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THE TELECOM TALE



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WE MAY BOAST
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WE LAG WAY
BEHIND IN
ACTUAL TELECOM
USAGE, QUALITY
AND SPEED

The story of telecom in India is as arcane, hodgepodge and curious as the country or its billion-plus people. From interminable queues to termination charges, from the linesmen on poles to wireless access, from “chai-pani” (which literally means “tea-water” in Hindi but implies baksheesh or petty bribe) for a new connection to a scam-load of goodies for new licenses...we have seen the whole spectrum of its evolution.

Or, have we?

If one were to boast about it, India is the world’s second largest telecom market in terms of network and subscribers (it has close to 900 million subscribers). But in reality, when it comes to the actual telecom usage in India—in revenue terms, broadband use or data flow—we have barely scratched the touchscreen.

I would not like to go into how the government has made (and continues to make) the mess of a sector that, until quite recently, was the darling of investors in addition to being the beloved of the masses. But let me highlight a few sore points. (Ironically, the sector could not have flourished without government support in the first place.)

As things stand, well, they seem to be at a standstill. Or moving painfully slowly—like data on my 3G mobile network or CDMA dongle (most times).

That the state-run telco Bharat Sanchar Nigam Ltd declared 2007 as the year of broadband now looks, to put it mildly, premature. According to data from the Telecom Regulatory Authority of India, as of March 2013, India had only 15 million broadband subscribers. It is true that an additional 143 million people access the Net through mobile phones, but usage is low and jarring. A recent Akamai report reveals that globally, India is ranked 74th in broadband adoption and 109th in average peak connection speed.

Poor quality mars voice calls as well. It is also not infrequent for calls to drop in the middle of conversations, and there are multiple issues with billing, usage and complaint redress.

Not that telcos are unaware of the issues. What they are facing is a continued state of uncertainty (over licensing policy, taxation, etc.) and a very crowded market with too many operators competing against each other. So we have a situation wherein we are still struggling with 2G and 3G as the developed world rolls out 4G services.

While many telcos are in the wait-and-watch mode, some of them may be quietly upgrading their networks, billing systems and other technology enablers to prepare for the next war for subscribers as well as for a more data-intensive world.

The story may have gotten muddled but it is far from over.

sanjay.g@expressindia.com



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92% GROWTH IN DATA TRAFFIC GENERATED ON MOBILE NETWORKS BY BOTH 2G AND 3G SERVICES

73% INDIA'S OVERALL TELE-DENSITY ACCORDING TO DEPARTMENT OF TELECOMMUNICATION (DOT) RECORDS



THE NEW SPECTRUM OF GROWTH

From billing solutions to big data, IT applications are helping telecom operators find new sources of revenue and enhance customer experience

BY KTP RADHIKA



Billing solutions have started becoming more and more agnostic to network, technology and hardware to keep it simple for customers.

Sumit Chauhan,
VP & GM, Embedded & Telecom BU,
Symphony Teleca Corp



Due to higher degree of IPfication and availability of better cloud based models, now it is possible to deliver traditional content or communication oriented VAS from a single unified platform.

Vishant Vora,
Director -Technology,
Vodafone India

The Indian telecom sector has witnessed phenomenal growth during the past few years. Currently, India has the second largest telecom network in the world, the largest being that of China. According to subscription data by the Telecom Regulatory Authority of India (TRAI), India has over 90 crore telephone subscribers as of May 2013. Our mobile or wireless subscriber base is currently 87 crore. As per the records of Department of Telecommunication (DoT), Government of India, India's overall tele-density is 73.34%.

The highly competitive sector has at least seven telcos operating in each circle and up to 12 telcos in some circles competing for market share. That makes India one of the most crowded mobile markets globally.

In the past few years, the sector has seen fast growth. To be precise, the sector grew at a CAGR of 20% in the four years to 2013. Despite the fact that the sector witnessed a shakeout in the wake of the 2G spectrum allocation scam and that the deployment of 3G and 4G has been on a low ebb, India is still expected to see an increase in terms of data-intensive mobile services.

The telcos are also optimistic, they have invested significant sums in the broadband wireless access and similar services. According to DoT, India has 14.98 million broadband connections as of December 2012. The high competition in the sector has led to aggressive pricing during the last two years. Operators who are stressed on margins are exploring new ways to enhance revenues. With revenues from voice services stagnating, companies realize that future growth is likely to be driven by wireless data services. Further, service providers are increasingly getting dependent on revenues from mobile value added services (VAS) for higher profitability. A

joint report by Wipro Technologies and Internet and Mobile Association of India (IAMAI) states that mobile VAS market is expected to reach \$9.5 billion in 2015 from \$4.9 billion in 2012.

Today, operators are focusing on enhancing quality and customer experience management with new service offerings. They are creating a differentiated portfolio to understand customer sentiment, improve customer experience and find revenue sources beyond voice calls. They also seek new ways and solutions to come up with new service offerings, monitor network usage better and unify the internal process and service customers in a better way. This has led to a greater demand for efficient technologies. Telcos have started to employ newer and advanced systems in key areas like billing, customer management, network management, operations support system (OSS) and so on. Advanced IT solutions like business intelligence and big data analytics are helping them in better understanding of new business areas.

Billing backbone

Billing has become the one of the most complex tasks for the telcos. For an accurate billing process, a service provider has to navigate through dozens of billing applications, customer information systems and financial applications. Various services, payment methods, and customer groups are adding to this complexity. "Traditionally the billing process has had clear demarcation in terms of pre-paid (which is real time rating) and post paid (which is charging once in a month) with possibility of complex tariff and discount structures. Accordingly, most of the telcos have had two separate platforms," says Vishant Vora, Director -Technology, Vodafone India. Today, subscribers are moving away from legacy 'money'

BIG DATA SOLUTIONS BRING TOGETHER LINES OF BUSINESS AND VARIOUS DISPARATE DATA STREAMS UNDER ONE UMBRELLA, TO PROVIDE A TOTAL VIEW TO ARRIVE AT CUSTOMER LIFETIME VALUE



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A UNIFYING USER EXPERIENCE

Bharat Sanchar Nigam Ltd, the state-owned telecommunications company, has unified its customers' user experience with Oracle's Siebel CRM. Six years ago, the company was using legacy software and IT systems for customer management.

"We are covering the whole geography of India. But with lack of proper IT software to manage and service our customers across the country, our users were witnessing very different experiences," says Vivek Dua, Deputy General Manager, BSNL.

The management understood that to achieve a single user experience across the country, it should have a unified IT layer. So they decided to go for Oracle's Siebel CRM.

Siebel delivers a combination of transactional, analytical, and engagement features to manage all customer-facing operations.

"We started with the project and implemented Siebel across the organization. Now Siebel is used for our customer service management, web services, across all the call centers and customer interaction channels," states Dua.

Now for all customer channels, the company is witnessing unique and single user experience. Customers can log in to the web and can order for a product available on BSNL's catalog.

With the help of Siebel, order provisioning happens within minutes and the customer then gets a confirmation SMS. "Today, with the help of Siebel, our customer satisfaction is enormous," concludes Dua.

accounts to 'volume'-based accounts for billing or charging of data usage. This has resulted in an influx of data products and packs which predominantly bill the subscriber on the basis of volume in MBs and GBs.

Complexity, rigidity and cost of multiple legacy billing systems was a big challenge for telcos till recent times. However, to meet the diversified needs in billing, the vendor community has come up with matured billing solutions. Today, powerful new billing solutions have become more agile, simpler and cost-effective. Billing interfaces are becoming more open and a lot of convergence is happening in this space. Modern billing solutions are providing real-time billing, maintaining complete audit trails of all billing activities, supporting a wide range of payment methods and are providing flexible ways to manage customer

acquisition retention operations. Rajesh Rampal, Head - IT, Aircel explains, "A lot of convergence is happening in this space and we can see prepaid charging and postpaid billing getting merged into one system." That in turn, is helping telcos to offer more flexible billing plans which are part pre-paid and part post paid in nature. Billing solutions are also being integrated with business critical systems such as CRM and ERP to provide competitive advantage for service providers.

By consolidating rating systems and automating tasks, new age billing solutions are helping telcos in accelerating time to market for new services. Convergent and real-time billing enables them to become more customer centric and helps them to implement next-generation strategies and business model. Advancements in





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Network and data security is a key part that has been important and has now transformed to a new level with the explosion of OS platforms on mobile devices.

Bala Mahadevan,
CEO, Orange Business Services



Disciplined usage of lifecycle management tools has led to structural and manageable changes in all our products and applications.

Rajesh Rampal,
Head - IT, Aircel

the systems are also helping minimize invoice production. Sumit Chauhan, Vice President & GM, Embedded & Telecom BU, Symphony Teleca Corp, a software provider for the mobile communications industry, says, "Billing solutions have started becoming more and more agnostic to network, technology and hardware to keep it simple for customers. Utilizing billing channel for marketing has opened up significant leads for telcos to sustain and grow the business."

Oracle Billing and Revenue Management solution, Amdocs Billing, Converse Kenan FX, SAP Billing for Telecommunication, Convergys billing system, etc., are some of the leading billing solutions widely used by the telcos.

Telcos are also using home grown solutions for their billing purposes. For example, MTS India, the mobile telecom service brand of Sistema Shyam TeleServices (SSTL), is using Telecompass - a comprehensive billing system for the past six years. Developed by the IT team of SSTL, Telecompass is used for the MTS's billing, CRM, distribution management network, inventory management and trouble ticketing purposes. It also does some parts of sales force lead management too.

Rajeev Batra, CIO at MTS India states, "Since we have developed it ON our own, it is very much aligned to our business process including the white-label data services we provide outside. It provides great flexibility in terms of integration with other IT systems. Telecompass is a unified convergent system so that we can get the voice and data bills together and can give updates to our CRM on a real time basis. Over the years, we have changed its architecture significantly and have developed it into a much more advanced system to accommodate our larger footprint customers." Telecompass also helps to integrate various products and services of MTS.

OSS, revenue and lifecycle management

Competition among telcos is bringing in new growth prospects for operation support systems and business support

systems (OSS/BSS). Initially, telcos were using in-house developed software for these services. But with the emergence of new generation services and rise in customer base, the scope of operations has multiplied manifolds. This in turn has allowed telcos to focus on their core services and outsource the others. "BSS/OSS still remain the core and is the most essential requirement for a telecom company. Nowadays, OSS/BSS systems are getting more complex and advanced and are easing telcos in servicing customers," says Batra of MTS.

Today, innovative solutions are coming up in this space with vendors offering customized OSS/BSS with more flexibility to expand the capacity and accommodate various business operations. Says Chauhan of Symphony, "Currently, OSS/BSS systems are having SOA architecture and are more focused towards managing the network and services efficiently. However, there is an increasing demand to transform the OSS stack to manage better customer experiences by having customer focused systems presenting real-time and event-driven view to customers. In order to achieve this, telecom providers are moving towards industry standard commercial off-the-shelf (COTS) products for their fulfillment, assurance and billing applications rather than building or customizing the in-house legacy applications."

Revenue management is another key area and a competitive differentiator for telcos. With its broad business processes, revenue management impacts the way telcos introduce new products and services, manage customer accounts, balances, payments and revenue integrity. However, service providers were using multiple software systems within their revenue management environment till now. A key reason for this is that no single platform could deliver a complete revenue management solution for all types of customers, services, and payment methods.

Consolidation and convergence have happened in this area too. Assures Namit Sinha, Senior Sales Director, Technology, Oracle India, "Convergent solutions are available for revenue management these



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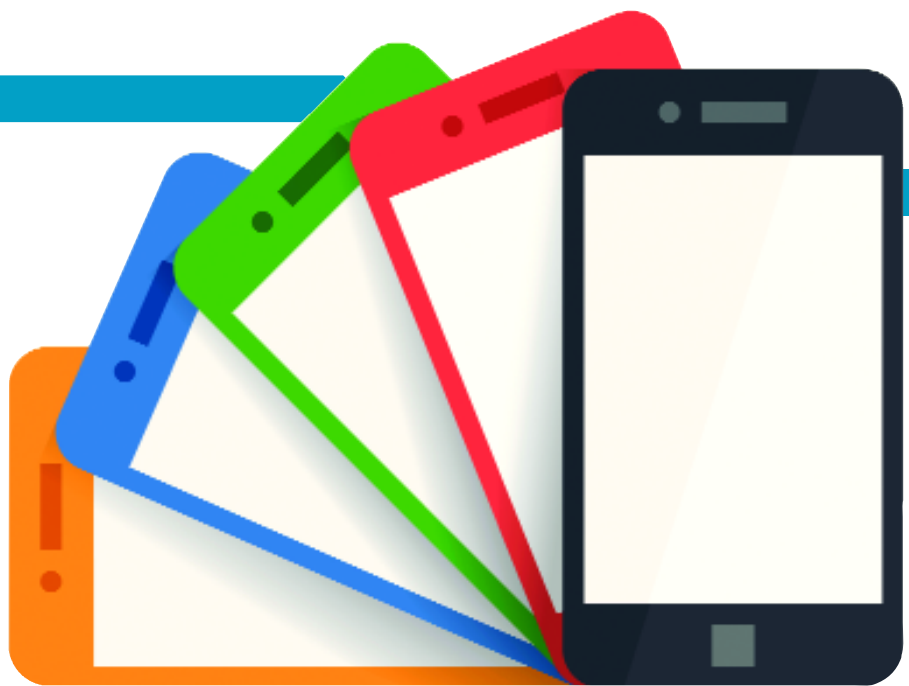
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A SMART SERVICE DELIVERY PLATFORM

With data growth driven through smartphones and various apps, there are thousands of partners and developers who want to launch their services through telecom operators. This, according to Vishant Vora, Director – Technology, Vodafone India, creates two levels of challenges for telcos. “One is how to participate and get larger share in the overall ecosystem of partners/developers and the other is how to have better control on the services and content, especially from the security aspect to protect customers' interests,” he explains.

To address these challenges, Vodafone has deployed Aepona's API Monetization Platform (AMP) as a central access point for its business partners, including independent software vendors, developers, web-based service providers and enterprises. The platform allows Vodafone to develop and implement new business models by exposing its core network, informational and billing assets as web-based APIs. This enables partners to create and enrich a wide variety of business solutions, consumer applications and content-based services.

The system also has the functionality of a sandbox wherein the developer community can develop new apps that can be integrated with Vodafone exposed APIs in line with GSM Association (GSMA) specifications. In addition, the solution has an integrated content management and delivery platform that allows Vodafone to have better control on delivery and customer experience.



days. For instance, Oracle's Communications Convergent Charging & control and billing & revenue management) will help telcos to provide support for their entire service offering. The solution provides a comprehensive and configurable platform, which seamlessly integrates online and offline, real-time and batch charging processes while maintaining a unified data model for all subscribers and services.” Vendors are also offering hosted solutions for OSS/BSS and revenue management. For example, TCS' hosted OSS/BSS revenue management system (RMS) supports the needs of revenue management across multiple payment methods and business models.

Another focus area is lifecycle management solution. Apart from providing visibility and cost efficiency, lifecycle management enhances current processes and systems, allows greater functionality and enhances customer service. “Disciplined usage of these tools has led to structural and manageable changes in all our products and applications and has even helped in reducing the business down times attributed to changes,” claims Rampal. Aircel is using tools like HPSM for service and change management, CVS for configuration management and Siebel CRM for subscriber lifecycle management

Big data opportunities

Telecom operators capture trillions of bytes of unstructured information about

their customers, suppliers, and operations. Nokia Siemens Networks' MBit Index study reveals that data traffic on mobile networks generated by both 2G and 3G services grew about 92% last year. For telecom operators, analyzing these diverse and unformatted digital data streams can reveal new sources of revenue and provide fresh insights into customer behavior. Here the spectrum of big data and analytics comes into play.

“Big data offers opportunities to gain cross channel insights by analyzing transactional data at each level of engagement with the customer. Additionally, operators can find new sources of revenue by collecting and analyzing location data to determine target segments and product profitability margins, prior to offer conceptualization,” analyzes Sinha. This would help improve efficacy of marketing and advertising spends. In billing, big data analytics has started playing a major role in utilizing data effectively, improving revenue assurance as well as customer retention for the telcos by better understanding customer behavior patterns.

Big data-based solutions bring together lines of business and various disparate data streams under one umbrella thus providing a total view to arrive at customer lifetime value (CLV). These solutions also help in realizing synergies among sales and marketing and customer relationship management. The integrated view makes it possible to analyze the customer life cycle, including tasks such as customer identification,

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OSS/BSS systems are getting more complex and advanced and are easing telcos in servicing customers

Rajeev Batra,
CIO, MTS India



Solutions on network, service and customer experience management are crucial weapons in the operator's arsenal to provide great experiences to subscribers.

Vipul Jain,
Head of Customer Experience Management and OSS Sales Development, India, Nokia Siemens Networks



acquisition, relationship management, retention and customer value enhancement instantaneously.

In the highly competitive Indian telecom industry, providing customized and personalized offerings to customers is key and critical to growth and profitability. Network analysis can also be used to offer personalized promotions to customers based on their usage. Mirroring this view Rajesh Janey, President, India & SAARC, EMC says, "Big data can be used to promote customer loyalty and cut churn, predict demand and allow businesses to better target their upselling and cross-promotional activities. With big data analytics, in future, telcos will have the opportunity to deliver sharp insights on consumer preferences and needs to other sectors like retail, BFSI, media & entertainment and even government among others."

That said, analyzing the 'right data' is the key thing in generating true insights and creating real value, feels Vipul Jain, Head of Customer Experience

Management and OSS Sales Development, India, Nokia Siemens Networks. "This makes the analytics solution leaner and more efficient, generating true real-time insight with the right level of effort and investments from the operator."

Monitoring the network

Telecom networks are complex, dynamic and expensive assets that need to be actively managed to optimize capacity utilization. With security being the centerpiece of the network, network monitoring and managing has become more important than ever. "Network and data security is a key part that has been important and has now transformed to a new level with the explosion of OS platforms on mobile devices," says Bala Mahadevan, CEO, Orange Business Services.

Data usage is exponentially expanding, so is the demand for bandwidth. This demand along with expectations of uninterrupted services is driving the network monitoring solutions

to the next level. Describes Sinha, “Network intelligence solutions are designed to reduce capex and opex and drive maximum efficiencies from the network. It helps telcos to optimize capacity utilization by rerouting all, or part, of a network more efficiently to free up capacity that can be used elsewhere.” It also predicts network resource exhaustion in a timely manner by identifying likely capacity stress points in a network. “Solutions on network, service and customer experience management are crucial weapons on the operator’s arsenal to build and provide great experiences to subscribers and a compelling service offer. And by providing those, operators can effectively differentiate in the market and drive customer loyalty,” assures NSN’s Jain.

Managing VAS

According to research reports, more than half of the overall incremental wireless revenues by 2015 is expected to come from non-voice services. As such, operators need to offset the anticipated decline in voice service related revenue by offering new and innovative value-added services (VAS) to increase average revenue per user (ARPU). The Acquisition and Retention study by NSN has revealed that more than 18% of users are willing to spend extra for special services. This highlights the need for platforms targeted towards VAS. “Telecommunications industry today is increasingly adopting customer experience management solutions, analytics solutions and social media tools in order to better understand the customers, their needs and thus provide them with better quality and customized offerings,” tells Hemant Malik, CTO, Service Providers business, Juniper Networks.

Vodafone’s Vora points out, “We see the theme of convergence playing out in its full potential in the area of traditional VAS. Due to higher degree of IPfication and availability of better cloud based models, now it is possible to deliver traditional content or communication oriented VAS from a single unified platform.” As a result, there is a shift from a specialized dedicated platform for a category of VAS to unified service

delivery platforms that includes traditional VAS. Meanwhile, certain new category of VAS would continue to require dedicated platforms of their own due to either special technology involved like machine to machine (M2M) or regulatory requirements like m-commerce.

The next level

With such new services and developments, IT is fast becoming the life blood of day-to-day operations in telecom. Even then, service providers are still facing challenges in managing information technology and glean right benefits out of it. Application integration and maintenance is one of the major problems for telcos. Sanchit Vir Gogia, Founder & Group CEO, Greyhound Knowledge Group feels that telcos have to look beyond outsourcing. “Telcos have done a good job in networking. However, they are weak on the IT infrastructure side. Infrastructure is critical and fundamentally important in delivering cloud services. They also have to go beyond IT outsourcing,” he says.

Another pain point is getting the right manpower for managing IT. “Getting the right manpower to support multiple technology at both data centers and circle offices is still a challenge,” admits Vora.

All said and done, industry experts affirm that better IT solutions will continue to be the key differentiator in servicing customers, achieving competitiveness and grabbing more market share for telcos in the coming days. Accordingly, solutions will also evolve to meet the ever-changing needs of the sector. For example, customer relationship management solutions would be converted into customer experience which would need transforming CRM, customer touch points and associated business processes. Likewise, integrated solutions or unified platforms will help telcos to move to the next level of growth. Here, what a company has to focus is to select the right technology options and combination to deliver superior customer experience.

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Big data can be used to promote customer loyalty and cut churn, predict demand and allow businesses to better target their upselling and cross-promotional activities.

Rajesh Janey,
President, India & SAARC, EMC



Big data offers opportunities to gain cross channel insights by analyzing transactional data at each level of engagement with the customer.

Namit Sinha,
Senior Sales Director, Technology,
Oracle India

FEATURE

ENTERPRISE SEARCH ENGINE »

SEARCH FOR BUSINESS



A best-fit enterprise search system can not only increase productivity, but also save a lot of cost

BY KTP RADHIKA

Finding out relevant information fast and efficient is crucial for all, and that explains the importance of search engines in our life. On the web, there are search engines such as Google, Bing and Yahoo to meet this requirement, but for enterprises, relying on general tools may not be an easy option as most of their data remains internal and beyond the access of search engines. That necessitates the need for enterprise search engines, a market that's gaining momentum worldwide now.

In the world of business, many organizations search internal content by logging into to applications and systems with virtually no way to search globally across siloed data. As the volume of data increases thanks to big data explosion, the need for improved enterprise search platforms and analytic tools have become ever more important.

So how are enterprise search engines different from popular internet search engines? How are they going to ease and smooth business process? What are they offering to the management and employees?

Businesses today are aware about the value they could extract from big data to help shape business strategies, sales, marketing, and more. However as data volumes have soared from megabytes to zettabytes, extracting useful data has become more complex. According to research firm IDC, the average knowledge worker spends about a quarter of his or her day looking for information. Also they are only successful at finding that information 50% of the time and sometimes do not

have the capabilities to recreate the information needed.

Enterprise search engines predominantly search for business data within the enterprise applications. It typically comprises data feeds (for structured or unstructured data), business-application specific intelligence to understand business rules, data flow and context in which the data resides.

Opines Sridhar Iyengar, Vice President, Product Management ManageEngine, "Without a good enterprise search, it would be very difficult to glean meaningful inferences from all the data within an organization.

To do so manually, in real time, would be humanly impossible, as it requires several complex algorithms and calculations. Having a proper enterprise search system brings a holistic view and productivity gain to businesses by providing actionable results in near real time."

Fast and secure

Enterprise search is very much different from a consumer or an internet search. The main difference between enterprise search and the regular web search is that enterprise search operates within an enterprise. So it usually pulls data from intranet, knowledge repository, local file system of the enterprise, predefined databases, previous project documentation, publications etc. Therefore it will be faster than web search engines, can present data in more structured format and can be coupled with advanced search techniques to narrow down the desired results.

For example, the enterprise search



LOOKING FOR A SEARCH PLATFORM?

Here are some key factors to look at before implementing the best fit search platform:

Relevance: Relevance should be tuned for the organization, taking into account differences between enterprise and Internet Search.

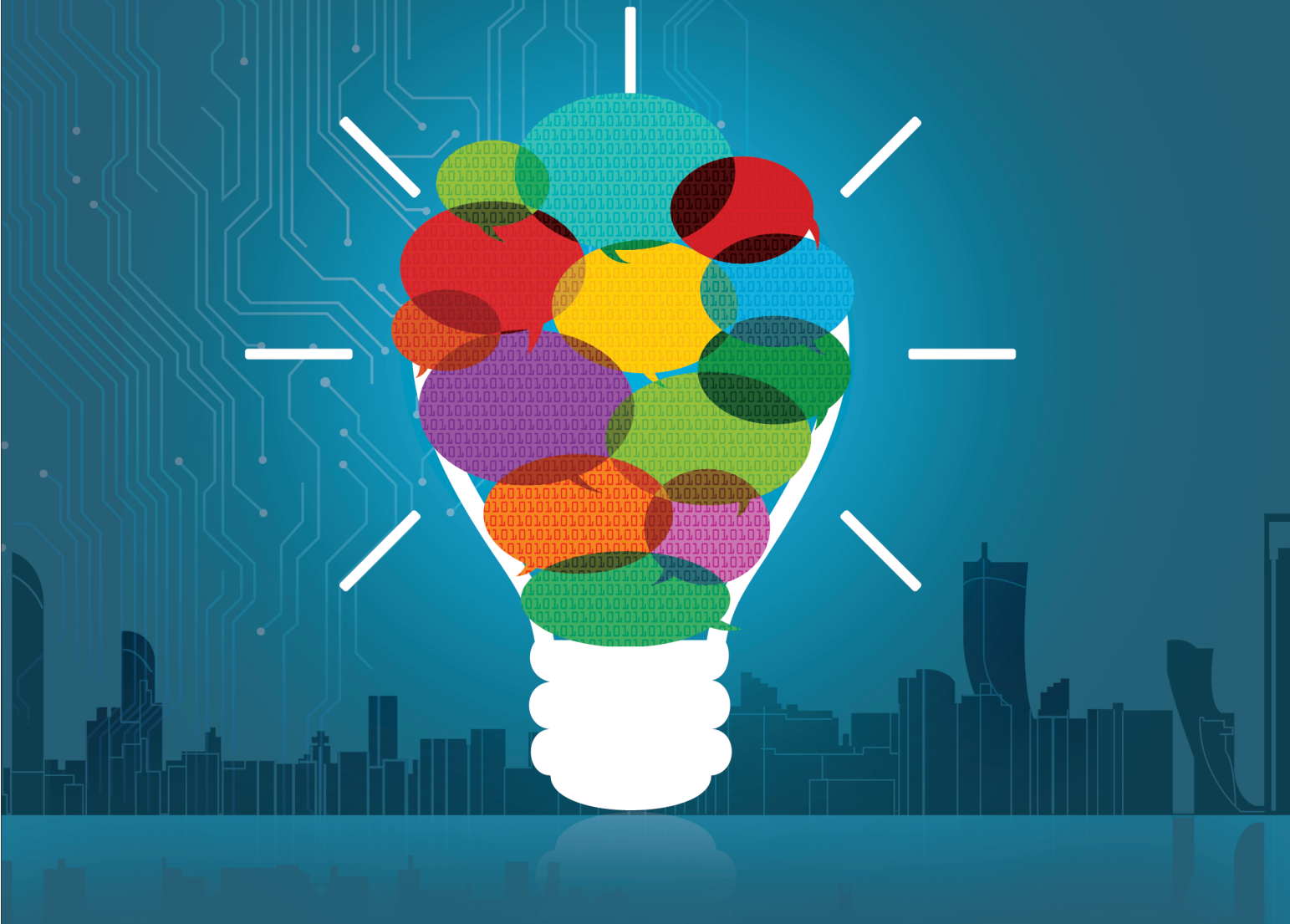
Efficient access to unstructured data : Although people generally have access to unstructured data, the process of finding it is often inefficient, with files in multiple locations. Look for a solution that provides a clear, direct, and quick path to relevant information.

Access to structured data and line-of business (LOB) systems: Many organizations lock down much of their structured data, for fear of unauthorized users resulting in users being deprived of information that could be useful to them. Find a solution that helps secure and protect information where necessary, allowing appropriate access to structured data and LOB systems.

People search: When choosing a solution, make sure you can narrow your search results, for example by region or department, with minimal clicks, and also consider factors such as social distance. Opt for an integrated solution, whereby the user can easily make good use of real-time communications, to build relationships such as knowledge networks and project teams.

Security and scalability: Look for solutions that provide custom security trimming, as well as standard features to help protect corporate information from unauthorized access.

Source: Microsoft India



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The interface should be simple and user friendly, as too much complexity in the interface demotivates the user to search.

Arnab Basu,
Executive Director, Technology
Consulting - PwC India



Enterprise search will enable single point search capability to search through data or content spread across the systems.

Chella Namasivayam,
CIO, iGate

engine will know whether the data required is from a CRM application or an HR system and where to retrieve that data from. In addition to this, . It is also common for enterprise search engine platforms to tie into business intelligence platforms to present the data.

The vast majority of content on the Internet is accessible anonymously, so a user would not expect to find information that requires authentication. This means that Internet search engines would not have to trim out results that the user should not see. So, given the same query, every user gets the same results. In the enterprise, security looks very different. Explains Ramkumar Pichai, GM - Microsoft Office Division, Microsoft Corporation India, "Here most content is secured by default. So items are trimmed out of search results if the user does not have the appropriate permissions. Given the typically high variance of permissions across combinations of users, repositories, and content, a search system needs to integrate well with the security model and provide results based on permissions of the person conducting the search."

Boosting productivity

Enterprise search is a powerful tool for boosting productivity since employees would consume less time in searching the information. IDC estimates that fruitless searches can cost an organization millions of dollars annually. The expense of not finding the information needed costs an organization employing 1,000 knowledge workers about US \$5.3 million per year as they search through vast amount of structured and unstructured data. This also impedes workplace efficiency, stalling projects, and derailing time lines. At the same time, IT managers use ample amount of time to manage, organize and locate company information.

A good enterprise search will not only save time of the employee but also will provide relevant information. Agrees Chella Namasivayam, CIO, iGate. "Enterprise search will enable single point search capability to search through data or content spread across the systems and employees would consume

less time in searching the information. It will increase the productivity of employees and make their job simpler."

Another important aspect is reusability of the resources. "We can reuse the same resource a multiple number of times thus saving time and increasing the expertise of the user. All sorts of resources like guideline documents, proof of concepts, white papers, various deliverables etc. can be maintained and used in a single repository equipped with an enterprise search engine," feels Arnab Basu, Executive Director, Technology Consulting - PwC India. It also encourages sharing information and boost user satisfaction level. For example, implementing Microsoft FAST Search Server 2010 for SharePoint has helped Manupatra Information Solutions, a growing law publishing company based out of Noida, not only in getting more accurate and relevant searches but also has helped in increasing the efficiency of sharing and retrieving documents. Performance has improved dramatically and the relevancy of results on queries has increased and renewal rates are up by 12-13%. "Users are more efficient and productive with the new search capability, because they find the information they seek faster. Search performance has also improved, which highly boosts productivity and has helped in sharing information," reveals Deepak Kapoor, CEO, Manupatra.

Relevance matters

It is true that enterprise search solutions will ease business process. However, there are some key factors that would determine the success of enterprise search. And relevancy is the first in line. "A good search engine should be able to provide contextual results. This means, if a user searches for a specific customer information, the search engine should be able to provide results related to that customer with the same context from across various applications such as CRM, support, social media, etc. This is a tough challenge and not easy to solve," reveals Iyengar.

Another main factor is about the familiarity of interface. An unfamiliar, complex, or inconvenient user interface



An enterprise search engine will have an indexing engine to index the incoming data, correlation rule engine, relevance engine and a presentation layer that can show the search results

will be a barrier to adoption. According to Basu, the interface through which a user tries to access the resource must be a simple and user friendly one, since too much complexity in the interface demotivates the user to search. "Consumers expect ease-of-use and a certain amount of slickness when it comes to interacting with products; the bar is high when it comes to how they can get work done," admits Pichai of Microsoft. Also search should be available from the interfaces of frequently used applications.

Correct indexing of the information content is important for fast and accurate search. At the same time, the resources must be updated and maintained regularly so they remain consistent with the user requirement. "For any new generation of a product, user experience goals are straightforward. Make it easier for the user to get work done faster, cheaper, and better. A simple, intuitive, attractive design also helps,"

Successful search

Enterprises globally including India are

beginning to realize the possibility that the data they already possess could have nuggets of information that could lead them to a path of higher profitability. Being able to transform this dream into reality has now become a CIO's job. If the CIO is able to bring in the 'best fit' enterprise search system and demonstrate its value, it can increase profitability for the business. Hence this has now become a priority for the CIO.

As of now, enterprise search platforms are in an emerging stage in Indian organizations. Some of the large Indian corporates and the firms in the services industry have structured knowledge management solutions internally. "We are seeing organizations waking up to the fact that enterprise search could be important," says Iyengar.

As more and more companies start recognizing the need, industry experts foresee a bigger and brighter market for business search systems in the near future with more players entering the fray.

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A search system needs to integrate well with the security model and provide results based on permissions of the person conducting the search.

Ramkumar Pichai,
GM - Microsoft Office Division,
Microsoft India



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Sridhar Iyengar,
Vice President, Product
Management, ManageEngine



INTELLIGENCE ON THE MIND

SMEs are increasingly relying on business intelligence and analytic tools to monetize the data they generate

BY HEENA JHINGAN

Ever wondered that the salon you are a frequent visitor to could be meticulously documenting your hair and skin type or styling preferences? Not only that, it could even be investing in specialized IT tools to do so.

Sample the case of Jean-Claude Biguine Salons, the Indian franchisee of the Paris-based chain that has deployed business intelligence tools for their 10 stores in India to keep a record of customer data to help them track the styling trends in the market.

Well, the news is that businesses as modest as salons are opting for a facelift with a dash of technology, acquiring BI tools to offer better value to customers by mapping trends, monitoring growth and making predictive analysis.

Market researchers are of the view that going forward specialty retail, department stores and stores with five or more branches would derive immense benefits from a retail business intelligence solution, which would enable them to control marketing and merchandising, product and service management, store operations, customer management and multi-channel execution.

Indian small-and-medium enterprises (having <1000 employees) are facing a greater need to take faster strategic decisions based on real-time analysis from large volumes of volatile and diverse data. They are increasingly turning toward BI solutions, to drive themselves on a fast growth track.

At present, the penetration of BI among SMEs is minimal. As per AMI-Partners, total BI/analytics usage among the Internet dependent SMEs is 13.2%, however with aspirations of offering greater business value to the customers and to deal with domestic and global competitive challenges, the SMEs in India are turning to true business assessment and performance management solutions. Forecasting, business intelligence and similar tools are vital for them in order to accurately make informed decisions.

Swati Sasmal, Vice President - Research & Consultancy, AMI-Partners observes that as SMEs expand in terms of size and business transactions, so does



Most ERP solution providers extended their suites to include basic reporting and analytics rather than having dedicated BI solutions for SMEs.

Ranjan Tayal,
Senior Vice President - Business Consulting, Ramco Systems



SMEs are anticipated to spend around \$45 million on SaaS-based BI in the year 2013.

the amount of data generated – it grows at a nearly exponential rate with the accumulation of all-types of data – financial & accounting data, sales & marketing data, production data, HR-related data, so on and so forth. It is vital not only to possess data; but to gain insight on the information so that one 'knows what to do with the data'. This will precisely drive the need and adoption of such tools.

She says, “SMEs are gradually beginning to understand the value of clear, succinct results using data and information integrated from various sources and presented in a way that clearly illustrates patterns and trends for easy interpretation and strategy formation. This also highlights problem areas that require attention.”

According to Sudipta K Sen, Regional Director - South East Asia, CEO & MD, SAS Institute (India), the BI market in India is currently in the range of around US \$100 million and is expected to grow by more than 15%. Small and Medium Enterprises (SMEs) will contribute significantly to this growth. The appetite for intelligence among SMEs is definitely on the rise.

Since SMEs at this point of time do not require high level analytics, Ranjan Tayal - Senior Vice President - Business Consulting, Ramco Systems says most ERP solution providers extended their suites to include basic reporting and analytics, rather than having dedicated BI solutions for SMEs.

For an SME to benefit from BI tools, it is fundamental that quality and quantity of relevant data coming from a structured data source, which in most case is its transactional or ERP system.

Rajesh Varrier, Head-Business Intelligence Practice, Blue Star Infotech observes that the BI market is large, at present many small and mid market enterprises might not even have a data warehousing strategy.

He says, “Even though SMEs are struggling with several aspects of IT and might be few cycles behind a definitive enterprise data warehousing strategy, it is a good sign that the mid market is moving beyond a stage of sitting on the fence. They are beginning to recognize



A large number of our clients are using visual analytics to explore data and view reports over their mobile devices.

Sudipta Sen,
Regional Director – SE Asia, CEO & MD,
SAS Institute (India)



Even though SMEs might be a few cycles behind a definitive enterprise data warehousing strategy, the mid market is moving beyond sitting on the fence.

Rajesh Varrier,
Head – BI Practice, Blue Star
Infotech



the importance of enterprise software to push their business.”

“Some have already taken to data discovery tools like QlickView and Tableau with capabilities of data flow and some bit of dash boarding,” Varrier says.

Vikram Kole, Chief Operating Officer, MAIA Intelligence, who defines SME as a sub Rs 150 cr company (by MAIA benchmarks) says major investments in BI from this segment are pouring from pharma, manufacturing companies that have implemented ERP and CRM solutions. “At present it is more about reporting and the analysis part is largely missing.”

Ready to use

Most of SMEs have automated recently, and for a larger number of them deployment of an ERP or a CRM solution in still work in progress. Interestingly, when SMEs decided go ERP way, a quite a lot of the mid size enterprises chose to develop their own ERP solutions, while the smaller ones that are mostly owner-managed, entrepreneurial companies opted for ERP on cloud.

Analysts are of the opinion that the aspect of building BI solutions in-house is limited among SMEs since most of them do not possess a strong in-house dedicated IT personnel strength.

SMEs mostly depend on their Value-Added-Resellers (VARs) and ISVs for IT assistance, deployment and new

technology/solution adoption. It is also true that a number of ISVs are slowly emerging as BI solution providers for SMEs.

Tobby Kakkamthottil, Leader, Inside Sales, Telecoverage, IBM India / SA informs that they work with several partners and ISVs who embed IBM's solution as middleware and offer solution to the SME clients.

“There are several Mobile Value Added Services players that use IBM tools to do churn analysis, profile customers and do targeted cross-sell and up-sell products,” Kakkamthottil says.

Picking off the shelf is more in vogue. The reason is simple; this helps them watch their core business functions closely rather than managing the entire aspect of BI infrastructure. This gives them ample time, cost savings and bandwidth to leverage BI in deriving meaningful insights from their data, track business parameters and predict performance. The market is very competitive and we see several BI offerings emerging – on cloud and on premise.

However, there are a few SMEs that have tried their hand develop in-house BI along with the collaboration of software developing firms as partners, using custom designed metrics and measurements, to manage vertical specific Key Performance Indicators (KPIs).

“For SMEs in particular, the concept of SaaS-based BI can act as a growth-engine; especially since it helps them tide over the relatively higher license costs and initial payment. It is likely to show a much higher future growth-rate compared to its on-premise counterpart; albeit rising from a much lower base. BI vendors are also likely to emerge with SaaS-based BI versions of their on-premise products,” Sasmal of AMI-Partners reasons.

Market reports indicate that SMEs are anticipated to spend around US \$45 million on SaaS-based BI in the year 2013.

Since cost is a key concern for SMEs, open source BI from companies like Actuate, Pentaho, Jaspersoft can prove to be an economic alternative. As per Gartner estimates, Pentaho is likely to cost only as much as 18% of the cost as compared to mega-vendors like SAP and IBM, and 23% of the entire cost when compared to BI solutions from players like QlikTech.

However, the adoption of open source BI among SMEs is still negligible, reason being that it involves some amount of learning and experience. SMEs lack the manpower and talent pool to devote to this area. Moreover, they are not so willing to experiment with their data and their IT being unorganized.

Tayal offers a word of caution saying that in jiffy of getting on to BI bandwagon, there are chances that inexperienced SMEs can end up making grave mistakes. “To fully exploit BI, and make effective analysis the SMEs must know the trick of asking the right queries, and that largely depends on the data model,” he says.

Possibilities unlimited

The industry sees immense possibilities such as profitability, efficiency that are driving BI usage though for most SMEs, the key pull is on good customer relationship management and customer

satisfaction apart from retention.

According to Neeraj Athalye, Head-Sales, SAP Platform & Technology Business, the adoption of BI and analytics can fundamentally be seen in parlance of planning & execution, sensing response, and making predictive analysis. He feels it is an encouraging indication for the industry to hear SME business case-led discussions for these solutions, even though they are using BI mainly for reporting of their transactional data to begin with and they will gradually mature from reporting to analysis and predictions.

Ask Ashish Naik, Manager-Business Intelligence & Strategy, JCB Salons-India about what made them invest in MAIA's solution and his prompt reply is that the solution is critical for their business as it helps them not only track trends, but also keep a tab on the growth of their employees and profile of their clientele. This in turn helps us make more informed decisions.

He says, “We have an ERP system integrated without financial tools and now we are taking help of the BI tools to track various parameters like age-group of our customers, footfall patterns, frequency of services etc. We also keep a tab on their stock keeping units (SKU), using these tools.”

SKU tracking was a challenge for Bharat Maheshwari, Sales & Brand Controller, Nivea India Pvt. Ltd. as well before the company invested in MAIA's IKey BI solution. “We needed a solution that could integrate SAP & non-SAP CRM data for our actual sell-in and sell-out against plan and distributor inventory data at any point of time, monitor field force and DSR productivity, help us expand and conduct distribution analysis, plan new launches and do focused SKU analysis,” he says

Seeing the success of sales based reports, Maheshwari now plans to build



SMEs are using BI for reporting transactional data and will gradually mature from reporting to analysis and predictions.

Neeraj Athalye,
Head - Sales, SAP Platform & Technology Business



SaaS-based BI can act as a growth-engine for SMEs, especially since it helps them tide over the relatively higher license costs.

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Bharat Maheshwari,
Sales & Brand Controller,
Nivea India

few controlling reports like brand margin analysis, SKU-level cost movement tracking, using the BI solution.

Gitanjali Group, a well known jewelry house that has points of sale globally, has been using SAS BI tools for a while and they recently upgraded to its visual analytics version.

Sam George, Chief Information Officer for the Gitanjali Group explains that analytics need to be real time. "We have stores across the globe, so there is a lag in the information, we need to have real time gross margins on the dashboards and these data points are then to be shared with different groups like the merchandising, manufacturing teams."

Besides, they were sitting on heavy databases for every individual brand they handled like Nakshatra and Gili. There were certain brands that they handle only for B2B purposes.

"In India, we are just getting on the Microsoft Dynamics ERP solution and will be consolidating the entire system to analyze data from all divisions—B2B, B2C, shop and shop for all the macro perspectives," he informs.

Beyond spreadsheets

BI is evolving at a pace never seen before. Gone are the days of when SMEs reported data on Excel sheets. They demand solutions that help them do more than just reporting. For instance, Pyramid Plastics which has deployed Microsoft Dynamics Navision ERP, when it came to picking a BI solution, did not consider products from Microsoft as it was expensive, and they needed additional capabilities that they claim MAIA could offer.

"Using MAIA solution, we are even able to send mails to customers using the scheduler tools. Currently we are working on developing a data warehousing solution and for that we need to put another server, says Nilesh Shah, Director, Pyramid Plastics.

Maheshwari of Nivea adds, "Deploying an SAP kind of solution would have taken us anywhere from six months to one year. Besides, we have an offline billing application deployed at the distributor end. Our earlier system could

not capture the data from Excel sheets. The new solution can and the interface is quite intuitive, collaborative and visual."

The organizations today wants BI to be user-driven, collaborative, and associative rather than it being restricted to decision making at the top level. Add to that the growing need for decision-making on the fly. This is where information mobility with the ability for fact based decision making 'anytime, anywhere' is becoming increasingly pivotal. Leading BI vendors have already started development and commercialisation of mobile versions of their tools.

"Indian enterprises are embracing Mobile BI at an increasingly fast pace. Over the last couple of years, the use of BI has witnessed a sea change with the advent of sophisticated smartphones. This has led to a necessary shift in the way BI is being leveraged to gain business value," points out Jaydeep Deshpande, Regional Marketing Manager, QlikTech India/SAARC.

Agrees Sen of SAS, stressing that a large number of their clients are using visual analytics to explore data and view reports over their mobile devices such smartphones and tablets. The shifting trend towards a virtualized environment has led to strong adoption of cloud-based solutions and social media.

According to a study commissioned by Oracle, Indian organizations use social media much more than the global average and their counterparts in emerging economies. In such a scenario, an integrated approach to social business will be critical for businesses.

Kakkamthottil is optimistic that once the uptake of BI tools gathers speed among SMEs, they will empower the users not only with insight but foresight as well. The SMEs will begin depending on these tools for interpretations which will be based on content, context and location.

Kole of MAIA, however, believes that that kind of market environment is still some years away. For now, the BI usage will continue to pick up alongside transaction systems.

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SANJAY DESHMUKH
CITRIX

Sanjay Deshmukh, Area Vice President – India Subcontinent, Citrix, talks to Sanjay Gupta about the company's enterprise mobility perspective and prospects in the Indian market. Excerpts...

“In 12 months vendors with the best story will break away from the clutter”

How would you weigh the options of a CIO to go with a specialized vendor of enterprise mobility solutions like Citrix compared to big software players like SAP and IBM?

From a category standpoint, enterprise mobility is a new category that is yet to mature. Our definition of maturity is that a technology or category becomes mature when everyone knows what to expect from that—for instance, ERP.

If you look at most companies, they will largely associate enterprise mobility with MDM (mobile device management). If you look at Citrix, we have always been on the user side: our goal has been to empower people to work and play from anywhere, using any device.

When it comes to accessing applications for work on a device of their choice, users expect the same experience they have as consumers. So they will expect an app store; they will expect access to all the data they want. But they will not differentiate between applications: they want whatever they need access to, to get their work done on the device. So they will not say, “This application is for PC only.” Or, “This application is for Windows,” and so on. What we have done is gone ahead and built our solution to address those capabilities.

Our solution addresses three elements of enterprise mobility: the MDM piece, application management, and data. The biggest gap we have seen today is that customers [often] do not consider data when building a mobility strategy or deploying a mobility solution. But we believe that data has to be an integral part of the overall solution.

Do you think there are too many players in the enterprise mobility space today?

No doubt there is a clutter in the enterprise mobility space. But we believe it is matter of time, say about 12 months, when the vendors who have the best and most comprehensive [mobility] story are going to break away from the clutter. So in all our conversations with enterprises we tell them that they should not look at point solutions to address a specific problem. Even though it may be a good place to



How is the adoption of your mobility solutions going in India?

Due to our Zenprise acquisition, we already have a good presence in the Indian MDM market, the largest customer being Wipro with about 5,000 users. We launched a comprehensive enterprise edition, which combines all the capabilities that I talked about, last quarter. Within that quarter, we signed up five customers; this quarter, we are looking to double that number. A lot of conversations and projects are around BlackBerry replacement or driven by “email for everyone in the company”.

start but that is not the only approach they should take.

Another thing is that we realized that the two most commonly used applications on mobile devices are the email client and the browser, which usually come native to the device. So what we have done is that, for the first time, we have written our own applications. And we say, “You use the native email and native browser for personal usage and all the fun stuff, and use our email and browser for enterprise access.”

But is it not increasing the burden for users? What if the users want the same software for both personal and professional use?

I think it is giving users the choice. It is also a sort of trade-off: users want more flexibility and enterprises want more control. In our situation, there is no need to pry on users' personal data and there is no remote wipe required; at the same time enterprises get the control they want.

One reason why enterprises have not enabled enterprise applications on mobile devices even though a lot of people in the organizations have these devices is because of security and control. The day they think their enterprise data is safe, they are going to do it.

You mentioned the significance of data in enterprise mobility. What part of data storage or sharing does Citrix provide?

We have Sharefile as our own file-sharing service (through acquisition of the U.S.-based company). It comes in two flavors: enterprises can use it as data as a service or they can host it on their premises. It has Outlook integration and can be accessed from any device.

What is your pricing model for mobility solutions?

Our pricing is very modular and flexible. Based on the module customers choose, they can pay us on a per-user, annual subscription basis or get the software licensed on a perpetual basis.

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THE TECH PLATTER



Here's a peek into how restaurant review site Zomato is using technology to innovate for growth

BY MEHAK CHAWLA

It might only take a minute to imagine the kind of IT needed to store the menu cards of close to 1 lakh restaurants. Now, add to that the fact that these are to be made available to customers on demand—without lags, in different screen sizes and form factors—and the task becomes pretty complex.

That was the kind of complexity faced by Zomato, a popular food review and

rating site, as it continued on its growth trajectory. As the number of customers grew, so did the company's need to create a more scalable and responsive IT infrastructure.

“We are currently present across 8 countries globally, with New Zealand being the latest addition and in 19 cities in India. We have over 400,000 users reviews for over 50,000 restaurants and

we also provide rating facilities. About 85,000 restaurants have been rated on Zomato with over a million ratings done by users,” details Deepinder Goyal, Founder and CEO, Zomato.

As far as Zomato's IT infrastructure goes, they are hosting their servers in Netmagic's data center in Mumbai. “We have three servers in India and different servers for different countries,” explains



Goyal. Zomato, like many other new-age internet companies, is a believer in home-grown IT. Most of their enterprise applications are built, maintained and scaled by their team of 12 techies. Their mobile app, which has over 2 million users (about 1.3 million in India), has also been conceptualized, developed and implemented in-house.

“We started as a menu card scanning company. So from the beginning, a lot of our focus and expertise has been around managing the extensive data that we have. Providing menu cards has been one of our differentiators so far. For this, we have deployed various field force applications for our people on the ground. We have been using in-house apps for things like instant approvals and real-time information updates from the people on the field across cities,” elaborates Goyal.

It is only when Zomato reached a critical mass in terms of penetration and traffic that they decided to move to user-facing applications. “All our apps across platforms are built by our own team and we believe that we are ahead of the curve when it comes to apps usability”, adds Goyal.

Zomato is already using what Goyal terms as “Our own mini cloud” within the data center, so storage and scalability has never been a big concern for them. As Goyal says, “Space is not an issue with cloud. We are also looking at cloud to reduce latency on our site and application. We are using cloud for things like back-up as well.” Zomato mostly works with HP for their hardware needs.

All about analytics and mobile

One of the key things that Zomato is doing is business analytics, which have been developed and deployed in-house. Though they also use Google analytics, Zomato has built their own intelligence tools to keep track of searches, trends and feedback that pours in. According to Goyal, “We are sitting on enormous amounts of data and we try to analyze what we can.”

In an innovative move, Zomato recently did an interesting project with a major Chinese restaurant chain, where they used their own data and analysis to help the restaurant decide where can they open an outlet. “We saw where were the

All our apps across platforms are built by our own team and we believe that we are ahead of the curve when it comes to apps usability.

Deepinder Goyal,
Founder and CEO, Zomato

most searches for Chinese food coming from and what is the demand-supply gap in these areas. If analyzed properly, there are some very interesting trends that our website traffic can bring out: like in the last 30 minutes of a crucial cricket match, there are hardly any visitors. And traffic dips on rainy days,” reveals Goyal.

Though Zomato does use basic ERP like Tally, they design their own apps because, as Goyal says, “When it came to complex business apps we realized that customization is a huge challenge and we were not ready to govern our business processes as per the products defined by the vendors. However, we did not want to invest time and resources in building basic stuff like email and ERP”

Goyal says that in terms of infrastructure, the technology services offered by the players in India is quite up to the mark. However, a big challenge for Zomato has been the shortage of the right people to manage technology. “The right kind of resources are hard to find, especially in a scenario that involves a lot of code writing,” he says.

Bandwidth too is a challenge, especially when it comes to the mobile application. As a result, Zomato had to inculcate features in their mobile app to adapt itself to low bandwidth situations. For instance, the application can gauge if the user accessing it has a low speed connection. In that case, it shall

automatically load low resolution menus as against high res ones in the case of a 3G or even a decent 2G connection. Also, while the app shall display 20 options on the first page for the high speed connection, only 5 options per page will be displayed for the slower connections.

There are several features in pipeline for the mobile application. For instance, users will be able to upload pictures and do a picture review of a restaurant in a few words. “We also plan to jazz it up with Instagram-like features. We are also looking at making commenting on reviews a possibility. We want to give a community and interactive feel to the whole experience. We want our consumers to discuss rather than just review. We are also thinking of enabling push notifications on the mobile,” reveals Goyal.

Expansion ahead

Though Zomato is already present in many tier 2 cities, they are looking at expanding into new cities and also adding capabilities. For instance, they have been thinking of introducing a plus version for their users. “Especially for menu cards, since that has been our unique offering all along,” explains Goyal. He believes that users will not mind paying a small annual subscription fee for being able to access their database of menu cards. Some features like reading and reviewing will always be free, he adds.

With expansion in services comes expansion in technology. However, Goyal reveals that adding a city does not lead to an immediate and unmanageable spike in traffic. “Even when we add a new city we don’t have very high spikes in our traffic (only about 3-5% increase) so we don’t need an infrastructure refresh every time we enter a new market. However, our weekly traffic growth rates are 5-7%, so we end up adding capacity to our IT infrastructure almost every three months. We have about 4 lakh visitors per day,” he says.

Other cities that Zomato is evaluating right now are Guwahati and Baroda. Their launch of application and website is simultaneous since they use the same IT infrastructure for both the platforms.

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T. SRINIVASAN
VMWARE

In an exclusive chat, T. Srinivasan, Managing Director, VMware India & SAARC, talks to Pankaj Maru on virtualization's impact and cloud trends in India, role of mobility, company's new cloud service and much more. Excerpts...

“We believe cloud will provide maximum benefits to organizations”

What are the challenges that act as a hindrance toward virtualization from VMware's perspective?

It's not really challenging but may be just time consuming, as in lot of the areas like moving enterprise application in the private sector or the government, defense are huge sectors and you have to stay invested as any change that happens has to be carefully looked at. The only challenge is ways to increase the footprint which we continually work on.

We have a three layer strategy- the first being software defined data center, the second is the hybrid cloud hosting and third is end user computing. VMware's infrastructure has mainly been in the server side of the business. We believe that if you look at moving towards the cloud, you will need to virtualize networks and storage. A year ago, we acquired a company called Nicira which was a leader in network virtualization and this offers customers various benefits and virtualize physical network that exist today, to a fair deal. Virtualization adoption will increase significantly in the days ahead.

What role will mobility play in virtualization technology and what changes will it bring ahead?

It will play a very large role in virtualization. The end user computing that I spoke about earlier is where mobility is an essential element. End user computing basically meant desktop virtualization. The fact that mobility has become so important, you have to look at corporate strategy. The adoption of corporate applications on mobile devices will continue to increase and new things that will come up will have a continued emphasis on providing corporate applications on mobile devices.

Mobile users want uninhibited freedom and organizations want their data protected, so the key is to strike a balance and keep the data separate. We have technology to help customers do exactly that. Seamless transferring of information from one device to another in case of an emergency, is critical in a mobile era where people have multiple devices. At the same time, corporations need to ensure



VMware offers cloud service in the US but how do you plan to offer that service in India?

We already have that service here. In the US, the service was launched by VMware but in markets like India we have tied up with big cloud players like Netmagic, Tata Communications, HCL and forty other companies which use VMware infrastructure to provide cloud services. As our cloud software matures, the automation software becomes smoother from our offering to the customers.

security of their critical data so they back up the portion that is critical to them. Mobility will be the key, but security will always be a concern for which we have tools provided by VMware Horizon Suite addressing that specific area.

What kind of research and development activities are happening on the India front?

A majority of the software development on the hybrid cloud services that was launched initially happened in our Bangalore and Pune centres. New software based cutting edge projects continue to be developed here in collaboration with other providers. We also have a new campus coming up in Bangalore which is about 420,000 sq ft with a seat capacity of 2,700 employees and the campus will be ready by next year.

How is competition for VMware with the presence of local and global players in the Indian market?

It's interesting. Our customers like the trust and robustness that the VMware platform offers. Citrix is our competitor in terms of desktop. In terms of the software defined data center, that is managed by entirely virtualizing the network. The value that we bring to customers is that there is one place where you can get software for your data center. But competition could be in smaller chunks from smaller players.

How has been VMware's business ?

Customers have been increasing the virtualization footprint within their organization and we continue to add more customers. We have seen a healthy adoption rate from new as well as existing customers which continue to add on, and that's a hallmark of a good growth based company. We are vertical agnostic. Any application that can run on x86, can run on virtualization software - be it a manufacturing or CRM application. Top adapters are the BFSI and telecommunication firms as their businesses are steeped in IT than manufacturing companies. Also, we have had wins in the government which is a green field area.

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THE PROBLEM OF INFORMATION SILOS

BY SUMEET ANAND & NAFAY KUMAIL

The very solutions that were meant to help enterprises tackle the information management challenge led to a multiplicity of tools and, thus, silos. Now what?



THE EXISTENCE OF SILOS BETRAYS A FALSE SENSE OF SATISFACTION THAT INFORMATION IS BEING GATHERED AND IS AVAILABLE WHILE IT REMAINS LOCKED IN DISPARATE SYSTEMS

Information management faces the twin-challenge of information overload and information being locked in disparate systems, commonly known as silos. Enough has been said as to how fast information is stacking up and how the resulting clutter is posing a serious challenge. So, here we will focus on the problem of silos.

That silos exist in the information management system is an established fact. That it hurts organizations by preventing quick problem-solving is also a reality. The existence of silos also betrays a false sense of satisfaction that information is being gathered and is available while it remains locked in disparate systems. Hence, the very idea of collaboration and free communication is being challenged by products and solutions that in fact claim to solve the problem.

Interestingly, solutions applied to solve the information challenge and for information discovery and collaboration led to multiplicity of tools, which resulted in silos. Solutions such as social networks, search appliances, micro blogging, content management, document management, file sharing, wikis, blogs, RSS, bookmarking and analytics ended up creating silos and failed to bring everyone on the same proverbial page.

Further, wiki pages/spaces also remain as separate silos and do not get into a unified knowledge base—a case of silos within silos. Also, in some traditional products, a user needs to make multiple copies of the same post under different forums or wiki spaces. This further segregates the knowledge base and creates more silos.

In fact, traditional products that currently dominate the market are still modules based products and hence by design create more information silos.

A unified approach

What we need is a unified paradigm for

capturing, storing, organizing and searching content as well as people. We should avoid focusing on individual features or hurried cobbling together of features such as wikis, blogs, forums, bookmarking, Q&A, micro blogs, networking and folksonomy separately. People are one and their needs interdependent. Hence, a dozen different silo capabilities are not the answer.

We should also avoid a feature-based comparison at the time of deciding about a particular product or solution. We should rather look at compliance to overall requirements. As we already suffer from a complex stack of applications, all as separate silos, going forward, we must look at unification, simplification, usability and interoperability of the technology platform. It should be a platform solution that also gives us the power to customize and create a solution more relevant to each individual scenario.

Also, in today's era of real-time communication and collaboration, it is an imperative that products and solutions offer real-time content organization and management to curb silos which hamper knowledge enhancements, responsiveness and productivity.

Even if we evaluate the current scenario from the limited perspective of knowledge creation, the available solutions clearly fail to avoid creating silos. We should remember that creation of knowledge is all about the process of learning and related mechanisms and not treat e-learning, KM, collaboration, etc., as separate silos. A platform technology with embedded best practices related to KM and collaboration and a unified framework is the answer.

Sumeet Anand is Founder CEO and S.M. Nafay Kumail is Co-Founder of Kreeo (i-nable Solutions), a technology startup in the Enterprise 2.0 and collective intelligence space.



COLUMN

VISHNU BHAT

CLOUD: BEYOND INFRASTRUCTURE

The cloud has outgrown its initial premise that focused entirely on infrastructure. Increasingly, it is an enabler and driver of innovation

Cloud computing has come of age. An idea—which started out by leveraging scalable and readily available digital assets to enable higher efficiency, speed of deployment and expanded utilization—has outgrown its initial premise that was built solely around infrastructure.

Although considerations of infrastructure scalability, virtualization-led savings, faster development cycles and private cloud-driven efficiency are still important, they are only a part of what the cloud can offer to enterprises; in fact, these things are, now, virtually hygiene.

Therefore, it is time that enterprises opened their eyes to see the cloud for what it is really - not merely an engine of efficiency, but a powerful driver of innovation. And there is enough proof of its potential: A bank extends its services to remote areas outside its urban branch network by enabling agents to access a cloud-hosted core banking platform. A soft drink manufacturer streamlines distribution through a combination of mobile devices and a cloud computing setup into which merchandisers input stocking and other information in real time.

Leveraging data

Besides fostering innovation, cloud also helps organizations leverage data better to make better decisions. Today, everyone's talking about big data - which incidentally, operates on a cloud frame - and its impact on operations, data processing, and insight creation. The cloud has changed the paradigm of processing large data sets by enabling organizations to tap into big data that exists within and outside their four walls to slice and dice it faster, cheaper and in more minute detail than it was thought possible. Retailing organizations have taken the lead in leveraging the elastic computing power of the cloud to not only crunch structured data, but also mine

unstructured information in the form of social media conversations and online commentaries about their own and competitor brands, consumer perceptions, user expectations, and more.

So clearly, the infrastructure-efficiency viewpoint has given way to innovate-to-achieve-the near-impossible today. Enterprises are gearing up for a future in which they will look at fragmenting their software and application workloads - which today reside in their traditional data centers - across multiple clouds and best-of-breed infrastructure - sometimes even outside their own setup. By and large, organizations are accepting this proposition as long as it is implemented within the safety of a private cloud; however, they raise the usual concerns around security, data privacy and the risk of regulatory violation, when presented with the idea of leveraging the more elastic computes that are out there, as a way to realize the true benefit of the cloud.

This issue is best addressed, in my opinion, by the best practice of using a solution that brings all the fragmented workloads - on the private and public cloud ecosystem - together seamlessly, providing the enterprise with a single, unified view of its entire operational setup across multiple clouds, and the way it is performing. Even better, such a solution can also make intelligent recommendations around which cloud is best equipped to deploy a new workload on, based on the configuration required. That being said, the key point is that enterprises must be open to the idea of participating in a cloud ecosystem of this kind, in the first place.

This discussion leads to another interesting thought: in addition to broadening their view around cloud computing, enterprises have immense value to be gained by changing the way that they approach it. Traditionally,



EXECUTING AN ENTERPRISE-BASED CLOUD STRATEGY NEED NOT NECESSARILY BE A DIFFICULT JOURNEY



organizations have viewed their cloud strategy through a cloud-centric lens: first experimenting with a private cloud, then maybe graduating to others like those owned by Amazon, Microsoft Azure or Salesforce.com. This perspective is somewhat sliced, and determined purely by that particular cloud's capabilities. Yes, taking a cloud-centric view is, perhaps, the right way for an organization to get its feet wet, but it is very important that this subsequently shifts to an enterprise-based strategy. Because, the cloud is a strong and proven driver of tech-led innovations that in turn help realize enterprise goals.

However, when 'cloud' and 'enterprise strategy' are mentioned in the same breath, the pains of deep-rooted changes come to the mind. But executing an enterprise-based cloud strategy need not necessarily be a difficult journey. It can be as simple as developing a new or even just improved existing capability, through a cloud framework, for small but strategically significant change - with a holistic view of the larger business intent.

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THE CLOUD HAS CHANGED
THE PARADIGM OF
PROCESSING LARGE DATA
SETS BY ENABLING
ORGANIZATIONS TO TAP INTO
BIG DATA THAT EXISTS WITHIN
AND OUTSIDE THEIR FOUR
WALLS

This need not entail grand plans for ambitious makeovers that entail months of rigorous change management. It can be as simple as leveraging the cloud to grasp the customer's needs just before she does...Staying one small but crucial step ahead of competition...Creating processes that save a little more time or money...Getting one more advantage from existing technology investments...Or bringing a little more value to the partner ecosystem. These simple but significant steps can accrue to build a stronger and more resilient business organization.

In effect, organizations that take an enterprise-centric approach to cloud grow in their prowess and agility to respond to changing business dynamics. They leverage the cloud to enable the business to be 'the last man standing,' even when the economy runs into poor weather. And that, in my view, presents a compelling business case.

Vishnu Bhat is Vice President and Head - Cloud Services, Infosys Limited.



COLUMN

ASHISH PACHORY

DATA TURNS BIG: WHAT NEXT?

The intersection of big data with advanced analytics will not only help enterprises derive actionable insights from voluminous data but also contribute to creating the information architecture of the future



WITH THIS TREMENDOUS DATA GROWTH, AND THE VARIETY AND COMPLEXITY SURROUNDING IT, IT IS IMPERATIVE THAT TRADITIONAL STORAGE APPROACHES BE RE-EVALUATED

Consider this - the world creates approximately 2.5 quintillion bytes of data every day, and 90% of all data ever generated has been in the last two years! This data can originate from a multitude of sources - your posts to social media sites, application downloads, digital pictures and video uploads, mobile GPS signals etc. The result: a huge explosion in data volume and variety, leading to what is gaining eminence as big data.

With this tremendous data growth, and the variety and complexity surrounding it, it is imperative that traditional storage approaches be re-evaluated. The cost of storage, improvements in processing power, storage optimization, networking, have all come together to fulfill a human and business need that was always there, but could not be realized. That is now changing.

How big is big?

Big data is fairly omnipresent but one can't necessarily put a number to it. It's not like you crossed certain bytes of stored data and got yourself into BIG territory. The thresholds for big data depend not only on size, but on structure and even usefulness of data. So what defines BIG? The fact is that data was never really considered as an undisputed business asset till a few years back, and hence no standard 'measures' are available. However, now with the advancement of technology there is a real possibility of identifying the nuggets from vast amounts of data which is routinely generated.

It is predicted that data will grow 800% over the next five years and 80% of it will be unstructured. This colossal data growth (volume) puts serious constraint on defining the threshold for big data, as it makes big data volumes a constantly climbing target. However, its size depends on the needs and capabilities of the organization. While in some cases a

few hundreds of gigabytes may trigger a need to reconsider data management options, in others it may take hundreds of terabytes before data size becomes a significant consideration.

In addition to this, what matters is the speed (velocity) at which data can be processed to provide real time insights. Whether it is analyzing geological information for timely earthquake warning or spotting market trends to get ahead of competition, speed is the essence of it. Big data is only useful if it can yield insights in a timely fashion. Greater data volume yields more granular information, but increases the processing time. Also, the expanding ocean of data cannot be expected to conform to a single format - it can be structured, unstructured, somewhat structured, or a mix of these. The remarkable fact here is that the multiplicity of data formats, sources, sensing/gathering mechanisms, computing platforms etc. (variety) do not present a hindrance to the processing of big data in a consistent way for analytical tools to make sense of it and present useful insights.

The combination of the three- volume, velocity and variety - makes it almost impossible for conventional analytics tools and methods to meaningfully manage and analyze big data to its full extent. We need new ways of organizing data, and new computing techniques and algorithms to bring computational power in line with data growth. In other words, big data is only as useful as the analytics deployed to exploit it. These analytics must overcome any size, speed and structure limitations. Maximizing big data's full potential requires advanced analytics to cull and leverage data from inside and outside the organization.

This also requires a shift from the concept of a single enterprise data warehouse that earlier, used to contain all information needed for decisions. Multiple systems is the key, where



specialists are involved at each stage speeding up processes and managing data faster, resulting in quick, efficient and better business decisions.

Analytics – the key differentiator?

Big data, as discussed above, cannot lend itself to relational databases and desktop visualization tools. Also, its size, structure and speed is a variable mix depending on the need and capabilities of the organization managing it.

So what is THE thing that makes big data so desirable? It is its intersection with advanced analytics. The world of Big Data Analytics (BDA) is quite different from our familiar world of data processing, management and analysis. Apart from its innate ability to juggle different data types, structures and I/O speeds, BDA has to work with completely new processing and programming models. It is an ecosystem that needs to be carefully planned and implemented; a combination of processing technologies all working in parallel on distributed servers. You cannot just buy an

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application to make big data analytics happen. It is an evolutionary process.

What the future beholds

The fact is that there is already an increasing sense of urgency around big data and as businesses establish faster and stronger connection with their customers, the case for big data becomes

stronger. Its barriers are same as with any new transformational concept – ownership, RoI, skill sets, capabilities etc. But these are mere temporary hiccups and will go away as the technology matures to gain stakeholder confidence.

Big data enables you to dive deeper into more varied and voluminous records to yield actionable insights which could not be accessed earlier. As it is emerging concurrently with a host of complementary trends- cloud computing, social media, enterprise mobility etc. we may see a very new kind of convergence - which brings all of these trends together, to create THE enterprise information architecture of the future - quite different from today's landscape of disjoint applications and databases somehow connected together.

Big data is here to stay and grow. It is going to be a key driver in enabling not just enterprise growth, but its very sustenance. And when this happens where would you rather be?

Ashish Pachory is CIO of Tata Teleservices Limited.



COLUMN

PARIMAL PANDYA

CONTENT DELIVERY AS DIFFERENTIATOR

Network operators can become significant stakeholders in the content distribution value chain by deploying their own content delivery networks

Meeting the content and service expectations of subscribers across multiple devices have presented new challenges and opportunities to network operators globally. They own the network to the end user upon which all devices connect and services run across. Operators need to focus on managing the network costs to deliver these services, while trying to leverage the increased adoption of content and services to favorably impact revenues. And at the heart of the opportunity, is the ability to improve service performance to truly differentiate their network from the competition.

To accomplish these goals, we are witnessing an emerging opportunity for network operators deploying their own CDNs (content delivery networks) to become valuable stakeholders in the content distribution value chain.

Network operators are coming to terms with the consumerization of IT; specifically the burden it has on their networks. According to a report by Nokia Siemens Networks, over 85% of traffic on the mobile network will be generated by mobile data, of which 49% will be delivered via handheld devices by 2015. At the same time, BYOD (Bring Your Own Device) is not showing any signs of slowing down. In fact, Gartner has estimated that by 2016, two-thirds of the mobile workforce will own a smartphone, and 40% of the workforce will be mobile.

The situation currently faced by many network operators is that their traffic is being served from external peering and transit. This leaves them with no control over the traffic delivered which results in unpredictable swings and a less than optimized network. The latency will thus affect Web and streaming performance to subscribers.

Operator CDNs are fast emerging as a high priority element of network operators' strategies to support the delivery of all content and applications - their own services as well as those from

over-the-top providers. They see CDN as a strategic and highly complementary way to offer new and differentiated content services and provide a superior Quality of Experience (QoE) for their subscribers. From a cost perspective, CDNs will contribute to a reduction in network infrastructure costs. At the same time, operators will be able to provide a holistic and quality experience for subscribers across a variety of IP-connected devices.

Making a start

As with every new technology, we can expect lukewarm reception initially. In my opinion, I would not hail the first phase of telecom CDN a success in terms of achieving revenue or traffic offload goals. To begin with, the past telecom CDN offerings have been somewhat limited to bit delivery, which is important, but not enough to win over many media or enterprise customers. These customers are keen to enhance their existing enterprise portfolio and differentiate their network, hosting and cloud services. The offerings will need to evolve to address enterprises' needs to not only deliver content, but also improve service quality, simplify workflow, reach an array of devices, and provide global reach and scale.

Another reason was that the CDN offerings were only limited to the operator's network footprint, which led to the business requirement of having "federation". This was not in line with online businesses' strategy and business roadmaps, seeing how they want global partners, to reach customers wherever they are or decide to be located.

Thankfully, this is changing. We see more network operators considering CDNs as a core element of their network infrastructures. We are also witnessing an emerging opportunity for network operators to become valuable stakeholders in the content distribution value chain. In my conversations with network operators, apart from improving

THE PAST TELECOM CDN OFFERINGS HAVE BEEN SOMEWHAT LIMITED TO BIT DELIVERY, WHICH IS IMPORTANT, BUT NOT ENOUGH TO WIN OVER MANY MEDIA OR ENTERPRISE CUSTOMERS



delivery and offloading traffic, it was clear that many of them need to license, own, and operate the big bit delivery component of a CDN service.

They build their own Operator CDN capabilities, allowing them to monetize their network, reduce costs and enhance retention, customer loyalty and service satisfaction.

I see the approach to an operator CDN as a partnership. It is important to provide the right technology and platform for operators to sell services to their customers, and for global delivery. Some of these partners allow the operator to optimize and offload the traffic from premier brands from the very first day, which can have large economic advantages.

A successful partner helps operators capitalize on traffic growth and eliminate the complexity of building a CDN and interconnect across providers. Lastly, they can leverage their CDN and be an internal customer of that CDN. In other words, they can use it to deliver video

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 A SUCCESSFUL PARTNER
 HELPS OPERATORS
 CAPITALIZE ON TRAFFIC
 GROWTH AND ELIMINATE
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services to connected IP-devices. Many networks also have large content libraries, and their subscribers increasingly want to view that content beyond the legacy set-top box.

A recent report by researcher MarketsandMarkets indicated that the global CDN industry will reach US\$7.4billion by 2017, which is not the least surprising.

The proliferation of new devices in the marketplace will continue to create numerous challenges for content providers who are trying to satisfy customer demand for anytime, anywhere access to content. Consumer adoption of Internet videos and other media will continue to grow; networks around the world are going to experience an explosion in traffic growth, which will result in congestion across an operator's network from aggregation, to backbone, to interconnect.

Parimal Pandya is Regional Vice President, Carrier Strategy (Asia Pacific & Japan), Akamai Technologies.



ON A SAFE TRACK

Western Railways achieves better threat detection and protection by using Kaspersky Business Space Security solution. The solution also provides centralized network management

BY HEENA JHINGAN

During the outbreak of Sality and Kido malware in 2009, Western Railways, a lifeline to over 3 million passengers a day, began experiencing security jolts. Western Railways serves entire Gujarat, a part of Rajasthan and some areas of Madhya Pradesh, and now comprises six divisions – Mumbai, Vadodara, Ahmedabad, Ratlam, Rajkot and Bhavnagar.

Persistent security threats were keeping the IT officials at the Western Railways on their toes. Since Western Railways' operation offices are spread over a wide geographical location; the management of workstations and servers were a challenging task for the IT personnel. To make matters worse, the Symantec solution that they had been using during the period was unable to detect and eliminate these malware effectively. The administrators were also unable to determine whether viruses such as Kido existed on the network.

In the face of such a situation, the only solution they could see, was to turn to their IT adviser to help them find a solution that would help them resolve existing and future security threats.

Being a government agency, the Western Railways department had to

THE SECURITY PACK

- The solution provides protection from malicious programs and spyware
- Simple, centralized management
- Simple tools
- Security on both network and mobile devices
- OS-agnostic solution

follow a tender process, inviting different technology partners to present the best-suited security solution for the railway company.

Altaf Halde, Managing Director, Kaspersky Lab – South Asia informs, they had pitched Kaspersky Business Space Security solution to meet the department's requirements.

"However, it was difficult to impress the tender committee in order to get the project. The committee was skeptical whether the Kaspersky solution could deliver high levels of security and match the service standard of the brands like Symantec and McAfee that had already established their name in India market, Kaspersky was relatively a new name," he reasons.

Halde says, "A proof of concept (POC) was conducted over a period of 15 days. The committee finally gave a go ahead to Kaspersky Business Space Security solution."

Secure network

A team of four engineers from Techmatrix Infotech handled the deployment of Kaspersky Business Space Security at Western Railways.

According to S. K. Jain, Senior System Analyst, Western Railways, the IT personnel at the department utilized the wizard-driven tools and templates within Kaspersky Security Center to install Kaspersky Business Security Space across their infrastructure.

"Since the tools of the Kaspersky solution are simple and user-friendly, the personnel could deploy the solutions quickly and easily, regardless of their level of IT expertise," says Jain.

Jain explains that the Kaspersky Security Center is a part of Kaspersky Business Space Security that provided a centralized solution for deploying, managing and reporting on physical or virtual endpoint workstations. This according to him helped the administrators define and manage corporate policies, run virus scans, and software updates.

"This makes sense for users like us that have workstations in separate work groups and under different administrative passwords. The solution helped us get a centralized view of the situation," he says.

The good part that Jain sees with the Kaspersky solution is that it can centrally manage all endpoint platforms such as Windows, Linux, Macintosh or smartphones.

Jain says many of their workstations were running on Windows XP, and were badly infected with viruses at the time of implementation in 2011.

"All viruses are now eliminated from the workstations. Western Railways enjoys full protection with Kaspersky solutions and the IT executives are now able to control virus activity on the network effectively and proactively, especially for mobile users with laptops and also for workstations at remote offices," he says.

To begin with, the Kaspersky Business Space Security solution was deployed for 240 users located at Electronic Data Processing center, stores, and accounts department. Another set of 660 users that were located at the old building of the department were covered by the solution.

As of now, the solution has been installed on 20 servers and one gateway server for about 900 users of the department. Going forward, the department plans to further strengthen its security frame work.

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IT executives are now able to control virus activity on the network effectively and proactively, especially for mobile users.

S. K. Jain,
Senior System Analyst, Western Railways



The [tender] committee was skeptical whether the Kaspersky solution could deliver high levels of security and match the service standard of the established brands.

Altaf Halde,
Managing Director, Kaspersky
Lab – South Asia

CALLING FOR BIGGER FORTUNES



The government recently lifted the cap on foreign direct investment in telecom. But will 100% FDI really transform the sector?

BY KTP RADHIKA

The government's decision to allow full FDI in telecom is expected to bring in fresh funds and high confidence to the sector. The union Cabinet decided to increase FDI cap in telecom to 100% from 74%, up to 49% via automatic route and beyond that through the Foreign Investment Promotion Board. Industry experts believe the sector can now garner the much-needed additional funds, and the new norms will help bring in more consolidation and buyouts in the telecom space.

Currently, India has four major service providers where foreign investors hold a majority of shares. For instance, Vodafone is owned by Vodafone Group of

UK; Uninor is owned by Telenor Group of Norway; Aircel by Maxis of Malaysia and Russian company Sistema owns major stake in MTS. Each of these investors holds 74% or lower stakes. Even though many foreign investors have tried to bring in more funds to the industry, they were discouraged by the 74% cap. Now with the cap removed, cash-rich foreign telcos are likely to seek to buy out their Indian partners' holdings and can claim complete ownership of their business. Also, new foreign investors will no longer need to partner with Indian players to comply with regulatory requirements.

During the recent telecom summit held by the industry group CII, telecom

minister Kapil Sibal commented that 100% FDI is a very progressive move since there are a lot of companies who want to get into the country through a transparent way and invest here. "There are immense opportunities in the market and the money will flow if there is a return on investment," the minister said. According to Praveen Bhadada, Director – Market Expansion, Zinnov, the key benefit will be additional avenues of capital infusion for a sector increasingly burdened by debt. As per the recent presentation given by Cellular operators association of India (COAI), the GSM industry body, to the Department of Telecommunication, the debt on telecom



sector is Rs 1,85,720 crore by end 2011-12. This includes Rs 93,594 crore of debt from domestic sources and Rs 92,126 crore from external sources. "Allowing 100% FDI makes investment decisions relatively simpler by taking out the additional consideration of regulatory requirements," Bhadada adds.

Foreign flow

According to Minister of State for Communications and IT Milind Deora, in the past 13 years, (April 2000 to May 2013), India's telecom sector has received a cumulative FDI of \$12.86 billion (Rs 58,782 crore). It comprises 7% of the total FDI inflows. That said, as per

Department of Industrial Policy and Promotion (DIPP) records, FDI in the sector -- which includes radio paging, cellular mobile, basic telephone services -- plunged 81.64% in 2012-13 to Rs. 1,654 crore mainly due to the economic slowdown.

Deora says that the National Telecom Policy 2012 which was released in June last year, endeavors to create an investor friendly environment for attracting investments in the sector and provides clear roadmap to address policy and regulatory issues to improve the health of the telecom sector. "The enhancement of FDI cap will further facilitate capital inflows as well as ability of existing



Allowing 100% FDI makes investment decisions relatively simpler by taking out the additional consideration of regulatory requirements.

Praveen Bhadada,
Director - Market Expansion,
Zinnov



Right now, telcos are facing money crunch, especially in tier 2 and 3 cities. FDI will bring in enough funds for the sector and will improve the technology of the sector.

Sanchit Vir Gogia,
Chief Analyst & CEO,
Greyhound Research



service providers to access lower cost financing,” he adds.

Apart from inviting investment, the removal of the FDI cap is expected to boost innovation in the telecom space. According to Sibal, more FDI will also help in setting fabrication units in the country and will in turn helps in innovation. Mirroring this view is Ankur Lal, Chief Executive, Infozech, a software provider for the telecom sector. He says full FDI will accelerate technology innovation in some new areas of telecom. “With 100% FDI allowed, the velocity of innovation will increase and in near term, FDI will bring in more globalization to the sector,” says Lal.

According to Sanchit Vir Gogia, Chief Analyst & CEO of Greyhound Research, 100% FDI will be a game changer as far as technology in telecommunication sector is considered. “Right now, telcos are facing money crunch especially in tier 2 and tier 3 cities. FDI will bring in enough

funds for the sector and will improve the technology of the sector,” he says.

Not a silver bullet

While it is true that 100% FDI will help in wooing investors into telecom sector, experts say it alone cannot solve all the problems the sector faces today. They identify the reasons for this phenomenon as the existing policy and regulatory hurdles in Indian telecom industry. Badada of Zinnov states, “Although the decision might bring additional investments from some foreign investors as they look to buy out stake of local partners, fundamental challenges of the sector like constrained profitability, uncertain regulatory environment, decreasing revenue etc. are unlikely to be directly impacted in the short term.”

The troubles that ensued spectrum auctions and problems relating to mergers and acquisitions have to be solved first before the industry could

directly get benefits from full FDI. According to Deepak Arya, Head, Regulatory affairs, Viom Networks, while FDI cap removal will give a boost to technology and manufacturing in the telecom sector, FDI alone will not solve the problems. “Today, there are lot of challenges in the telecom industry like spectrum issues. It will take at least five years to understand the effects of this move. We have to wait and watch,” he says.

As of now, foreign investors with substantial investments in the Indian market might look to invest in the near term to gain increased control and showcase long-term commitment. New investors, on the other hand, would tread more cautiously as the decision does not fundamentally alter the investment scenario in the industry. Watch this space.

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WERNER VOGELS
AMAZON.COM

In a discussion with Heena Jhingan, Werner Vogels, CTO, Amazon.com, brings forth the changing role of CIOs, increasing adoption of its cloud services by e-commerce portals and the link between cloud and big data. Excerpts...

“There is a natural match between big data and cloud”

How is the role of a CTO/CIO evolving in the cloud era?

CIOs have to react much faster today than in the past. At the same time they want to know how can they become important to the business. Earlier, they were seen as cost cutters and blockers, today they are business enablers. For example, in the past if a business needed an additional or new CRM solution that was mobile and programmable unlike the one it was already using, the CIO would have to decline the request but with cloud and SaaS-based solutions, he can go for a catalogue of services.

CIOs need to focus on core business. For instance, in case of Kempinski, a chain of luxury hotels, at one point of time the CIO of Kempinski felt they were becoming more and more an IT company, the customers expected many more services – faster, reliable and better property management systems. The CIO was determined to not to get into the IT business and add more data centers around the world to support the business. They are now moving to cloud to focus on core business and build better products for customers. The world is changing for CIOs.

In India, most of the e-commerce players are on AWS cloud, so what's the reason behind it?

E-commerce is an easy case for cloud. The fact that they are on the Internet and have a very big demand makes them fit for cloud deployment. Since the margins are not very high here, any efficiency one can achieve in its infrastructure immediately helps them attain a better time to market. Cost control is definitely one driver for e-commerce players. The competition in this space is hard, there is a need to continuously deliver new products and services. And this is hard to do in an environment where all the resources are fixed. With cloud, if any business unit has a new idea they can get it started there without bothering about resources. Every outage hurts the business. On one hand, it is pure loss of orders and on the other side it means erosion of customer trust. On the cloud, there is a greater scope of experimenting with the resources depending on the needs.



How do you plan to tackle the data residency concerns in India?

We do not have infrastructure presence in India as of now. Most of our customers are serviced from the region that is closest to their location. We ensure that the data is secured. We advise all customers to encrypt the sensitive business and personal data. That is basic engineering hygiene and then it is about who has the access to what data and that is decided by the CIO.

But E-commerce is not the only vertical getting business from. We have clients across IT, retail and media. Tata Motors, NDTV, Eros, SnapDeal, Bajaj Allianz, Mahindra & Mahindra Two Wheelers, Hungama are all on AWS. They started from solving a certain problem to rolling all their digital properties on the platform. We run ERP, CRM, collaboration, messaging and content management software packages from our partners like SAP, Oracle, Microsoft and Adobe. The clients use our platform for various purposes. Hungama started as a content aggregator but now they are into gaming and music. Rediff uses AWS for analytics, Tata Motors runs business apps on us. There are companies like Druva that build cloud-based back up products on our platform.

Most technology trends today are spinning around big data and cloud. How does Amazon plan to monetize this opportunity?

There is a natural match between big data and cloud, I feel that we wouldn't have seen the big data if it had not been preceded by cloud. We provide a version of MapReduce, which is called Amazon Elastic MapReduce. There is a whole range of partners that build business solutions on top of it whether it is Jaspersoft or Karmasphere. Then the result has to reach hands of the business decision makers. We also have a data warehouse solution called the Amazon Redshift, very cost-effective for customers that have very flexible data models and want to use traditional SQL kind of tools. Bookmyshow is using the Amazon Redshift.

We recently launched an initiative with General Electric (GE) around industrial cloud, they are providers of massive gas turbines and are instrumenting these turbines with several sensors. All the sensor data flows into the AWS cloud, there they run an analytics programme to give feedback to customers that are using these turbines. Things are now becoming real-time, it's no more a matter of generating reports but it's now about developing a feedback loop that drive operations.

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Ciena builds international Software Defined WAN

CIENA CORPORATION HAS collaborated with CANARIE (Canadian Network for the Advancement of Research, Industry and Education), Internet2 and StarLight to build the industry's first network that unites all of the key packet, optical and software building blocks required to demonstrate and prove the benefits of software-defined, multi-layer wide area networks (WANs). The collaboration leverages Ciena's OPn network approach to create first of a kind fully operational end-to-end WAN that leverages OpenFlow across both the packet and transport layers, is supported by an open architecture carrier-scale controller and intrinsic multi-layer operation and incorporates real-time analytics software applications.

The network is designed to help spur innovation in the telecommunications industry by giving research and education (R&E) institutions, and other



network operators, a platform to experiment with Software-Defined Networking (SDN) and other advanced technologies like agile photonics and real-time analytics software programs.

The company believes that SDN is key to the next wave of value creation for service providers, as it brings network programmability together with powerful new software intelligence capabilities to help monetize and optimize network assets in dynamic

service environments. This new network platform will help speed SDN development for carriers and enable Ciena and its partners to explore and refine practical paths to SDN adoption and realization of its benefits.

"Going above and beyond a simple testbed, this live, fully functional network will drive continued innovation and demonstrate how a truly OPn network architecture can unleash the full power of SDN in the WAN. By building the industry's first fully-featured, fully-open and fully-operational, end-to-end and multi-layer SDN-powered WAN, we can offer a real-world experience for customers and researchers to trial, refine and prove SDN concepts and technologies in both the network and the back office – without having to build a unique infrastructure for every use case," said Steve Alexander, Senior Vice President and CTO, Ciena.

Infor partners with CAD Service to enhance EAM proposition

INFOR, A BUSINESS application software provider has announced a global tie-up with CAD Service. Under the strategic alliance, Infor will integrate CAD Service's software with its Infor EAM application to deliver superior graphical representation of asset-related information to customers across the globe.

Infor EAM OpenCAD will help customers to save time, improve processes and boost the effectiveness of asset management programs by allowing customers to view assets through the OpenCAD interface from within the Infor EAM application without the need to run a separate graphic tool.

By enabling asset visibility in a CAD format, Infor EAM OpenCAD will deliver greater efficiencies to improve

productivity, achieve greater accuracy, and promote tighter management of EAM programs, through more detailed representations of the various aspects of an organization's asset management strategy. CAD Service is a provider of CAD-led asset management software.

"As organizations remain focused on lowering costs, improving service levels and implementing green initiatives through best-in-class asset management, speed and responsiveness are fundamental," said Kevin Price, Product Director, Infor EAM.

"With this partnership, Infor EAM OpenCAD makes the tracking of asset usage, visualization of work areas and sourcing of information faster and easier. This more accessible, detailed visibility



can increase asset reliability, reduce costs, lower energy usage and support regulatory compliance while making the task much simpler for the user," added Price.



Nikom - An ISO 9001 Company and member of IGBC (Indian Green Building Council-CII) has an integrated capability to design and build state-of-Art World class green Datacentres on a turnkey basis for large and medium enterprises. Having successfully designed, implemented, and executed various turnkey datacentre projects for enterprises with server farm space of 200 sq. ft. to 15000 sq. ft., Nikom has won "BEST-IN-CLASS" Award in Asia Pacific Japan Region for their significant contribution in the field of Green Datacentres and Energy Management Solutions. Nikom InfraSolutions Pvt. Ltd. one of the Elite DC Partners of many leading global brands, have been winning consistently and delivering various prestigious Datacentre projects. All the Datacentres and Energy Management Solutions designed, and implemented by Nikom are with highest standards of project excellence, and technical expertise.

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NEC India partners with Cadensworth to expand market reach

NEC INDIA HAS formed a strategic alliance with Cadensworth, a solution based distributor in the technology space in India to distribute, install and support its private network solutions. With this tie-up, NEC aims to strengthen its presence in the enterprise segment and Cadensworth will offer NEC's telephone systems, PBX and IP PBX systems through its extended network in metros as well as tier II markets in India.

The company is aggressively targeting verticals like retail, education, hospitality, enterprise, biometric security and others for a range of products and solutions that include projectors, commercial display units, EPABX, IP telephony, Unified Communications solutions, retail, security and surveillance solutions.

"Our vision is to drive the ONE NEC approach to empower our customers with holistic IT and networking solutions to meet their display, communication and security needs. With this vision in mind, our go-to-market strategy aims to reinforce volume sales with strong focus on expanding our reach to new segments and markets," said Zubair Alam, General Manager - Sales & Marketing, NEC India.

"We are pleased to have Cadensworth, as a strategic partner of NEC India for the Private Networks Solutions division. With Cadensworth, we hope to cater to the growing demand in the enterprise sector and the Tier II market in India," added Alam.

Through this alliance, NEC will leverage Cadensworth's strong presence to reach out to the tier II markets with its solutions to help enterprises adopt technology to improve their operational efficiencies. Cadensworth will be able to meet customer requirements of superior quality and durable products and solutions that can help enterprises reduce their total cost of operations.

"With this, we are well positioned to cater to a broader base of channel partners by leveraging the extensive portfolio of NEC products. Cadensworth now can provide comprehensive communication infrastructure that can meet the evolving needs of enterprises across industry verticals. Cadensworth will also provide value-add services, including pre and post-sales support, marketing and lead generation," said Vishal Shaparia, Vice President, Cadensworth (India) Ltd.

Delta rolls out Ultron HPH Series UPS

DELTA GROUP, A power equipment maker has launched its new Ultron HPH Series UPS. With power ratings of 20/30/40kVA, the Ultron HPH Series is claimed to offer online double conversion UPSs that provides best-in-class power protection with a combination of maximum available power, unbeatable energy efficiency and superior power performance.

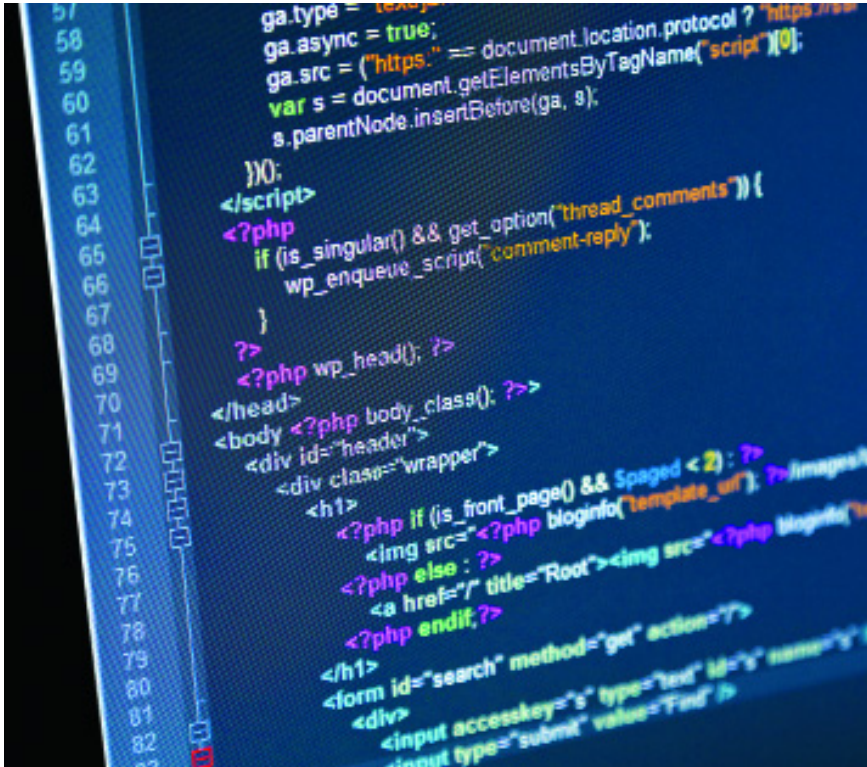
The Ultron HPH Series is being targeted at small data centers as well as industries involved in factory equipment, communication systems, computer network systems, medical treatment systems, monitoring systems and more.



Today, the overall power factor of loads, especially IT equipment, exceeds 0.9 or even closer to 1. While computer loads have been approaching unity power factor in recent years, many UPS systems are still being manufactured with 0.8 or 0.9 power factor ratings.

The Ultron HPH has been designed to work with latest IT equipment to meet the need for higher power capacities in small spaces. It features fully rated power (power factor=1, kVA=kW) to maximize power availability without de-rating the UPS, and therefore it offers less \$/kW to further add capital and operational benefits.

CA Technologies announces new release of its Capacity Management solution



CA TECHNOLOGIES HAS announced a new release of its Capacity Management solution that enables enterprises and service providers to offer more reliable business services by better predicting the optimal resources needed to support applications that reside in mainframe, distributed, virtual and/or hybrid cloud environments. The solution's new analytical capabilities also provide data that can help organizations reduce data center costs, risk and improve business agility.

According to an Enterprise Management Associates white paper titled "IT Optimization through Predictive Capacity Management," commissioned by CA Technologies, "real-time configuration, performance and utilization data constitutes the baseline

for any accurate capacity calculation. When analyzing this data, it is essential to not only take a look at peak and average activity, but also include mid and long-term resource usage patterns. This information helps the IT department understand how workloads are currently growing and how they might contend for resources in the future. To ensure accuracy, capacity management software must include algorithms to validate the quality and completeness of the imported data."

"Virtualization and cloud computing have raised a variety of challenges for companies in managing the performance of business services. They need to anticipate how their applications will perform in new environments; if they have adequate infrastructure capacity to

deliver on their SLAs; when they will need to bring additional infrastructure on-line to support demand; and whether these services are being delivered as efficiently as possible," said Stephen Miles, VP, Service Assurance, APJ, CA Technologies.

"The new predictive analytics capabilities in CA Capacity Management provide the insight that help IT organizations ensure the delivery of high quality, reliable services while optimizing their investment in supporting infrastructure and freeing up investment for other innovative projects," added Miles.

Customers can use the operational intelligence of CA Capacity Management to determine the impact on performance, capacity and response time as a result of changing workloads, configurations and platforms.

These platforms include public cloud vendors such as Amazon, Microsoft, Rackspace, Savvis and Verizon Terremark; and virtualization platforms such as VMware and hardware/OS environments, including Windows, Linux on either Intel or AMD, and z/OS on the mainframe.

"Cost analysis is very important to customers in their cloud migration initiatives and it is very cool to be able to see utilization and cost levels when comparing cloud vendor platforms for migration efforts in the new release of CA Capacity Management," said Torsten Volk, Research Director, Systems Management, Enterprise Management Associates.

"The new enhancements in the latest release of CA Capacity Management are in-line with what my current field research is producing. It is essential for organizations to take advantage of a capacity planning and analysis tool such as CA Capacity Management, especially when deploying cloud solutions," added Volk.



Cisco to cut 4000 jobs in 2014, despite a good growth in FY13

CISCO SYSTEMS HAS announced a workforce reduction plan as part of its 'rebalancing' that will impact approximately 4000 employees or 5% of its global workforce. It expects to implement the workforce cut during the start of first quarter of fiscal 2014, Cisco said in a filing to the U.S. SEC recently. However, company hasn't mentioned, which business unit will face the layoff.

In an email to Sourcefire management filed with the U.S. SEC, Christopher Young, Senior Vice President, Security Group, Cisco Systems, said, "Despite our strong FY 13 results, Cisco continues to face a challenging macroeconomic environment. We have seen two things change: first, the economic recovery is slower and more inconsistent, with global GDP continuing to tick down for calendar year 2013 and global challenge across in Southern Europe, several of the emerging markets, and Asia Pacific; and second, the pace of change is continuing to increase."

"In this environment, Cisco is focused on aligning resources to our top opportunities, balancing expenses to revenue, driving efficiencies in the business, and investing in growth. During our earnings call today, we announced that in order to execute on the portfolio investment and operational efficiency opportunities we see in fiscal 2014, we are rebalancing our resources with a workforce reduction which will impact approximately 4,000 employees or 5% of our global workforce," added Young.

Further, Cisco's top executive has clarified that Sourcefire will not be part company's job cut plan. "I want to be very clear that Sourcefire employees and management will not be impacted by this workforce reduction. Consistent with our long-term goal to be the number one IT company in the world, we expect to continue to invest in our top opportunities, including security," said Young.

Boston launches liquid cooled high-end workstations

BOSTON LIMITED, A distribution partner of U.S.-based server building blocks and green IT solutions provider Super Micro Computer Inc., recently unveiled a new addition to its Venom range of high performance, liquid cooled workstations.

The Boston Venom 2400-0T uses Super Micro's Hyper-Speed technology to enable what is touted as the industry's fastest, most powerful solution with compute speed and reliability as the primary focus.



Based on Super Micro's X9DAX series motherboard and the next generation Intel Xeon E5-2600 series processors, Boston claims to be able to enhance the CPUs (up to 150W TDP) with HyperSpeed in order to achieve application performance improvements of up to 30% while maintaining stability.

The processors are able to run at maximum efficiency thanks to liquid CPU cooling technology, with an in-built pump that provides rapid, effective coolant circulation and a quiet computing experience.

Manoj Nayee, Managing Director, Boston Limited, said, "Boston is delighted to be unveiling our latest Venom workstation in partnership with Super Micro. Our Venom range of high performance workstations are optimized to provide digital content creation and VFX professionals with unparalleled performance."

Attachmate Group hosts its flagship tech forum 'BrainShare' in India

THE ATTACHMATE GROUP has hosted its flagship technology forum 'BrainShare' for the first time in Bangalore recently under the name of 'Best of BrainShare India.' Bob Flynn, President and General Manager, Novell and Venkatesh Swaminathan, Country Head, The Attachmate Group remained present during the event and shared thought provoking deliberations on the current and emerging trends in the sector.

BrainShare, Attachmate Group's flagship technology conference is an annual event that is being currently organized in key Asia Pacific markets with India hosting it for the first time ever.

'Best of BrainShare India' showcased new age technologies represented by the four group companies including NetIQ, Novell, SUSE and Attachmate. The forum was a unique convergent point for IT leaders to find latest innovative solutions to address IT challenges in the area of cloud, mobility and security. It offered a 'day in the life' view of both the



Bob Flynn, President and General Manager, Novell addressing the audience at 'Best of BrainShare India' in Bangalore

user and the IT admin, which demonstrated the growing need to provide a holistic mobile experience for enterprises in today's world.

"As an organization we have spent a great deal of time listening to our customers and partners. We look forward to giving attendees a chance to experience a forward-thinking direction and how our new approach of streamlining mobility management for the enterprise and understanding how it impacts their current and future investments," said Bob Flynn, President and General Manager, Novell.

"We are excited that BrainShare has finally come to India and stands to benefit our customers and partners. The forum will aim to highlight the challenges that IT managers are facing today in a rapidly transitioning environment, while providing them with secure and cost effective solutions. The Attachmate Group is well poised today to serve its customers with a wide suite of products and services in areas including mobility, cloud and security which are also the current buzz words in the technology domain," said Venkatesh Swaminathan, Country Head, The Attachmate Group.

Schneider unveils integrated software DCIM and server access solution

SCHNEIDER ELECTRIC RECENTLY its new data center infrastructure management (DCIM) software solution that provides server access without the need for additional hardware. The new product module for StruxureWare Data Center Operation leverages the Intel Virtual Gateway technology to provide full server lifecycle access and power cycling for remote management.

By combining DCIM and software KVM technology, Server Access can allow IT managers, data center managers/operators and facility managers

to launch, manage, troubleshoot and control servers directly from the DCIM software, providing a comprehensive "single pane of glass" solution from the facility down to the server level, including a physical model for the location of servers, which enables identification of potential issues such as power or cooling impact.

KVM (keyboard video mouse) switches provide remote access to servers, and can control multiple servers. However, by utilizing software KVM technology and eliminating the need for hardware, Server

Access promises to reduce technology costs by up to 50 percent.

"By partnering with Intel to provide an integrated software KVM and DCIM approach for managing the data center, we're continuing to bridge the gap between IT and facilities," says Soeren Jensen, vice president of Enterprise Management and Software for Schneider Electric. "As the first DCIM vendor to offer software-only server access capabilities, we view Server Access as an important component to improving energy efficiency in data centers and facilities."

Inclusion of exchange rate variation to bring relief to IT industry : MAIT

WITH THE RUPEE sliding below the 64 mark against US dollar, Manufacturers' Association for Information Technology (MAIT), the apex body representing ICT Manufacturing, Training, IT, Design, R&D and associated services sector, expressed concern over difficulties faced by the industry as well as the consumers and appealed to the Government to include exchange rate variation (ERV) clause for the purchase of goods.

"We strongly recommend the Government to implement Exchange Rate Variation (ERV) clause, as mentioned in the Manual of Policies and Procedures for the purchase of Goods. ERV should be incorporated for all government contracts under the circumstances, including DGS&D, NIC contracts as it provides a win-win solution for both the parties in these circumstances," said J.V. Ramamurthy, President, MAIT.

ERV implementation would bring in necessary relief to many small & large system integrators and vendors supplying to the Government. The business of IT hardware industry which includes necessary products like computers, tablets, laptop, printers, are predominantly import dependent and amongst the badly affected due to the abrupt fall of the Indian Rupee. This has led to an unexpected rise in the import cost of these products which results in financial instability of companies and it would be now difficult to adhere the pricing of already committed contracts

which include government deals as well.

Amar Babu, Vice-President, MAIT said, "The falling rupee has made things worse as companies would be forced to increase the prices of important products and consumers would have to dig more from their pockets. This has been recorded as one of the steepest declines

and the current proportion of imports utilized by Indian IT manufacturers to deliver products and services (approximately 85% at this time), has also been rising with

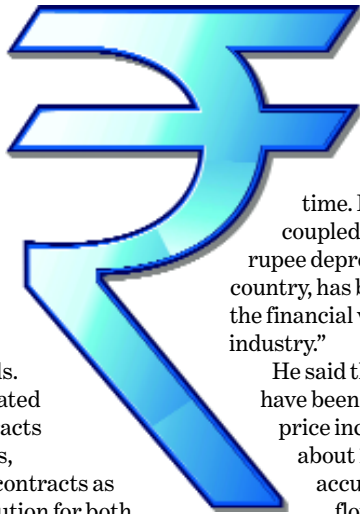
time. Heavily import-dependent, coupled with the phenomenon of rupee depreciation witnessed by the country, has been adversely affecting the financial viability of the IT hardware industry."

He said that, since May, 2013 we have been observing the substantial price increase to the extent of about 10%. Losses are

accumulating, causing cash flow challenges and blocking investments. Weak rupee

can impact Government projects and programs like those of Education, e-Governance, Healthcare, Financial Inclusion, etc. as they use IT products extensively.

In the ERV clause, the tenderers have to indicate import content and the currencies used for calculating the value of import content in their total quoted price, which will be in Indian Rupees. The tenderers may be asked to indicate the Base Exchange Rate for each such foreign currency used for converting the FE content into Indian Rupees and the extent of foreign exchange rate variation risk they are willing to bear.



Baring Asia to acquire 41.8 percent shares of Hexaware

HEXAWARE TECHNOLOGIES LIMITED, a global provider of IT & BPO services and consulting, announced that affiliates of Baring Private Equity Asia ("Baring Asia") have signed definitive agreements to purchase approximately 125 million Hexaware shares, from Promoter Entities, led by Atul Nishar (which hold 27.7% of currently outstanding share capital), and GA Global Investments Ltd. (which holds 14.1% of currently outstanding share capital), an affiliate of General Atlantic ("GA"), in aggregate representing 41.8% shareholding in Hexaware.

Under the terms of the Share Purchase Agreement, Baring Asia will pay the Promoter Entities and GA a price of INR126 or INR135 per share aggregating INR 1,575-1,687 crores (approximately \$242-260 million based on INR/USD rate of 65), with the higher price of INR 135 per share being payable on Baring Asia reaching 50% or above aggregate shareholding in Hexaware in the transaction.

In accordance with the requirements under the Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 2011 ("SEBI (SAST) Regulations, 2011"), Baring Asia will make a Public Announcement for an open offer to the public shareholders of Hexaware to purchase up to an additional 26% stake at a price of INR135 per share aggregating INR 1,058 crores (approximately \$160 million based on INR/USD rate of 65).

Atul Nishar will continue as non-executive chairman of Hexaware and P. R. Chandrasekar will continue as CEO of Hexaware.

A man with grey hair and a mustache, wearing a dark suit, white shirt, and patterned tie, is looking out of a large window. His arms are crossed, and he is wearing a watch on his left wrist. The background shows a blurred view of a city or office building.

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