discount of Rs. 500 towards the purchase of a replacement Li-Ion Dell laptop battery in return. Similarly, we also launched a special discount coupon program where consumers could send their old computers to us for free recycling and redeem a coupon of Rs. 1,000 on the purchase of their next Dell computer," he explains.

Chandrasekar Krishnamurthy, Vice President, Global Services, EMC India Center of Excellence informs that in 2012, globally, the company took back an estimated 10,041 metric tons of e-waste. "Our cumulative returns from 2008-2012 stands at approximately 90 million pounds — surpassing our five-year cumulative collection goal of 75 million pounds. Of this material, less than 1% went to landfill," he says, adding that e-waste management is not as simple as it might appear, especially for global players like them.

"As a global corporation, we must comply with varying local and national regulations around the world. We produce and sell only enterprise class products, but EPR regulations are often written with consumer products in mind, so we need to determine how, or even if, these laws apply to enterprise equipment. With numerous jurisdictions, this can become a challenging process," he explains.

A greater challenge for the producer or the recyclers is to make sure that the incentive in lieu of products to be recycled makes economic sense to the end user. Besides, collection and management of e-waste is a cost intensive process that includes logistics, segregation, and treatment overheads for the OEM and the recyclers, so it has to be a win-win scenario for all.

HOW THEY MANAGE E-WASTE

Tata Teleservices

A leading cellular services provider in India, Tata Teleservices tries to sell most of the e-waste to the OEMs. It also works with E-Parisara to manage the remainder.

The company tends to have a significant amount of network devices that generally become obsolete over time. "For such network and employee devices that reach end of life, we work with E-Parisara that collects the waste from our warehouse, wipes all the data at our site and once the devices have been dismantled or recycled, whatever the case be, they provide us video evidences as well," says Venkatesan JR, Deputy Manager, Procure Department.

He adds that the company has policy to deal with the waste and they have approval processes for the same. Every device big or small, needs to be approved before being sent for recycling.

State Bank of India

With about 22,000 offices and branches across the country, the State Bank of India churns out a huge amount e-waste every year. Cross-country, the public sector bank has about 2.5 lakh desktops, which are upgraded from time to time.

Rajesh Chawla, Deputy Manager (ITSS), State Bank of India, says, "We drafted an e-waste management policy back in 2011, in compliance with the draft rules of the Government of India." The bank follows the practice of giving away devices that can still be used but are no longer a part of the organization's equipment. These are given to the staff for their personal use.

Before giving away the devices, however, all the data is wiped off. "We have stringent processes laid out for data security. We also maintain e-waste records in terms of the number of devices given to the staff and the units sent for recycling," says Chawla.

THE E-WASTE MANAGEMENT & HANDLING ACT AT A GLANCE

Personal Computer manufacturers, mobile handset makers and white goods makers will be required to come up with e-waste collection centers or introduce 'take back' systems.

Producers will have to make consumers aware about the hazardous components and provide instructions for handling the equipment after its use along with the do's and don'ts. They will also have to give information booklets to prevent e-waste from being dropped in garbage bins.

Bulk consumers such as enterprises and government will be responsible for recycling of the e-waste generated by them. The bulk users have to ensure that e-waste generated by them is channelized to authorized collection centers or is taken back by the producers.

They also have to maintain records of e-waste generated by them, and make such records available to State Pollution Control Boards or the Pollution Control Committees.

> EPR regulations are often written with consumer products in mind, so we need to determine how, or even if, these laws apply to enterprise equipment.

Chandrasekar Krishnamurthy,
Vice President, Global Services, EMC India Center of Excellence

Return on waste

Efficient e-waste management is about making it a profitable activity. Only then will the end users like to follow an organized way of recycling or disposing off e-waste.

According to Abhishek Pratap, Senior Energy Campaigner, Greenpeace India, the rate of e-waste collection at present is about 8-12%, where as in Europe the rate goes up to 38%. "India can easily raise it up to 30%, the trick lies in making the deal lucrative."

Agrees P Parthasarathy, Managing Director, E-Parisara, one of the government certified recyclers in India. He says that last year, they recycled about 2,000 ton of e-waste, most of which came from bulk consumers like the large corporate or the OEMs themselves.

"There is very small business on the individual consumer end. We put out about 100 e-waste collection bins across various locations, we hardly collected anything, and we did not even reach 100 kg. The recycle technology is not cheap, the processes require some substantial volume of e-waste to be recycled to justify the spend on process, equipment and technology involved," Parthasarathy reasons.

Rohan Gupta, COO, Attero, an electronics and assets management company that works with large enterprises like GE Thermometrics India Pvt Ltd., KPMG, IFFCO Tokio General Insurance Company and Visa, complains of similar concerns. Gupta informs that their recycle facility in India is capable of processing 36,000 tons of e-waste per annum, working three full shifts per day, but as of now they are working only a shift a day.

Going to the root of the issue, Gupta

The State Pollution Control Board will be required to prepare and submit to the Central Pollution Control Board (CPCB) an annual report (based on the data received by consumers) with regard to implementation of these rules, by September 30 of every year.

On receiving the same, the CPCB will have to prepare a consolidated annual review on management of e-waste and forward it to the government along with its recommendations by December 30 of every year.

All agencies that handle e-waste on a commercial scale — collection centers, refurbishers, dismantlers — must apply for licenses within three months of the rules coming into effect and comply with pollution standards and labor laws.

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and imprisonment of up to seven years can be awarded to violators under the Act

observes that the co-existence of a sprawling informal sector, which though is not equipped to handle this kind of material in a scientific manner, but has excellent penetration, is a key cause of the current situation.

The informal sector does a better job than the specialized service providers as selling e-waste to these vendors does not involve any processes and is a quick way of making some money.

Parthasarathy says that today, e-waste could cost anything between Rs 5-100 per kilogram, depending on various factors. There is no mechanism to control this. Till that is done, the end users, even the bulk users will always weigh higher RoW (return on waste) greater than other drivers of streamlined process of e-waste management.

To get the bulk users involved, the specialized e-waste managers will have to innovate and load their service with value.

> We make positive margins despite selling the devices at about 30% lower than the market price.
>
> **Hitendra Chaturvedi,**
> Founder, Greendust

> It is not just about e-waste anymore; it is about IT asset management... above all, data security is of prime concern to enterprises.
>
> **Amit Sardana,**
> Managing Director, Dataserv

The value add

With negligible business drive from individuals, the specialized e-waste managers are innovating with offerings to target the corporates and OEMs that happen to be the bulk producers of the waste.

The definition of e-waste management is now a broader term, suggests Amit Sardana, Managing Director, Dataserv. He says, "It is not about just e-waste anymore, it is about IT asset management. The requirement is to handle the product inventory of which not all products may at end of life. IT assets need to be recycled in a cost effective and sustainable way, above all data security is of prime concern to the enterprises."

He explains, "At times, companies demand data sanitization at their site before the hardware leaves the premises. Video evidence of the e-waste management is important for audit purposes. The trend is just setting in."

Most companies today take the pain of e-waste management, either for monetary purposes or as a Corporate Social Responsibility initiative. At times, MNCs need to invest in these activities to comply with the policies of the parent company.

He further explains that for different downstreams of e-waste management, there could be different vendors. "For example, printed circuit boards need to be treated for gold extraction. India does not have the technology to extract all materials," Sardana says, adding that there are regulatory hassles in such cases. As per the laws, toxic waste cannot be exported for trade, it can be only sent out for treatment.

In India, not all specialized vendors have the facility and capacity to recycle, most of them are collectors, who segregate and further sell waste to the recyclers.

This is why when Akshat Ghiya co-founded Karma Recycling set up business in March last year, the intent was clear, that they needed to focus on specific areas. "We identified that logistics for e-waste was a weak link. Most enterprises looked at e-waste management as additional paperwork. We designed services to help them ease

out those processes and build policies as value add to our offerings."

To build a strong collection network, Ghiya informs that the company has tied up with Safexpress to channelize the logistics company's warehouses. "We have warehouses in Delhi, Rajasthan and Haryana where we collect the waste and supply it to the recyclers, " he says, adding that over a short period of time, they have opened about 30 accounts already and the business is picking up with about two to three fresh accounts pouring in every month.

Not all products that are disposed are obsolete, some can be reintroduced in the value chain. Hitendra Chaturvedi, Founder, Greendust, found opportunity here. "We are a reverse logistics firm. We collect such products from the manufacturers and dealers, repair the flaws and then offer them to the customers at reasonable prices, as factory seconds."

He says, "The return rate in India is around 4-6%, every year, products including IT, home appliances, mobile, consumer electronics worth $12-15 billion are returned."

"We work with brands like LG, Samsung, Lenovo, Haier, Dell, Phillips and retailers like Croma and Homeshop18. We make positive margins, despite selling these products at about 30% lower than the market price," Chaturvedi explains.

Ghiya says that these products can be reused and their life can be extended. "We also have a similar model and work with some of the dealers like Olx and Quikr. These products have a huge demand in Tier II and Tier III cities like Surat and Chandigarh with people vying for brands."

"We recently collected 200 laptops from an organization in Rajasthan, 84 of them are still working and can be refurbished," he adds.

In order to streamline the informal sector, some of the specialized vendors like Attero have tied up with some of the unorganized collectors. "We educate them on toxic wastes and their hazards. We are trying to bring a change by offering them higher value if they choose to follow systematic ways of disposal. For this, we offer them one and half time more the value that they were getting using their traditional methods of e-waste. This will be a time consuming process," Gupta of Attero says.

With most companies not having an e-waste management policy in place, they are still trying to find ground to walk on. For specialized e-waste managers, getting over the regulatory constraints and thinking of innovative service add-ons is a work in progress.

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> Managing Director, E-Parisara

THE RATE OF E-WASTE COLLECTION IN INDIA AT PRESENT IS ABOUT 8-12%, WHERE AS IN EUROPE THE RATE GOES UP TO 38%

WHEN CLOUDS FAIL

Vulnerability of the cloud, not just from a security standpoint but also from an outage perspective, poses bigger challenges for cloud services providers as well as users

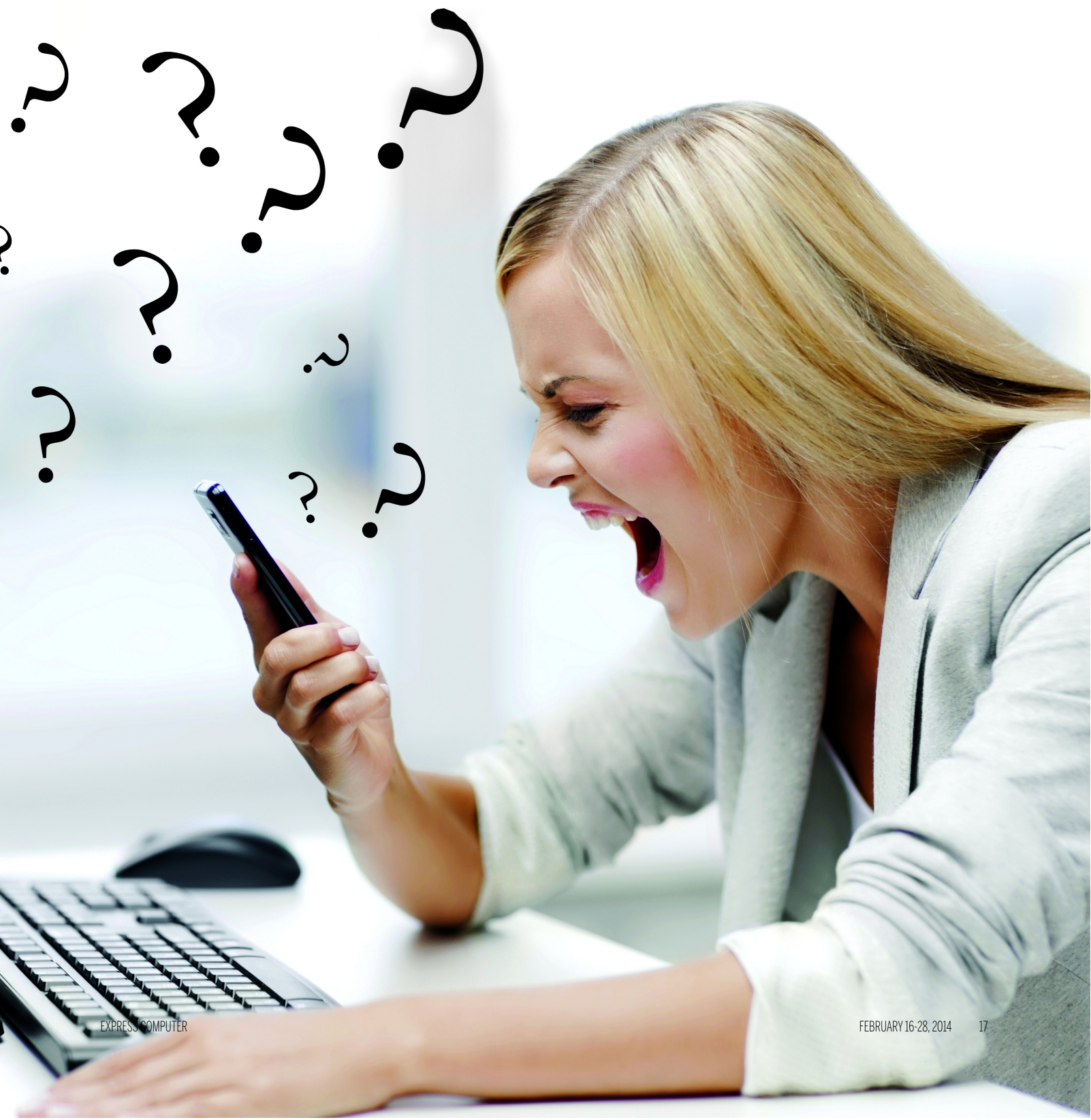
BY PANKAJ MARU

During the early part of December 2013, Yahoo's popular mailing service, Yahoo Mail, remained down for more than 48 hours, causing major problems for a swathe of users and businesses.

It's not the lone incident when a cloud based service suffered huge outage for a long duration.

In fact, the year 2013 saw far too many incidents of cloud disruptions or outages. As per the U.S. based IT continuity management company Neverfail's 2013 Downtime Report, Microsoft's Windows Azure, Google and Amazon Web Services made their way to the top three slots on the list of top 10 outages of the year. The scale of these massive outages was based on the downtime and its overall impact, taking into accounts the lost revenues, expansive reach and damaged reputations due to the downtime.

On many occasions, these tech companies faced technical glitches that caused disruptions of their cloud based



> With the growing adoption of cloud computing, the fear of cloud failures has been looming large on the minds of CIOs.

Ramesh Babu,
Chief Delivery Officer,
Ramco Systems

> The decision to embrace cloud computing should involve a risk-based analysis that includes all aspects of the business.

Yateen Chodnekar,
Group CIO,
Writer Corporation

services and systems that lasted for long hours, even days.

Generally, these severances are termed as 'technical issues or problems' but they are instances of 'cloud vulnerabilities' -- caused by various factors such as hardware failures, natural disasters, closure of cloud services, cloud related malware, inadequate infrastructure designs and planning and others.

Arguably, though, one may promptly say, "But they don't occur frequently!" However, the fact remains that they do occur. The possibilities cannot be ruled out in today's time, when almost everything is moving to the cloud. And any kind of downtime caused by 'cloud outage' is detrimental to businesses and enterprises, often leading to huge financial losses.

Cloud economics and CIOs

Although there's the ever lasting data security concerns, given the economics of cloud, most enterprises and organizations are deploying and adopting cloud today than in past. However, 'failures' or 'vulnerabilities' aspects of cloud are going to stay here but to an extent organizations have overlooked those gray areas linked with cloud technology and are vouching on commercial benefits it provides.

"Many have overlooked critical questions such as: If I want to move my business to another cloud provider, how am I going to migrate that over (given that the downtime has to be minimal)? Or, What if my cloud provider goes bust?" says New Zealand based Ryan Ko, APAC Research Adviser, Cloud Security Alliance (CSA) and co-author of the report 'Cloud Computing Vulnerability Incidents: A Statistical Overview.'

While CIOs have always raised the red flag over data and application security in the cloud, the economic pressures to embrace the cloud are too hard to resist. Hence CIOs whether in India or abroad are somehow learning to live with the cloud reality.

According to Yateen Chodnekar, Group CIO, Writer Corporation, vendor management and strategic sourcing are key focus areas for cloud adoption and partnering with a cloud service provider (CSP). Sharing his experiences, Chodnekar says he has ensured that there are standardized, in-depth SLAs which help define critical components of the relationship between organizations and his CSP.

"It will take time for an organization to shift personnel from technical experts capable of directly managing an IT infrastructure to people skilled at managing complex, multifaceted relationships with vendors. As a CIO you need to champion this transformation," advises Chodnekar to CIOs and enterprises new to the cloud.

Further, he stresses, "The decision to embrace cloud computing technology should involve a risk-based analysis that includes all aspects of the business; it is not simply a technology decision."

"Cloud adoption has been accelerating over the past few years. But with the growing adoption, the fear of cloud failures has also been looming large on the minds of CIOs," says Chennai based KM Ramesh Babu, Chief Delivery Officer, Ramco Systems, part of the Ramco Group.

Clearly this scenario is reflected by the momentum seen in the cloud market in India. In fact, Gartner's latest outlook states that the public cloud services market in India is expected to touch $434 million – a 37.5% growth in 2013 against $315 million forecast in 2012, which is a $119 million increase. While, the infrastructure as a service (IaaS) segment that includes cloud compute, storage and print services, that too is expected to touch $62.5 million in 2013 with a jump of 41.8%.

Embarking on the cloud journey

Ironically, from the cloud market perspective India looks very attractive place however, the cloud providers and cloud users or customers are equally at risk and fairly prone to any kind of cloud collapse. This means, they both needs to be well-prepared to face and overcome the consequences of cloud outages.

"It is apparent that cloud failure does affect both the user and the provider. Any failure is bound to affect both the parties. But, most often, failures are because the

business in itself may not be doing too well and not necessarily because of the solution," agrees Babu of Ramco Systems.

Hence, it is important to know and understand how to deal with the scenario of cloud and its vulnerabilities. According to Babu, to overcome cloud failure, one must ensure best practices are adopted right from selecting the cloud application to implementation.

"This includes, doing a complete consulting exercise to identify the right cloud technology for the company, ensuring the solution is a good fit and adopting best practices for a hassle free implementation," informs Babu and further adds that needs a regular review mechanisms to identify any concerns and accordingly take corrective action.

Fortifying the cloud

Since cloud usage has become almost inevitable today, the key to overcome cloud disruptions lies at the very first step when enterprises and organizations decides to accept cloud technology strategically and not just jump on to it, unprepared without any vision.

"But organizations which jump to the cloud, without proper planning and understanding of their business needs are unable to reap the benefits which lead to failures. Some of the most common reasons include poor planning, business unpreparedness, unrealistic expectations and lack of proper training for users, especially in SMB segment," explains Babu, why in some cases, companies face cloud failures.

Further, Babu points that cloud implementations are shorter in duration with little window for recoup, which increases the significance of pre-implementation analysis, complete understanding of the solutions and the risks attached to mitigate them. "It is important that they audit the system and the robustness of the security adapted by the vendor, regularly," he says.

From CIOs perspective, Chodnekar of Writer Corporation points that his focus while adopting cloud in the companies where he worked before has been to ensure a hybrid cloud environments that integrate on-premise and cloud-based

> A cloud provider must have teams in place for emergency response, crisis management and incident response
>
> **Ryan Ko,**
> APAC Research Adviser,
> Cloud Security Alliance

> While CIOs have always raised the red flag over data and application security in the cloud, the economic pressures to embrace the cloud are too hard to resist

applications; and it helps reduce complexity and increase flexibility.

"We integrate in and out of the cloud as necessary to make our processes work, and it has been working quite well for us. I have encouraged my team to invest time in understanding pricing models and increasingly complex cloud service providers solution agreements," Chodnekar says.

"Cloud has long been thought as analogous to electricity, allowing consumers to 'plug-in' and consume IT resources, paying only for what they need. Unfortunately, the IaaS market is far, far away from being a utility, and there is a confusing array of pricing methods, chargeable line items, metrics and pre-configured bundles," Chodnekar highlights other key areas linked with cloud computing.

More so, Chodnekar asks his fellow CIOs and IT decision makers to study the fine print, understand the costs and realistic deliverable, and ensure a tight SLAs and monitoring mechanism to maintain service standards.

"In my view, a proper assessment of the capabilities of the cloud providers (in terms of responding to outages in a transparent and efficient way) would give them a business continuity assurance. After all, the aim of moving to the cloud is to reduce the capital expenditure and increase profits. You do not wish to see some form of 'shocks' after you are well into the business," stresses Ko of CSA.

From cloud user perspective, this is how organizations and enterprises need to plan cloud journey in order to overcome the possibilities of cloud outages or cloud based service disruptions. And this critical situation is no different for the cloud providers that offer cloud services and solutions to large customer base across geographies and regions.

"It all starts with the designing layer of cloud and than its building blocks using best enterprise class infrastructure including hardware components such as storage, compute and networking layers. This helps to build a robust cloud platform and would have minimum failure chances and down time. However, the cloud failure mostly are related to

hardware components' failures," says Pune based S S Mulay, Senior Vice President and Head of Engineering and Development, Netmagic Solutions.

In case of Netmagic Solutions, which is a managed and data center services provider, Mulay informs his company uses best of the enterprise class components which includes Cisco's UCS (Unified Computing System) platform, VMware's Hypervisor and storage from NetApp and EMC.

Hardware failure and over-customization

Quite often, the failure is linked with hardware, but for any cloud provider it's a critical state to deal with, considering so many customers of all size and shapes are dependent on the provider's cloud services or enterprise applications are running on that cloud.

Given this scenario, the cloud providers needs to have enough resources, equipped with technology to react promptly, in case of cloud outages and reduce the impact on businesses in possible shortest time. Besides, they need to have back-up support systems that enables businesses continuity for their customers with certain level of surety, under defined service level agreements (SLAs) and contracts.

"Though these enterprise class or best of breed type hardware have very low failure rates but any kind of hardware remains prone to failures. Even when there's hardware (blade or chassis) failure, if there are clusters in place spanning across multiple chassis, or even if an entire chassis goes down, it doesn't really cause much of an impact to our customers," explains Mulay.

"Secondly, all the clusters we have, are designed in such a way that there are extra resources available in standby. This can easily fill in the gap, if one or two VMs (virtual machines) bursts as there's enough capacity available across the gird, without reducing the performance and the customers doesn't even feel its impact," adds Mulay, how the technical arrangements can lower the cloud failures and its impact.

Besides the hardware failure, being one of the reason for cloud outages, it's the over-customization of cloud that is responsible for cloud disruptions and its massive impact. While, hardware breakdowns are highly predictable, in Mulay's opinion about 20% cloud outages are triggered by hardware but its the layer customization that causes bigger damage or impact of cloud collapse than the hardware.

Since the occurrence of incidents have gone up over the years, it is important to know the reasons behind cloud outages and how cloud providers are responding

Compared to hardware, the layer customization or automation triggers cloud outages and its impact is far greater as customization weaken overall controls and down-time can last for longer duration.

But the fact remains that today most cloud providers bank on customized services to drive business and trying to meet their customer needs. Many cloud provider are guilty of over customization or automation of some layers like hypervisor or virtualization layer, which in simple terms, is pushing beyond the limits and capabilities what the platform or framework offers.

Such extreme tweaks can easily create enormous pressure on the layers or platforms and henceforth it manipulate the functional capabilities. Though it results into partial kind of

failures of cloud services, but the impacts are very high.

"Providing customization to customers within the framework limits to an extent is acceptable, however when there's over customization and also some time even service providers make internal changes to platforms, which more likely causes the cloud disruptions," points out Mulay.

Going back to SLAs, Netmagic claims to offers 99.99% SLAs on the availability of the VMs due to its latest cloud technology compared to competitors that over availability on the networks to customers. Company's over all business is growing more than 200% compared to cloud business, which has moved to 8% from 1% some three years ago.

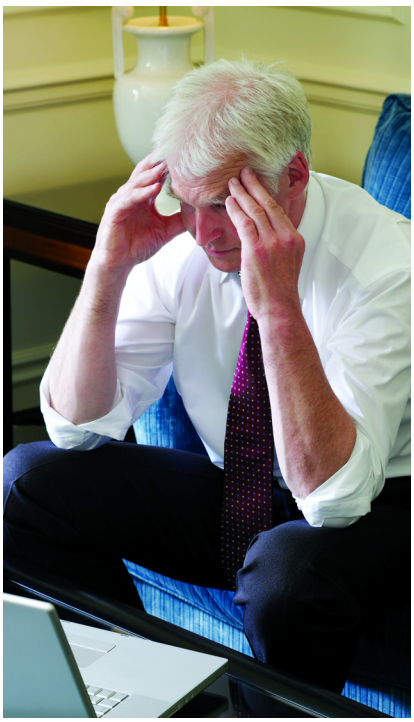
Public clouds highly prone

According to Cloud Security Alliance (CSA)'s Cloud Vulnerabilities Working Group report titled - 'Cloud Computing Vulnerability Incidents: A Statistical Overview'– during a span of five years between January 2008 and February 2012, the number of cloud vulnerability incidents rose considerably. The report is based on the number of reported incidents in the media.

The count of cloud vulnerability incidents has more than doubled over a four year period, from 33 in 2009 to 71 in 2011 and a total of 172 unique cloud computing outage incidents were uncovered, of which 129 (75%) declared their causes while 43 (25%) did not, the report states.

Since the occurrence of incidents have gone up over the years, it is important to know and understand what are reasons triggering to cloud outages and also how cloud providers and organizations are responding to the situation.

Ko, who co-authored the CSA report along with Singapore based Stephen Lee and V Rajan from Nanyang Technological University, says that the top causes found in the report were 'Insecure Interfaces & APIs' (29%), closely followed by 'Data Loss & Leakage' (25%). He points out, "These two categories shows there is a need to develop cloud software with security in mind, from the ground up."



Both cloud providers as well as its users (enterprises) are prone to disruptions or outages, there is a need of mutual understanding and technical response mechanism to address the situation of cloud severances.

"The first thing that they need to do is to look at developing mutually beneficial SLA and contracts. Only after that, the service agreements will come in play. All organizations must check to see if their cloud providers have (at a minimum) the following teams in place: Emergency Response Team (ERT), Crisis Management Team and an Incident Response Team. Without these teams, it is hard to see how a cloud provider can deal with a crisis and ensure fast recovery in the event of a major failure," explains Ko, who is also a Computer Science professor at University of Waikato, New Zealand.

"There is no room for relaxing and complacency which often results in failures. Information Technology is a serious business and only those who have the ability and wiliness with a long term vision should enter it," comments Chodnekar of Writer Corporation

Interestingly, the CSA report has more references and details of cloud outage incidents largely from the U.S and Europe, compared to Asia including India, where the cloud market is growing fast than other regions in the world.

"I believe that has got to do with the legal requirements. In most western countries, especially those in the European Union, strict regulations are placed so that the cloud providers are regulated in a compliant manner," reasons Ko, why his report has more clouds outage incidents from the west compared to Asia.

Further, Ko points that Asian countries lack government legislation linked with the cloud computing industry. "When such mandates are in place, Asian cloud providers will have to conform and report outages in a more transparent manner - which ultimately benefits the cloud customers. Aside from legislation, efforts such as CSA STAR (Security, Trust & Assurance Registry) and OCF (Open Certification Framework) are great ways to assure high quality and highly-accountable clouds."

In Asia, India has a highly growing cloud ecosystem including the vendors, cloud services providers as well as the users (enterprises and organizations); however, there have been no reported incidents of cloud outages so far.

"There has been better awareness on the expectations from cloud. This is because most often we see that cloud adoption is always business-driven rather than being IT-driven. The maturity of providers and enterprises is high, leading to better managed projects. Also, the organization as well as the service providers have put in place best practices to ensure the desired outcome," says Babu.

The probability of failures is much more for public clouds compared to private ones, but if best practices are followed—right from robust designing, hardware resource allocations as well as utilization of resources and platforms, controls on layers and infrastructure—it can minimize the possibilities of cloud outages to a great extent.

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7 WAYS TO OPTIMIZE IT COSTS

Containing IT costs is an ongoing challenge for most CIOs. Here are a few approaches to cost optimization they can take

BY JASMINE DESAI

"There is nothing high or low about cost; it is different from organization to organization. Most of them do the mistake of considering IT cost optimization as a one-time project. It has to be continuous and it has to be a discipline," says Anil Khatri, Head (South Asia), Global IT-client technology and Field IT, SAP India.

The challenge for any CIO is doing more with less. While this is not new to them, it is becoming almost routine to their jobs.

According to a worldwide survey of 2,053 CIOs by Gartner, 65% of the executives stated that the main barrier preventing organizations from achieving continuous optimization of IT costs was related to mindset (that is, the ability for all resources to work together in the same direction with the same goal).

The approach toward IT cost optimization is what determines its success. Here are seven ways in which organizations can achieve this:

1. Addressing the human factor: Says Arup Roy, Research Director, Gartner, "The major cost in IT is 55% human factor, and labor cost, having increased in the last 3-4 years, is having an impact on cost optimization." The first way for a CIO for IT cost optimization is reduction in labor cost.

IT services firm iGate, for one, has persistently encountered human capital cost going up. Says Chella Namasivayam, CIO, "Optimizing resources is the best possible thing to do to optimize the cost. In such a scenario, internally, we use tools from Microsoft and Oracle to automate many of the ticketing processes [for tech support]." For example, iGate provides support for desktops for configuring applications, deploying the OS, upgrades, etc. Before automation, engineers had to physically go and run a script to do an update for each system. In an automated system, however, a ticket is raised by the end user, the orchestration tools pull the ticket and, in most cases, allow the update script to be run automatically on the machine. Now there is only one engineer required per 200 users as against 75 engineers needed earlier.

> CIOs continue to be responsible for delivering new business capabilities despite facing even greater resource constraints for funding them

Amit Luthra,
National Manager, Storage Solutions Marketing, Dell India

> Labor cost, having increased in the last 3-4 years, is having an impact on cost optimization

Arup Roy,
Research Director, Gartner

2. Overcoming bandwidth woes: In an increasingly connected world, no amount of bandwidth seems to be enough. For most enterprises, adding additional bandwidth every time demand goes up is not cost-effective. According to Robert Healey, Marketing Evangelist, APAC & Japan, Riverbed Technology, companies need to look at other alternatives to optimizing their bandwidth expenses and usage. "It is now imperative for organizations to look for alternatives for bandwidth addition to enhance network performance and optimize costs." One way to achieve cost optimization is by deploying a WAN optimization solution.

3. Finding the right fit and ensuring consistency: Lack of adequate knowledge in terms of which vendor, which solutions and which devices are the right fit for the organization poses a challenge. Amit Luthra, National Manager, Storage Solutions Marketing, Dell India, says, "The key imperatives toward making a buying decision are speed, results and an understanding between the organization and the solutions vendor."

Another challenge is to address complexity, which adds to an enterprise's IT costs. According to Khatri of SAP, "Huge companies have made IT very complex. Ensuring they are on a standard platform removes inconsistent processes."

4. Solving budget issues: Organizations need to show cost in a very transparent way and ensure that the cost has an accountable owner. While there is a big allure toward moving new technology, organizations need to weigh costs against the benefits incurred. Says Luthra, "While trimming down budgets is a way to reduce expenditure, in the long run it does more harm than good. For the last couple of years, IT expenditures have been pared down extensively and CIOs continue to be responsible for delivering new business capabilities, despite facing even greater resource constraints for funding them."

5. Optimizing infrastructure: It really helps to look at the infrastructure that organizations have and what kind of

> Optimizing resources is the best possible thing to do to optimize IT costs
>
> **Chella Namasivayam,**
> CIO, iGate

upgrades are coming. Procurement is one area wherein companies can still bring down the cost element. They can look at centralized procurement and also review their existing contracts with vendors.

Namasivayam of iGate shares his company's experience. The organization's US operations were becoming expensive. It was very difficult to keep and maintain different infrastructure components in the U.S. – like mailing systems for other countries apart from India. These were supported by engineers in the U.S. and India. So they identified applications like instant messaging services and collaboration tools that were hosted in iGate's own environment (which have now moved to the Microsoft cloud environment). Due to this initiative, the organization has reaped savings in the range of 20-30%.

When it comes to infrastructure, they use common infrastructure for all kinds of services. It goes through the common network underlying it, and optimally utilizes the licenses which have been procured from different vendors. It reduces the overall cost of operation through the charge-back model (iGate has its own private cloud).

6. Saving on power: A major cost for organizations is the money spent on power, including power used to run and support IT. iGate, like others, was also bearing the brunt of increasing power tariffs. Traditionally, they used to install the UPS system, which was meant for the entire building, for the load of technology at that particular time. "Selection of the right UPS is necessary to reduce power usage. With modular UPS, the ROI on power savings comes in less than 14 months. There is a wrong notion that reducing the footprint of equipment or load reduces power usage. It is extremely important to keep the power consumption tab of assets that organizations have and see as to which device consumes the most amount of energy," says Namasivayam.

7. Making legacy work: Most organizations are upgrading their legacy architecture. In maintaining and managing the existing IT operations lies a huge opportunity to optimize IT costs. Organizations cannot simply shut down these elements. They have to think of ways and means to optimize it. According to Khatri of SAP, "Most organizations make the mistake of treating optimization as a one-time project. It has to be a continuous process. It has to be a discipline."

Most organizations are upgrading their legacy architecture. In maintaining and managing the existing IT operations lies a huge opportunity to optimize IT costs

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STEVEN BLUM
AUTODESK

Steven Blum, Senior VP of Worldwide Sales and Services, Autodesk talks to Heena Jhingan talks about how the introduction of mobile devices into the construction industry is transforming the way projects are built and managed

"Autodesk is much more than CAD software"

What are your efforts to re-create a brand beyond the CAD image?
We actually have a much broader portfolio with industry specific suites. I don't think that is well understood by a lot of people in the industry. Autodesk is much more than AutoCAD, the core design, drafting and modeling software application. We focus on manufacturing, architecture, engineering and construction space. Most of the people know us for the architecture part; however, we have been building our portfolio around engineering and construction bit as well.

Construction has become a very important part of our over all portfolio. Our solution is addressing the needs that the construction industry globally, has had for many years, but did not take advantage of the technology because it wasn't being presented to solve their problems, and we are changing that. We also serve the manufacturing and automotive industry. Media and entertainment is another part of the business that a lot of people don't know us for. However, that is changing. For example, our product Revit is now an industry standard for building information modeling (BIM).

Do you think the construction market in India is mature enough for BIM adoption?
Globally, construction is a significant contributor to GDP and is one of biggest areas of spend. Interestingly, it is being driven by the governments across markets. Construction in turn drives the commercial space, and in fact a lot of the manufacturing is happening for construction. Construction also happens to be an area where there has been a significant amount of waste. Most of the construction companies budget a significant amount of their spend to a category called waste.

Our value proposition to the construction industry is that we will shrink the waste, by providing efficiencies for construction firms to get the project done in more timely and organized fashion, and with higher safety. Small incremental reduction in waste can save billions of dollars. In the old style, the 3D models when printed, would be converted to 2D and analog and if multiple people and firms working on project did not have the information aligned properly, there could be construction interferences. Such errors could not be detected earlier and could be fixed only on the site.

Cloud, mobility and collaboration are the key words around any solution today. How does Autodesk weave these into its solutions?

We have BIM 360, a cloud-based offering, an enablement to tie people to the job site through cloud. One could be looking at the construction on the site and looking at the model on his tablet and making actual comparisons, making changes in real time. We have released several cloud based offerings that are work flow specific. In fact, India is among top five users of Autodesk consumer products in the cloud through mobile and smart devices.

So what has changed now?
Now technology allows taking all the information, stitching it together and helps in interference analysis. The new construction contracts are being written keeping penalty for rework in account. This is forcing firms to invest in technologies like BIM.

People now can go to sites, match physical structures with the BIM details and mark out errors. In India too, large projects of the size of IT parks are beginning to adopt BIM. Some of the recent projects like the Navi Mumbai Airport Terminal and Khed City developed by Kalyani Group, have leveraged BIM. Kalyani Group saved upto 7% of their construction cost by using BIM, which is huge in the construction business.

How has the India market performed this fiscal?
The revenues have been flat. India has been a challenging market. The fluctuation of rupee has certainly not helped us. But we are still bullish about the market due to the potential of the infrastructure market here. We are also intrigued by opportunities in the country as the manufacturing market here is large, automotive has excellent presence here, which is a sweet spot for us overall. There is a vibrant growing opportunity in India for our media and entertainment solution. Bollywood is a very ripe opportunity for some of our offerings and broadcast continues to expand. We understand there is need to support the game development industry in India. For us, most of the investment is happening in the form of R&D, a large part of which is based in India. During FY2013, Autodesk spent 25.4% of net sales on research and development, the largest percentage among US software or internet companies that have a market value above $5 billion and an annual R&D budget of at least $300 million.

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SERVING WITH SPEED

Nilkamal reduces server power consumption and improves file access performance with Dell's standalone factory servers

BY HEENA JHINGAN

Nilkamal Limited is a plastics manufacturing company that produces furniture, material handling crates, and devices for the catering industry. With headquarters in Mumbai, the company operates nine large factories across India, and maintains 45 offices employing 3,500 staff.

At each of these manufacturing units, the company needs to maintain records related to employees and business, which include a large number of documents and spreadsheets. These files are critical to their effective operations. The staff needs regular access to manufacturing data throughout the day so that products can be dispatched on time and customers can be billed correctly and in time. For this, Nilkamal relies on domain and file servers that enable local staff to securely store and access this information.

Karan Doshi, Senior Manager - Projects at Nilkamal Limited informs that about an year back, they realized that at each factory site, the existing tower servers with Windows Server 2003, were aging and they needed a to refresh the hardware.

"The servers needed to be replaced without delay as these were critical for day to day process at these sites," he explains further.

Back in 2010, they had brought about changes in their data center, located in Mumbai. The data center earlier was largely an IBM environment, they had moved to HP, but that was the main data center, where they had an IT head to monitor and respond to IT related needs. However, the engineers at each of these units

could resolves only small technical glitches and they were not essentially server experts.

Doshi says that therefore, they needed a solution that would be easy to deploy and manage. Moreover, since these factories have no special cooling rooms, they needed servers that could cool themselves without additional power cost. Another important selection criteria was ruggedness.

The staff also wanted to upgrade to a newer version of the Windows platform, and wanted a solution that would help them maximize the value of their new platform.

Ruggedness and reliability

Nilkamal analyzed a variety of tower server options from IBM, HP and Dell, assessing reliability in factory type environments, support and power consumption.

The reason why Nilkamal was so confident of Dell was partly because of their past relationship with the company. "Over the last five years, Dell has supplied us with desktops and laptops. We were very impressed with their support service," Doshi reasons.

Besides these factors, Doshi says, cost was also an important criteria while evaluating the various solutions available in the market. "Even though, Dell is relatively a late entrant in the server space, we analyzed the total cost of ownership, which was very lucrative and Dell came out to be the perfect choice for our specific requirements," he says.

Intitally there was a bit of skepticism about picking Dell hardware as the data center environment was quite different. However, Doshi explains that since the servers that were to be deployed at the factories were not supposed to run any mission critical applications, they could still take chances and experiment. He says, "In the future, the configuration might not change much for these, but performance is very important."

Change management

Nilkamal selected Dell PowerEdge T320 Tower Chassis, with Intel Xeon X3430 processors. The tower chassis included four 3.5" Hot Plug HDDs with LCD Diagnostics, which enable the factory staff to replace malfunctioning drives without powering down the server tower. Nilkamal also purchased an additional tower for the Mumbai head office and connected it to all the factory servers. This enables the head office staff to centrally manage and monitor the entire server environment, and to back up factory staff files remotely.

> The Dell servers consume lesser power, and since installing them, the power consumption at the factories has come down by about 25%.
>
> **Karan Doshi,**
> Senior Manager – Projects, Nilkamal

GAINS FROM THE SERVERS

- Enhanced energy efficiency; reduced power costs by 25 %
- Easy installation and operation enable optimal utilization of human resources
- Constant uptime
- Centralized control over identity and access rights protect company's assets
- Improved server response times by 30%

Doshi says that the deployment was not complicated, so there weren't any major challenges apart from generic change management related concerns.

Once the hardware was installed, Nilkamal also upgraded their platform with Windows 2008 R2 Standard Edition, which includes Active Directory for identity, certificates and rights management. All the installation processes were completed within a day without the need for any special training for the staff.

With a networked server environment covering all their factories in India, Nilkamal is able to provide the factory staff with secure and reliable access to all their critical files. "We manage all the profiling and security settings from our Mumbai office. This means we have more control over who can access files, so we can easily prevent data being misused," says Doshi.

He adds, "The Dell servers consume lesser power, and since installing them, the power consumption at the factories has come down by about 25%. This is a significant saving in energy bills, which in turn impacts our overall operating cost across the units."

Also, since the response time on these servers is 30% faster, it has a positive impact on the employee productivity.

For a bigger move

Doshi is happy to have chosen Dell and would like to extend relationship with them.

"Since we moved our data center legacy systems from IBM to HP in 2010, the journey has been good though not great, so whenever we think of any developments there, Dell will be one of our choices. We have recently invested in two rack servers from Dell and, depending on their performance, we will make the buying decisions in the future," he signs off.

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PHILIPPE INSERRA
GEMALTO

Philippe Inserra, Vice President, Identity and Access - Asia, Security Business Unit, Gemalto, talks to Heena Jhingan about awareness around digital security and India's potential as a market for access security solutions. Excerpts...

"The government mandates here are favorable to our growth"

What are some of the key trends in the digital security space?

Initially, there was the concept of two-factor authentication using OTP (one time password). However, with more and more countries like India now mandating the use of digital signature, we see this market evolving. A digital signature is an upper level of security compared to two-factor authentication and we are pushing our products facing the government mandates for the digital signature. As a matter of fact, many procurement officers in India are already using digital signatures.

At the same time, that there is a cloud wave arriving, pushed by more people accessing applications on their mobile devices. Most of these users will need OTP to connect to the VPN to access company data, most of them will require a digital signature with credentials integrated with their trusted ID in order to digitally sign or encrypt email.

In any case, digital signatures as of now are largely driven by the mandates. I feel, gradually, companies that have assets at stake (banks, insurance companies etc.) will start investing in such solutions proactively. For example, we are already working with a big insurance company. We help their agents across the world connect with the head office and get access to company data, for which they need digital signature, but now we are also proposing biometrics for them. As of today, we cannot say that large enterprises are aggressive on implementing digital signatures. However, the enterprises need to get into the green zone to get to the first step, for having digital signatures. For this, they must at least start thinking of OTP; digital signatures will happen gradually.

Which countries in APAC do you think have been proactive investors in digital security?

Countries like India, Vietnam, Singapore and Japan have been early adopters. I believe the rest of the region is still trying to understand and implement OTP. The good news is that there is greater awareness around relevance of authentication. At present, in India the government mandates are conducive to adoption of digital signature. We see an increasing number of new partners looking to train themselves on our products to provide solutions to the end users.

What technological innovations can we expect in the identity and access space?

With BYOD, CIOs face the challenge of authenticating employee owned devices in the organizations' premises. We are working on embedding secure elements in phones and tablets that will contain credentials such that the phone will become the authenticating device. We are also working on integrating biometrics on the chip. We believe the market will be concentrated on tablets and the phone. mobility and cloud.

How important is India from the digital security perspective and what is your strategy for this market?

Globally, we are present in more than 80 countries and have 45 offices. We have about 15 research and development centers across the world, including India. We even have a factory in the country. It will be difficult to comment on India contribution to our revenues.

All I can say is India as an important market, especially in the backdrop of the pace of proliferation of the two mega trends like BYOD (bring your own device) and cloud computing in this market. We feel the government mandates here are favorable to our growth. Even individuals are today using digital signatures to file their income tax returns.

Our solutions are customizable and they are compatible with various form factors depending on customer requirements, something which is a must-have in order to survive in a highly demanding market like India. At present, Gemalto has three distributors in India for its Identity and Access business unit - RAH Infotech, KDK Software and Agmatel. We are expanding our channel network by adding Tier 2 and 3 partners. We are also associated with large system integrators and evaluating ways of bundling our solutions with their offerings. Our business strategy is to align with distributors as we are not into direct billing.

Though India is believed to be a price sensitive market, for us, pricing hasn't been a constraint. The initial challenge in the country was to get the right partners. With years of experience in banking and telecom space, we understand security very well. Over the last three years, we have delivered around eight lakh PKI (public key infrastructure) devices in India. These include different form factors such as corporate badges for enterprises, PKI tokens for certification authorities, banks and government bodies.

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RON GOH
ORACLE

Ron Goh, Senior Vice President, Systems, Oracle Asia Pacific, talks to KTP Radhika about technology trends that are driving the storage market and Oracle's strategies to tap them

"Software defined 'anything' can have a major impact on the data center fabric"

How is SDN (software defined networking) integrating server, storage, networking and OS management tools together?

Software defined network or, in fact, software defined 'anything' has the potential to have a major impact on the data center fabric. Today's competitive environment has left organizations with no choice but to improve levels of service in order to keep pace with the demands of the business. With SDN, we have seen customers improve application performance by four times, reduce infrastructure complexity by 70%, cut SAN capital expenditures by 50% and provision new services and reconfigure resources in minutes, not days. On top of this, the increasing demand for cloud computing is driving the uptake of this technology; it is being predicted that the global software defined data center market is predicted to grow at a CAGR of 97.48% over the period 2014-2018.

For instance, Oracle SDN (Software Defined Networking) can boost application performance and management flexibility by dynamically connecting virtual machines (VMs) and servers to any resource in their data center fabric. With Oracle Virtual Networking (an element of SDN), enterprises can reduce the complexity in their data center by improving infrastructure performance, reducing cost and complexity, and simplifying storage and server connectivity.

What are the other trends driving the market?

Flash is still a big trend in the storage market. Oracle has long been a strong supporter of flash storage, as a mechanism to increase the performance of a storage system. Flash drives are well over 100 times faster than disk drives. However, if not architected appropriately, this performance gain can dramatically increase the system and administrative costs of the storage system. If architected appropriately, flash storage enables substantial increases in storage-application responsiveness and performance, while reducing administrative overhead.

What are your strategies for 2014?

Going forward, we will continue to focus on helping organizations manage their data centers more effectively and efficiently, be they midsize or large companies. We see companies supplementing commodity, general purpose hardware with engineered systems, which are purpose built for specific jobs such as database or mission critical enterprise application workloads.

On the other hand, cloud is now being used to deliver great flexibility to storage users. As cloud storage technology evolves, it can be difficult to define what its capabilities and benefits will look like years from now. Big data is also driving the storage market.

How is Oracle tapping into these trends?

We at Oracle are constantly innovating products and solutions that help us stay well equipped to address the requirements of our customers. For example, we are co-engineering our software and hardware together and you are beginning to see the results of that in our application aware storage. Amongst other things, it includes an intelligent storage protocol that automates tuning and administration of the Oracle Database. The result is automated tuning, which reduces manual processes by up to 65 percent, optimizes database performance and eliminates the opportunity for human error. As a result, customers can do more with the same headcount and deliver strategic projects faster.

Another example is our unique Hybrid Columnar Compression (HCC) that enables customers to achieve up to 90% reduction in storage footprints for in-database archives.

Please shed some light on your new product launches from the systems business.

One of our most recent launches is the ZFS Storage Appliance that is designed to run applications faster and more efficiently, increase business and IT productivity. Oracle also unveiled its fastest engineered system, the SPARC SuperCluster T5-8 in India this year. Based on the world's fastest database server, ultra-fast database storage, and the world's fastest micro-processor, Oracle SPARC SuperCluster T5-8 can deliver extreme performance and 10 times better price to performance ratio than a comparable IBM Power7+ based solution. The SPARC T5 is the world's fastest processor today with up to 3 times faster application performance than any other competing platform.

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COLUMN

VIROS SHARMA

EXTENDING THE DATA WAREHOUSE FOR BIG DATA

How IT teams can modernize their stodgy, overloaded, inflexible data warehouses — and make them more responsive to the current business environment

Proliferation in unmanaged data, complex data sources, data volumes, and poor data quality, along with real-time information requirements demand that organizations reorganize their information management landscape

The changing dynamics of big data have brought a paradigm shift in the ways organizations think about their data assets, how they collect them, analyze them, as well as monetize the insights derived from that analysis.

Traditional software and hardware environments are no longer effective in capturing, managing, and processing new forms of data emerging from different sources, including social media, mobile, consumer comments, emails, etc.

Proliferation in unmanaged data, complex data sources, data volumes, and poor data quality, along with real-time information requirements demand that organizations reorganize their information management landscape and extend a successful enterprise data warehouse architecture to the new era of big data analytics.

To modernize their stodgy, overloaded, inflexible data warehouses, and make them more responsive to the current business environment, IT teams need to do much more.

Deploy MPP-based DW architectures

MPP-based architectures provide cost effective data warehouse environments. In Massively Parallel Processing (MPP) databases, data is partitioned across multiple servers or nodes (with each server/node having separate memory to process data), which significantly decreases the data processing time. An MPP data warehouse allows analysis of detailed data, instead of data aggregates.

MPP-based DW architectures have proven their superiority over legacy databases by efficiently managing massive volumes of detailed data and providing agile query, dashboards, reporting and analytics. They also offer linear scalability that enables easy addition of nodes and storage, allow automatic parallelization and help enhance query and loading performance.

Perform in-database analytics

Data transfer issues have always been debilitating to the complete data analytics process. The advent of in-database analytics has successfully addressed this problem of moving large data volumes across different systems. By providing organizations the capability to process data in the database itself, in-database analytics eliminates the time and effort required to move data back and forth between a database and a separate analytics application.

Conventionally, moving one terabyte of data from database server to analytical server takes several hours, but with in-database analytics, it has dropped to zero. Besides, the processing time for one terabyte of data has been significantly reduced from approximately 193 minutes to just 12 minutes with the emergence of in-database analytics. In-database analytics is ideal for applications that require intensive processing, which includes fraud detection, risk management, credit scoring, trend recognition, etc.

Remodeling Operational Data Stores (ODS)

The Hadoop Distributed File System (HDFS) is becoming popular with BI/DW teams for being a cost-effective, large storage system with inherent analytical capabilities. HDFS simplifies the amassing and storage of structured, semi-structured (web-logs and sensor feeds) as well as unstructured (social media, image, video, and audio) data. It is robust and supports problems that legacy file systems, like NFS, are vulnerable to.

For example, HDFS stores a very large amount of information (terabytes or petabytes) and supports much larger file sizes than NFS. It's much more reliable when storing crucial organizational data. Even when individual machines in the cluster malfunction, data remains safe and available in HDFS. HDFS provides fast, scalable access to business information. It's well integrated with Hadoop MapReduce, which allows data to be read and computed upon locally, as and when required. Hadoop MapReduce provides companies the capabilities to break big data into manageable chunks, process massive amounts of unstructured data in parallel across distributed clusters, and derive quick and relevant business insights from the processed data on commodity hardware, reducing the processing cost to manageable levels.

The "map" component of MapReduce first distributes the tasks across a large number of systems and handles the placement of the tasks to balance the load. After the completion of distributed computation, it performs another function "reduce" to aggregate all the elements back together to provide a result/business insight.

Let's look at an example that shows how the Hadoop System can support the types of on-demand analytics for which the legacy EDW system is unsuitable.

Floods in Thailand had major impact on the supply chains of many manufacturers. The CFO of a company asked its BI team to provide an estimate of the impact on the end of quarter Earnings Per Share (EPS) in three weeks. Using Hadoop, the analytics team not only gathered its own supply chain data, but also the supply chain data of their top 25 suppliers. Besides, the data on customer, inventory, orders, sales pipeline and manufacturing was also pulled from the internal manufacturing system. This data was then combined with third-party data on traffic, weather forecasts, road conditions, and local support and recovery information.

Using this data, the analytics team created models that answered questions like how weather problems and traffic issues exacerbate the supply chain problem, which products are most impacted by the shortfalls, which top customers are most impacted by the component shortages and so on. By using the large amount of data stored on Hadoop system, the analytics team successfully gave the CFO, the estimated EPS impact and provided insights on how they can optimize existing inventory allocation to minimize the EPS impact.

Technology advancement is giving IT teams the opportunity to innovate and transform their existing data warehouses. To overcome information infrastructure challenges, dramatically cut down enterprise data warehouse costs, and derive the maximum value from their information assets and investments, IT teams need to modernize their data warehouses by deploying emerging technologies we've discussed above. This will open up new data sources, achieve new and actionable insights and grow their businesses by leaps and bounds.

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COLUMN

MITESH DESAI

MANAGING CLOUD SPRAWL

Controlled cloud sprawl is a sign of healthy cloud management and can be achieved by using good practices in IT operations

The cost of a cloud sprawl would be proportional to the cost of unused resources and would further increase depending on the amount of resources including staff and computing systems used to support these unused resources

Enterprises today are inundated by a plethora of applications. This, coupled with an exponential growth in data generated within the enterprise, has led to an increase in the demand for computing resources. This was not a major concern for data center managers till recently, when energy prices and data center hosting costs started rising considerably. To add to these challenges, data center managers discovered that most of their systems were using only 10-15% of allocated capacity.

Virtualization helped by using a single machine to host multiple virtual machines, thereby increasing overall infrastructure utilization and offering substantial cost savings to IT. Virtualization also brought in other benefits such as ease of management, faster provisioning/de-provisioning, dynamic allocation of resources to virtual servers, highly resilient infrastructure and agility to business IT services.

One of the other significant benefits that virtualization brought in was enablement of cloud-based IT services.

Virtualization enabled various forms of cloud services, viz. the public, private and hybrid cloud. Each form of cloud service offers a different set of benefits and challenges. However, there is one challenge that is prevalent across all forms of cloud services and is being identified by most IT managers as a critical challenge.

This is the challenge of "cloud sprawl".

Byproduct of flexibility and low cost

Cloud sprawl is defined as an "uncontrolled growth of computing resources underlying cloud-based IT services, that exceed resources required for a definite number of authentic users". Cloud sprawl can be a result of unmanaged Virtual Machines (VMs) — that is, VMs no longer required or VMs created without consent of the corporate IT team. Rapid proliferation of VMs has serious implications with regards to data center space, support and maintenance, energy consumption and various licensing issues.

It is mainly the associated cost implication that worries most IT managers and CIOs. A typical private cloud service is made up of application software, compute resources (memory and processor), storage memory, network connections, and network devices. In order to calculate true cost of cloud, the cost for all the above components needs to be accounted for.

Consider this: A single physical blade server with 6 CPU cores and 32 GB DDR SDRAM, 2 TB of tier-1 SAN storage per VM, multiple 1GB LAN ports per VM for networking/management/dynamic workload balancing and hosting enterprise cloud platform can cost anywhere between $25,000 and $35,000 and can support a consolidation ratio of 6:1. The approximate cost of an individual virtual machine in such a scenario would be approximately $4,500. The cost of a cloud sprawl would be proportional to the cost of unused resources as mentioned above and would further increase depending on the amount of resources including staff and computing systems used to support these unused resources.

Cloud sprawl is manageable

Controlled cloud sprawl is a sign of healthy cloud management and can be achieved by using good practices in IT operations. Below are some quick fixes that organizations can use to develop a detailed strategy for controlling cloud sprawl:

- **Define and communicate the cloud strategy clearly** - The cloud strategy, related processes, benefits and costs need to be communicated clearly to the user community and set appropriate expectations.
- **Audit the cloud services periodically** - It is important to perform regular health checks of enterprise cloud services.

These internal audits need to cover all aspects of cloud services including applications, the virtualization platform itself and underlying infrastructure components. This will also help organizations ensure that cloud services are aligned to business needs at all times.

● **Build transparency in enterprise cloud related processes and systems** - Lack of visibility can often impact user perception of services and the cost of making those services available. Enterprises need to adopt industry good practices around Service Catalog, Request Fulfillment, and Demand and Capacity management and integrate them to present streamlined and transparent cloud management processes to business users.

● **Build a dashboard for monitoring cloud services performance** - Dashboards are a useful tool to monitor performance of services. A cloud services dashboard for IT management that shows performance of various aspects of cloud services in a single view will help management identify improvement opportunities earlier in time and avoid additional costs that might result from delayed decision making.

As it becomes easier for non-IT users to provision services in the cloud, a strong governance framework for provisioning and consumption of cloud services will be crucial for keeping the cloud business case intact. However, cloud sprawl can be used by organizations as a crucial parameter to gauge enterprise cloud health. Using the steps mentioned above, organizations can prepare a comprehensive plan to control unauthorized proliferation of computing resources.

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COLUMN

RAMAKRISHNA RAMA

SECURITY ENGINEERING IN SOFTWARE DEVELOPMENT

Trends such as mobility, BYOD and remote access are putting more emphasis on security engineering in product development

In today's digital world, business organizations of all kinds are primarily dealing with two types of security: 1) information or data security and 2) IP protection or intellectual property security.

In case of IP protection, though internal processes and systems are critical, tools and legal aspects can be leveraged such as filing patents, NDAs, contractual documents. etc.

Information or data security, is the backbone of an organization's health which is treated as important as financial results, if not more. The extent to which systems used in business infrastructure are secured from threats, attacks, data leaks, etc. determines the strength of IP protection of an organization.

Today, almost all of the business transactions are digital, hence the IT infrastructure related decisions — be it procurement, deployment, sustain or maintain — are based not only on information flow, capacity, use case, productivity and reliability, but also on the important aspect of information or data security.

Information or data security, is the backbone of an organization's health which is treated as important as financial results, if not more

In the past, the computer systems designed for security were considered to be the requirement of only high-end mission-critical systems for defense, military or specific government agencies, and not for general purpose systems and consumer devices. Today's growing digital penetration has necessitated the need for security for any computer device, be it in consumer, industrial or the enterprise space.

The innovation and security aspects have grown hand-in-hand and have created challenges and opportunities in each other. The systems are designed and built to offer not only the latest and greatest features, but also have strength in protecting from external attacks or threats. Trends such as mobility, BYOD (Bring Your Own Device), remote access or access to information from anywhere, are definitely increasing the focus, attention and investment in security engineering in product development.

According to Gartner, the worldwide security technology and services market is close to $70 billion and is growing at 8.7% year-on-year. Information security is nothing but protecting computers and networks of an enterprise from unintended or unauthorized access, unwanted change, destruction or forcible malfunction.

The security engineering aspects are implemented in computer systems right from the hardware, BIOS, firmware, OS kernel, drivers, applications and utilities to cover the entire system at each level. The computer systems are designed and validated for various threat models, vulnerabilities, data intrusions etc. Technologies such as TPM (Trusted Platform Module) are implemented at the hardware level to burn a unique RSA key in a dedicated chip that can be used for platform authentication. Software can use TPM to authenticate hardware devices. Comparing with software-only solutions, a combined approach of security, implemented both at hardware and software is more preferred. However, irrespective of where the key has been obtained by the software from, how it applies encryption/decryption operations may create its own vulnerabilities.

In operating systems, the security aspects are built into the kernel in various commercial and open source OSes. For example, TrustedBSD is a sub-project of FreeBSD that adds trusted operating system extensions.

Security engineering in software

products, applications and services has become very critical and important. It starts in the pre-development phase as a conceptual stage and stays on throughout the life of the product — for instance, Proof Of Concepts (PoCs), Product Requirements (PRD), behavioral specifications, design/architecture, coding, testing, production/factory installation and sustenance.

Threat modeling is a very powerful and proven process and tool in security engineering of software development. It is a structured approach for identifying, evaluating and mitigating the system's security risks. It models the system as the attacker sees it and with the advantage of knowing internals, it helps developers to fix or close the entry points of access so that the software (product) becomes secure from attacks.

Threat modeling is extremely helpful in security SWOT analysis, finding bugs early before the regular test cycle, planning risk mitigations, making informed decisions and creating security focused test cases/plans. The STRIDE approach developed by Microsoft primarily for thread modeling is a widely used tool, especially during the design phase of a software product or an application or a service. It helps assess the software which is in development or design in six threat categories — spoofing (of user identity), tampering, repudiation, information disclosure (privacy breach or data leak), Denial of Service (DoS), and elevation of privilege.

The Open Web Application Security Project (OWASP) is an open global forum working on improving the security of software applications. The OWASP Foundation supports OWASP efforts around the world. OWASP is an open community dedicated to enabling organizations to conceive, develop, acquire, operate, and maintain applications that can be trusted.

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PRABHU RAMACHANDRAN

NETWORKING TRENDS GAINING MOMENTUM

Software defined networking, network functions visualization and machine-to-machine communication are all set for a big leap forward

The convergence of M2M, cloud, mobile and big data will create revenue streams and new business opportunities, and will transform industries and the way we live

Network needs of organizations worldwide have grown tremendously and this domain is on the verge of a paramount change. At present, data centers rely on human expertise and physical levers to control, scale up and optimize functionality. With growing need for business efficiency and agility, it has become necessary and inevitable to chart out an environment that simplifies the task of connecting network appliances and applications used in big data, mobile, social networking and cloud workloads.

What started as a concept for data center virtualization is now slowly becoming a reality. This game-changer concept called Software Defined Networking (SDN), is primarily about programming the network in a much efficient way to address business objectives. SDN in enterprises is already being implemented in large enterprises like Google. With promises of great level of efficiency and the capability to offer more, SDN within small and medium data centers and enterprise networks will be a space to watch out for.

Although there have been challenges in SDN take-off due to lack of standards and ecosystem of SDN controllers, etc., in recent months, a lot of development has happened around vendor-neutral SDN controllers. Equipment vendors too are coming forward to integrate with them and this will help in adoption of SDN by enterprises.

SDN in telecom and carrier networks too is taking off. There have been major initiatives from major carriers around the world (NTT, Verizon, AT&T etc.) to adopt SDN within telco networks, to bring in network efficiency and the ability to offer superior services to the end customer. Amongst telecom companies, SDN is seen as a refreshing way to bring in better services to end users.

Network Functions Visualization to witness increased adoption: Another concept that is increasingly gaining visibility among equipment vendors, service providers and application developers is Network Functions Visualization (NFV), a close relative of SDN. While work needs to be done with respect to the scalability and security issues, days are not far for large scale NFV adoption. The dexterity of NFV is one of the major factors that drives its implementation. By virtue of "connecting" networks together and creating an environment that is virtualized, it is not a surprise that NFV will garner lot of attention in 2014.

NFV will see a great level of adoption in the coming year and it will offer efficiency and flexibility for the networks in addition to reducing cost. There is major push on this from both the consumers (enterprises, network operators etc.) and also vendors (appliance vendors, network equipment vendors and software vendors). Network functions like firewalls, VPN services, gateways, authentication services, trafficmManagement etc., can be virtualized and will provide more flexibility and cost efficiency in their virtualized forms. There is good level of progress from vendors themselves where vendors are coming up with cloud based editions of the products that they sell as appliances today.

Some of the top benefits of NFV include, improved data center management, optimizing operational efficiency, enhanced use of CAPEX resources, reduced power consumption, and increased user application

experience.

In all, SDN and NFV will gain momentum in 2014 and will evolve from prototypes to actual deployments. The industry in general is witnessing a general trend that is leaning towards more flexible, intelligent and highly programmable solutions that will benefit organizations.

Machine-to-machine communications: Over the years, M2M has evolved from a device-centric to data-driven technology — for instance, from a simple alert system at home automation without the need for complex analysis, to applications like Usage-Based Insurance (UBI) in fleet management, and Pilferage Detection in cell tower monitoring, where data of driving behavior and diesel generator replenishment status are captured and pulled for analysis. This contextualization of data requires a richer set of capabilities like big data.

Big data analytics is one technology which itself is fast evolving and will play a major role in adoption of M2M solutions. In the world of connected devices, a flood of data is generated every minute from different sources and various sensors. Enterprises are required to embrace value-based approaches in the M2M business landscape to increase customer loyalty and profitability. M2M and big data will complement each other as enterprises are inundated with data streams, and tremendous amount of value can be unlocked from these mounting data. Businesses have realized that they can stay ahead of the competition only when data-driven decisions are made, rather than being judgmental or determined by insights.

The sensing capability and connectivity capabilities of smartphones will be a major enabler for M2M/IoT applications. When enterprises bring in big data analytics into analyzing machine data, it will bring in tremendous value for the M2M applications. The convergence of M2M, cloud, mobile, and big data will create revenue streams and new business opportunities, and will transform industries and the way we live.

Prabhu Ramachandran is Director, WebNMS.

Microsoft announces general availability of Power BI for Office 365

MICROSOFT RECENTLY ANNOUNCED the general availability of Power BI for Office 365, a cloud-based business intelligence service that will give people a powerful new way to work with data in tools such Excel and Office 365.

With Excel, businesses will be able to discover, analyze, and visualize data like never before to find valuable business insights. With Power BI for Office 365 they can easily deploy a cloud-based BI environment where people can share insights, collaborate and access reports, from anywhere.

With this release, Microsoft is delivering completely new experiences to customers. For example, Power Query in Excel enables easy search and access data within the organization or from publically available sources. In addition, once Excel workbooks are uploaded to Power BI, using natural language, search questions can be asked and the responses can be received instantly in the form of interactive charts or graphs.

Power BI for Office 365 will provide an easy way for organizations to self-service business intelligence. The features are aimed at catering to the productivity need in the dynamic world of services. With the data overload and continuing data explosion, the need of the hour is to make sense of it all. Power BI for Office 365 is a step in helping businesses make informed decisions through insights locked within their data.

iTRACS launches DCIM solution with analytics

iTRACS, A COMMSCOPE company providing open enterprise-class data center infrastructure management solutions, has released Converged Physical Infrastructure Management (CPIM) 3.1 with myAnalytics, an intuitive, easy-to-use analytics engine for better DCIM reporting and business analysis.

CPIM 3.1 with myAnalytics will offers data center owners and

operators greater command-and-control over their physical infrastructure, putting vital knowledge at the fingertips of today's decision-makers.

George Brooks, Senior Vice President of Enterprise Product and Market Management, CommScope said, "With the myAnalytics engine, you can gain important insights about power, space, network, and other vital data center resources. This is a personalized analytics tool to help you uncover new opportunities to improve data center operations, planning, and cost efficiency."

The myAnalytics engine is a core capability inside the iTRACS CPIM platform. It can extend and enhance iTRACS' capabilities in bringing together information from disparate data sources and tools into a single, holistic management environment. It will come with a series of standard reports on power, space, and other metrics that users can start using immediately.

Madhya Pradesh deploys accident response & traffic management system

THE MADHYA PRADESH Road Development Corporation (MPRDC) has set up one of the country's first integrated Accident Response System and Traffic Management Centre (ARS & TMC) — a system that integrates emergency response with Intelligent Transportation Systems for the benefit of public.

Madhya Pradesh Chief Minister Shivraj Singh Chouhan inspected the successful implementation of the system. The integrated command center, inclusive of operational software systems, has been delivered by Trivandrum-based ARS Traffic & Transport Technology (ARS T&TT India), a subsidiary of ARS T&TT, The Netherlands. The center will play a pivotal role in significantly improving mobility and road safety in the state.

MPRDC manages the major part of the road network in Madhya Pradesh. In 2013, MPRDC assigned ARS T&TT with the construction of the command center from ground up along with developing the operational systems as part of its vision to bring safety and efficiency measures to the roadways of Madhya Pradesh. This integrated center monitors and mobilizes traffic on 20,000 km of road including national highways, state highways and MDR (major district roads). Along with monitoring the operational efficiency of toll operators, the center will fulfill the role of a national incident resolution center in case of accidents or incidents, thereby fitting into the state's disaster management policy.

The traffic situations near tolled roads in M.P shall be monitored through CCTV surveillance. The toll collection systems shall be centrally monitored. The solution shall be extended to other Intelligent Traffic Systems (ITS) like traffic management and speed enforcement systems, as well as smartphone enabled traffic information systems in the near future to increase the road safety and traffic mobility, clarified Vivek Aggarwal, Managing Director, MPRDC.

"From accidents only, India has a yearly mortality rate of 20 per 100,000 which is on the high side when compared to other developed countries. ARS & TMC developed by ARS T&TT ensures that critical services such as medical assistance to casualties are immediately available, working from an informed and holistic picture," said Dr. J H Linssen, CEO, ARS T&TT India.

"The operational systems use data warehousing and analytics to identify the nearest facilities with the required support functions. Along with the dispatch and real-time navigation of emergency response vehicles such as ambulances, cranes, etc., and using camera based video surveillance of traffic flow, the system works with complete operational intelligence making automated decisions and advises. Victims therefore can always count on fast help and support," he added.

XRCI, Manipal varsity hospital to build remote sensing healthcare technology

XEROX INDIA, A part of Xerox Corporation, and Xerox Research Centre India (XRCI) has announced a suite of healthcare research projects that are aimed at improving healthcare for patients not just in India but all over the world.

Researchers at Xerox Innovation Group (XIG) are collaborating with the Manipal University Hospital to develop non-contact health sensing technology that can accurately obtain and track healthcare vitals such as heart rate, temperature and some respiratory functions. It can also detect cardiac dysrhythmia (irregular heart beat) without any probes touching the patient. The innovation promises to change how medical professionals collect and use important health data.

The Xerox remote health sensing technology opens up new avenues in telemedicine. A non-contact system that is accurate, can not only greatly improve the comfort of the patient but also has possible applications for remote healthcare at homes, clinics and in rural villages and locations that may be far from a specialist. Xerox foresees great hopes for how this technology can change the work of a therapist and how medical doctors practice medicine in the future.

"This research has the potential to advance healthcare management system," said Lalit K Mestha, Research Fellow, Xerox Research Center Webster and Project Leader. "While many are focusing on wearable technology for health sensing, we are going beyond this by conducting research in non-contact health sensing that has the potential to greatly improve the comfort and quality of healthcare."

Xerox has developed image and signal processing algorithms that convert patient video captured from off-the-shelf cameras into health indicators such as heart rate. Various algorithms used in the proces,s capture movement when necessary using automatic motion detection algorithms from video images, phase synchronized signal processing for continuous monitoring and signal reconstruction. Current research results indicate the remote health sensing technology can meet medical industry standards and will be easy to use by doctors, therapists and even patients.

Some of the technology is currently being tested in the neonatal unit of Manipal University. One of the key benefits is the ability to automatically analyze and detect respiratory and other medical diagnosis in infants without requiring contact probes to be attached to their sensitive skin. The goal is to make continuous monitoring contact free, increasing patient comfort without decreasing accuracy of the health parameters being detected.

"We are pleased to report that early results from the remote sensing research are very promising and show accuracy levels that are close to current results captured via probes attached to the patient," said Dr. Vijay Kumar, a Paediatric Surgeon, who is a Principal Investigator on the project from Manipal University Hospital.

The observation process is absolutely safe and does not harm patients. Light from the cameras penetrates into the skin allowing information to be captured and converted to health indicators. The visible light is captured by these cameras and is not harmful, making it suitable for long observation periods and allowing patients greater mobility.

Researchers are working on additional applications to take this technology to homes to provide distributed emergency care management with the goal of reducing morbidity and mortality of patients.

SAP powers Kolkata Knight Riders' auction bids for IPL7

SAP LABS INDIA and The Kolkata Knight Riders (KKR) recently announced that the SAP HANA platform had been selected to develop a statistical analysis tool that would assist the KKR management during the auction that happened in Bangalore on February 12, 2014. The real-time application, named SAP Auction Analytics enables KKR to evaluate players based on multiple dimensions.

Developed using the principles of Design Thinking, SAP Auction Analytics leverages the predictive analytics capabilities of SAP HANA enabling KKR to derive intelligence on the players to be featured in the auction. The platform provides insights based on various aspects of the players and a live dashboard of the performance of other teams during the bidding process. SAP Auction Analytics, capable of running on multiple devices, is custom developed for KKR. However, its features are extensible and can be used by other teams.

"We constantly explore new ways and technologies to provide our players and management with the best set of tools to compete," said Venky Mysore, MD and CEO, KKR. "SAP as a leader in providing innovative software solutions is an ideal partner to equip us with technology that can aid in effective decision making during the auction."

"SAP is driving innovation in the sports and entertainment industry and is honored to partner with the Kolkata Knight Riders, one of the country's premier cricketing franchises," said Anirban Dey, Managing Director, SAP Labs India. "SAP Auction Analytics will deliver significant competitive edge to KKR via real-time actionable insights that can make decision-making more efficient."

Globally, a growing number of sports leagues, teams, and stadiums work with SAP to develop integrated business management solutions that help them run their businesses. The SAP for Sports & Entertainment solution portfolio helps the industry run better, from fans to athletes to teams and leagues.

Netmagic hosts SAP HANA for Consul Consolidated

CONSUL CONSOLIDATED, A power conditioning provider has selected Netmagic Solutions, to host its SAP HANA implementation. The Chennai based company manufactures products that are recommended by a number of leading Original Equipment Manufacturers (OEMs) such as Wipro, GE, Philips Medical Systems, LMW, Siemens Ltd., Toshiba Erbis Engineering amongst others.

"Consul Consolidated Pvt. Ltd. has a strong culture of innovation and a focus on excellence, and Netmagic is privileged to be able to support them in this process. This is also a huge win for us considering the fact that this was India's first SAP-HANA implementation." said Nitin Mishra, Senior Vice President – Product Management, Netmagic Solutions.

"The implementation of SAP HANA is strategically aligned with our overall vision and growth plans and we are happy to be partnering with such a company," said, Vijayakrishna KS, AGM – IT, Consul Consolidated Pvt Ltd.

"The implementation will enable us to run our businesses in real time by unifying business transactions and operational analytics on to a single, open in-memory computing platform. This will strengthen and integrate our core business function, enabling us to support our expanding business operations, integrate our core business functions and provide better business insights."

Polycom adds collaboration solutions for Microsoft Lync

POLYCOM RECENTLY ANNOUNCED an expansion of its portfolio of more than 40 offerings for Microsoft Lync to include the new Polycom CX8000 room system for Microsoft Lync, a video conferencing system that brings the power of Microsoft Lync to the conference room with HD video, simple room controls and an optional, centre-of-table experience with the industry's only family of 360-degree cameras for Microsoft Lync.

The CX8000 is a video conferencing room system for Microsoft Lync that includes presence, contact search, instant messaging, HD video conferencing, HD audio, virtual white boarding, touch display-powered presentations, application sharing, editing on shared documents, and more.

Tight integration with Microsoft Outlook will help users, both in the meeting room and remote participants, start and manage meetings more efficiently. The CX8000 room system for Microsoft Lync includes several features that help users take advantage of Microsoft Lync 2013 such as built-in multiparty video and a better overall audio and video experience that leverages the open standards-based scalable video coding (SVC) implementation.

The addition of lifecycle services will help drive adoption for video and voice collaboration in Microsoft Lync environments, ultimately increasing usage and driving a greater return on investment.

The CX8000 builds on the experience of the Polycom CX5000 Unified Conference Station, a 360-degree, panoramic 720p HD video collaboration system, and according to the release, is the only phone and camera combination in the world that is natively integrated with Microsoft Lync.

Polycom also plans to offer the Polycom CX5100 Unified Conference Station, upon completion of qualification, as an optional feature for the Polycom CX8000. The Polycom CX5100 system is one of industry's first 360-degree, panoramic 1080p HD video collaboration camera and phone combination that can deliver a centre-of-the-table experience and Polycom's HD Voice. The CX5100 can be used in conjunction with Polycom CX8000, as well as with computers through a USB connection.

The entire portfolio of Polycom voice, video and infrastructure solutions are interoperable with Microsoft Lync.

"We have long worked with Polycom to ensure our solutions are interoperable and we're delighted to add Polycom CX8000 for Microsoft Lync video system to the portfolio," said Giovanni Mezgec, General Manager - Lync Product Marketing, Microsoft.

"With Polycom, we're able to solve the problems organisations face. Together we provide reliable unified communications and collaboration because Polycom shares our commitment to providing the highest quality products and superior customer support," added Mezgec.

The Polycom CX8000 room system for Microsoft Lync is available for order today in select countries and will ship in March.

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Koenig Solutions opens a new campus in Bangalore

KOENIG SOLUTIONS, A global off-shore IT training provider has announced its foray into the India market with the launch of an all new state of the art IT training and certification campus in Bangalore. This will be Koenig's seventh training center globally and also the first which is focused totally on the domestic IT sector.

Sharing his thoughts on the occasion, Rohit Aggarwal, CEO and Founder, Koenig Solutions Ltd. said, "We were being persuaded by our global corporate customers in particular, to open up a larger Koenig facility in the city and we are happy that we have been able to deliver to their expectations like we always strive to do."

"We also take the opportunity to reveal our 'Step Forward' vision for the next 10 years of Koenig, complete with a totally new logo and new brand identity. Koenig's success has been a result of great team work and I express my deepest gratitude towards the winning team at Koenig for our continued success," said Aggarwal.

According to the company release, the likes of EMC, Infosys, TCS, COLT, Cognizant, IBM, NTT data, Schneider Electric, Century link, Thomson Reuters, Accenture, Sonata Software and Intuit have already committed to sending their employees for training at the centre, which aims to train and certify up to 3,000 IT professionals in high-end courses related to Cloud, Data Analytics, Networking, Information Security technologies among others.

The new campus apart from being a completely green building will also house as many as 24 training rooms with a seating capacity of 136 students at a time, including five rooms dedicated to the concept of Live Virtual Classrooms (LVC training). Designed by IDP (Interior Design Planning), the center will also have two cafeterias and a data center. The center has been built on a total area of 18135 sq.ft. at a cost of Rs. 3 crore. More than 100 of the world's most sought after IT courses from an employability point of view can be availed at the Koenig Bangalore center.

Satya Nadella is the new Microsoft Corporation CEO

SOFTWARE GIANT MICROSOFT Corporation has named Hyberabad-born Satya Nadella as its new Chief Executive Officer, replacing Steve Ballmer.

"As Satya Nadella becomes the third CEO of Microsoft, he brings a relentless drive for innovation and a spirit of collaboration to this new role," Microsoft Corporation said in a statement.

Nadella, 46, is taking over at a time when the world's largest software company is expanding its focus to devices and cloud infrastructure.

"The opportunity ahead for Microsoft Corporation is vast, but, to seize it, we must move faster, push harder and continue to transform," Nadella said in the statement.

"During this time of transformation, there is no better person to lead Microsoft Corporation than Satya Nadella," Microsoft Corporation founder and former chairman Bill Gates said. Gates said Nadella was a proven leader with hardcore engineering skills, business vision and the ability to bring people together.

"His vision for how technology will be used and experienced around the world is exactly what Microsoft Corporation needs as the company enters its next chapter of expanded product innovation and growth," Gates said.

Gates will assume a new role as Technology Advisor.

Persistent Systems to acquire CloudSquads

PERSISTENT SYSTEMS, A global software product and technology services provider has announced it has entered into a definitive agreement to acquire privately-held CloudSquads, a consultancy firm that has created social communities for over 70 global companies. CloudSquads deploys, integrates and runs social communities on all leading social customer platforms. The terms of the agreement were not disclosed and are subject to certain closing conditions which are expected to be completed in the coming financial quarter.

CloudSquads helps companies develop a strategy for engaging with the modern social customer across all customer facing functions including brand, marketing, sales and support. The company implements platforms which provide rich capabilities that transform these interactions into healthy communities and then integrates those platforms with companies' internal systems allowing them to better know and serve their customers.

"Social communities are now an increasingly critical part of the digital transformation in enterprises, and this market is poised for significant growth. Persistent Systems is delighted to welcome on board the entire CloudSquads' team of social computing domain and technology specialists," said Ranga Puranik, President, Persistent Systems. "CloudSquads complements our software product development and SMAC (Social, Mobile, Analytics, Cloud) technology expertise with consulting, IP connectors and implementation services around social community platforms and is perfectly aligned to better serve our ISV and enterprise customer base."

Symantec unveils new version of Storage Foundation

SYMANTEC RECENTLY ANNOUNCED a new version of its Storage Foundation software, which will enable data centers to leverage Solid State Drives (SSDs) in ways that could allow customers to access mission critical data and applications 400% faster than traditional Storage Area Networks (SANs). This new version will provide benefits regardless of which storage hardware components are in place. Customers as a result, are free to choose any storage infrastructure provider, and businesses can make critical decisions faster.

According to the company release the growth of mission-critical data and applications, supporting real-time decision-making, is driving SSD adoption to increase performance within the data center.

Adoption however has lacked the central management intelligence that customers need to manage their storage efficiently and effectively. Symantec's offering will solve this problem while allowing customers to combine SSDs with existing Direct Attached Storage (DAS) and SANs without compromising availability.

Microsoft-led consortium to offer Windows 8.1 tablets to schools

MICROSOFT INDIA HAS announced the availability of special bundled tablets for private schools (K6-12) in partnership with Acer, MBD Group and Tata Teleservices. This consortium envisions a future of education where content, technology and connectivity come together seamlessly to make learning more immersive.

Priced at Rs. 24,999 per device, the bundle is available to all private schools (K6-12) in India. The specially created bundle comprises a Windows 8.1 tablet — an Acer Iconia W4-820, which comes with an HD IPS Display with enhanced brightness for reading in sunlight and runs on the latest quad-core Intel Atom processor. The tablet comes with Office Home and Student as well as Office 365. Microsoft has also included the Office 365 Education A2 and Microsoft Office Specialist (MOS) certification for students.

According to the company release, a complete consumption and creation device, the bundle includes digital learning curriculum for students of K-12 state boards, CBSE and ICSE from MBD Group, India's largest publishing house with 60 years of experience in creating meaningful and relevant learning resources. The highly interactive multimedia content from MBD is currently available in English and will soon be available in various regional languages as well.

On an optional basis, Tata Teleservices is providing Photon Plus, a wireless device that will provide high speed internet services on the move. Customers opting for Photon Plus will get 1GB of free data usage every month for a period of 12 months from the date of purchase. The cost of the device along with 1GB free data usage would be Rs. 3,649.

Arun Rajamani, Head - Public Sector & Education, Microsoft India, said, "The ease-of-use and portability offered by tablets is increasingly making them the device of choice for students. This feature-rich tablet provides a secure, convenient and hassle-free experience for schools who want to integrate technology to make learning more enjoyable and interactive for students. No other industry player offers this unique combination of usability, productivity and dynamic digital educational content along with internet connectivity. We are excited to launch this custom-made bundle for the Indian student, who can now consume, create and share from a single device."

As part of the offering, students can avail the Microsoft Office Specialist certification program and teachers in turn can gain access to eighty hours of self-learning content on leveraging technology while teaching. As part of the Microsoft Office 365 Education A2 plan, the tablet will also include important tools such as Office Web Apps – Word, Excel, PowerPoint and OneNote; Web Conferencing; SharePoint Intranet site; spam and malware protection; and 25 GB of personal cloud storage via OneDrive, per device.

According to the release, the device is a major step in transforming education by creating an enhanced learning experience for teachers and students by giving them access to the very best of content. Educational content on the tablet is provided by the MBD Group and will consist of complete digital learning curriculum along with assessment tools. The curriculum covers all subjects for class VI to X and Science, Commerce streams for class XI and XII, mapped to NCERT's National Curriculum Framework.

Monica Malhotra, Director - MBD Group, said, "Over the past decade we have observed that students respond better to engaging educational content available across multiple consumption mediums, thus making their learning experience more interactive. As part of this consortia, we can now offer a dynamic digital learning curriculum on a device equipped with a plethora of productivity tools and internet connectivity."

Trends that matter

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