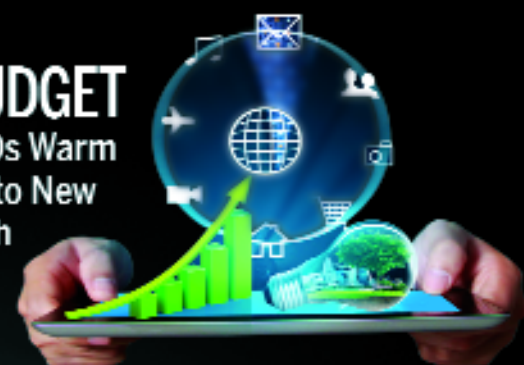


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INDIA'S FOREMOST ENTERPRISE IT MAGAZINE 1-15 AUGUST, 2013, ₹75

**IT
BUDGET**
CFOs Warm
Up to New
Tech



CASE STUDY: Class on the cloud



The macro trends of convergence, virtualization, cloud, mobility and video are driving evolution of networks to meet higher uptime and bandwidth requirements

NETWORKING:

CONVERGENCE AHEAD



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edit
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THE SOFTWARE IS THE NETWORK



THE OLD WAY OF
PROGRAMMING
AND MANAGING
THE NETWORKS
WILL GIVE WAY
TO A MORE OPEN
AND ROBUST
WAY THROUGH
TECHNOLOGIES
SUCH AS SDN

In our increasingly connected lives, we tend to take the network for granted. Irrespective of which network we might be using—wireless, local, remote—what matters is this: it should be on, fast and hassle-free (in terms of our switching between networks, setting them up, etc.)

A slew of upgrades and innovations, however, are needed to keep the network buzzing with data, voice or video. The changes are necessary to take care of the growing load of traffic on networks and to keep TCP/IP (the networking protocol of the Internet and most other networks) from reaching a break point. (It has been reported time and again that the Internet needs to be overhauled if it is to continue to serve the flood of connected devices—15 billion by 2015 as per an estimate.)

Among the hottest acronyms doing the round in networking is SDN, which stands for software-defined networking. As the name suggests, it allows admins to program and control the network without requiring access to the network's hardware devices. According to Wikipedia, the SDN movement had its beginning in research done around 2005 at the University of California, Berkeley, and Stanford University.

It is believed that the old way of programming and managing the networks, in which several proprietary protocols and boxes add to the overall complexity, will give way to a more open and robust way through technologies such as SDN.

Another development that is taking place alongside SDN is an open-source protocol for remotely managing networking equipment called OpenFlow. Both SDN and OpenFlow are managed and propagated by a user-driven organization called Open Networking Foundation (members include Brocade, Cisco, Ericsson, Facebook, Google, HP, IBM, Intel, Microsoft and several others).

Given that the early adopters of SDN are large cloud companies such as Google and Facebook, it is likely that SDN adoption will accelerate as more and more workloads shift to the cloud.

According to market researcher IDC, the SDN ecosystem will reach a market size of \$3.7 billion by 2016, representing as much as 35% of the Ethernet switching market (up from virtually nothing in 2012).

However, a Forrester report cautions that for SDN's full value to be realized, organizations will need a large upfront investment in standardizing processes and infrastructure as well as changes to organizational structures, skills and sourcing. Networking teams first need to master virtualization before they are able to take on and benefit from SDN.

Having said that, there seems hardly any doubt that the future of networking, just as in the case of computing and mobile phones, is going to be defined by software.

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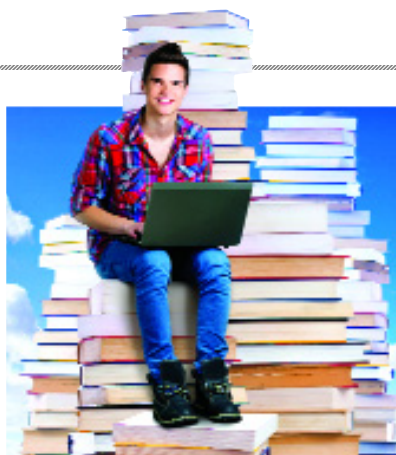
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Adopting the new system helped us move ahead of the curve

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The macro trends of convergence, virtualization, cloud, mobility and video are driving evolution of networks to meet higher uptime and bandwidth requirements

BY HEENA JHINGAN

NETWORKING:

CONVERGENCE

» AHEAD

A network is no longer just about throwing together cables, switches, routers and other boxes and connectors. As any networking pro or CIO would know, stitching together an enterprise network today requires meticulous planning.

Increasingly, networking is one bit of the IT infrastructure that requires to be more futuristic. It is definitely not something that enterprises, irrespective of size, can afford to rip and replace with

every technological development. Networks, thus, evolve with technology.

The present-day networks are at a critical stage of evolution, as virtualization, cloud, mobility and big data lead the IT trends. The converged systems approach that is currently being followed in data centers involves combining server, storage, and network systems together, along with the software to manage them. This trend is on the cards across data centers. Though at a nascent market at present, IDC predicts

that converged systems — with a growth rate of 54% per year — will account for over one-third of enterprise cloud deployments in 2016.

Analysts believe since networking is a composite term, it is difficult to gauge the growth of every component in isolation. Research firm Gartner pegs the Indian IT infrastructure market covering server, storage and networking equipment to reach \$2.1 billion in 2013. As per the research agency, the new data center implementations to meet convergence

GROWTH RATE

IDC predicts that converged systems — with a growth rate of 54% per year — will account for over one-third of enterprise cloud deployments in 2016.



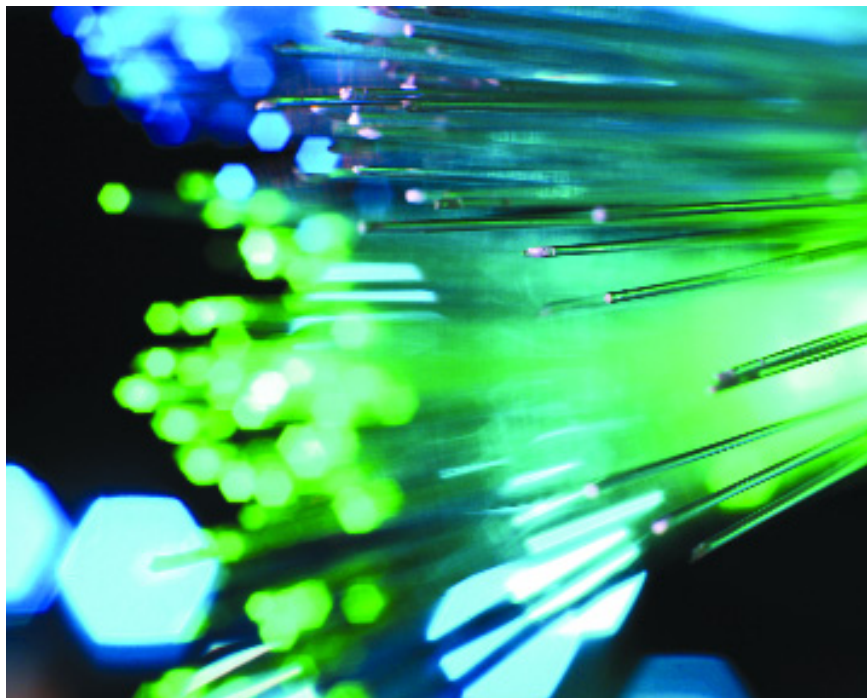
CAMPUS LANS ARE MOVING TO A VIRTUAL DESKTOP WORLD WHERE RELIABILITY AND HIGH-PERFORMANCE NETWORKS WILL BE KEY IN DELIVERING PROPER LEVEL OF SERVICES.

K PUNNIKRISHNAN,
APAC MARKETING DIRECTOR, BROCADE COMMUNICATIONS



10G ETHERNET IS BECOMING THE DE FACTO STANDARD FOR SERVER-STORAGE COMMUNICATION.

SUBHASHINI RAMAKRISHNAN,
CHIEF TECHNOLOGY MANAGER, DAX NETWORKS



VIRTUALIZATION HAS BECOME THE CATALYST OF CHANGE, LEADING TO CHANGES HAPPENING ACROSS COMPUTE, STORAGE AND SECURITY

and virtualization needs, combined with campus upgrades, and growing adoption of multimedia applications and mobility, are driving the networking market.

“Future demand and dynamics of the networking market will also be heavily influenced by these trends as they intensify, and other disruptive technologies like cloud, social and big data take center stage,” says Naresh Singh, Principal Research Analyst at Gartner.

The data center managers are under tremendous pressure to keep their networks up and running at all times, reduce expensive downtime, conform to budget and reduce energy usage in their networks, while planning for their network’s upgrade path. This coupled with the rapid growth of virtualization, cloud and mobility has further escalated the pressures on them.

Today, both employees as well as company visitors expect seamless

connectivity, this further adds to the capacity burdens on the existing enterprise network both at the core and the campus.

The core and campus

At the core or the data center layer, virtualization has set its foot and is here to stay. Virtualization has become the catalyst of change, leading to changes happening across compute, storage and security. A large number of enterprise data centers in India have attained virtualization up to 60% or higher.

Virtualization changes the basic pattern of traffic in the network, Amandeep Singh Dang, Country Manager, Dell Networking explains. “In the past almost 70% of networking traffic followed a north-south pattern in tiered pattern, which is now altered to follow east-west movement across servers.”

There are multiple effects of server

virtualization on the physical layer. First, virtualization eliminates a lot of discrete server hardware so there will be fewer individual network connections – particularly Gigabit twisted pair copper connections. Second, hardware that is operating many virtualized servers will need higher bandwidth connections to both Ethernet and storage area networks.

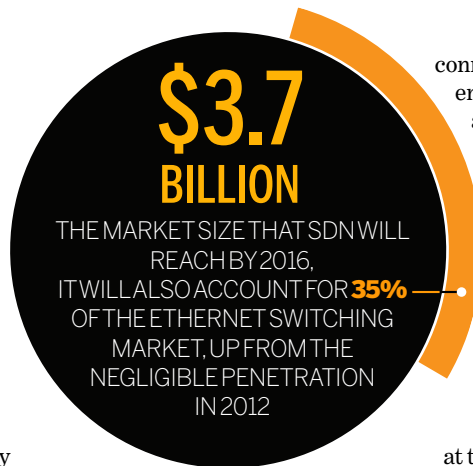
The modern day data centers are leveraging more and more IT services through the cloud, which again is dependent on a robust network. Also, an increased uptake of video is compelling the CIOs to revisit their networking strategies.

“Some years back the enterprises looked at converging the voice and data for services like VoIP and now the networks need to be geared up for video disruption, so there is need for improved bandwidth in the data center,” says Prakash Krishnamoorthy, Country Manager, HP Networking India.

10G Ethernet connectivity is becoming the need across verticals, be it telecom, education, BFSI or healthcare for that matter. Subhashini Ramakrishnan, Chief Technology Manager, Dax Networks, says, “10G Ethernet is becoming the de facto standard for server-storage communication. With servers and storage growing in capacities, performance and workload, there is need for equally large access pipes to support the system.”

On the campus end, there could be two situations— either the data center is within the building or it is extended to the premise. Experts say with mobility and BYOD being unavoidable trends, wireless connectivity is equally important as a robust wireline.

Krishnamoorthy reasons that since mobile devices like smartphones and tablets do not have Ethernet ports, wireless is the obvious approach to



connect these. “We see enterprises augmenting the number of ports to provide client connectivity. The traffic between the data center and the client depends on the strength of WAN or LAN.

“Since the users at the branch locations demand a framework for

collaboration, and same response time as the head office, the enterprises are now investing routing products that help in band acceleration,” notes Prem Nithin, Business Development Manager, Borderless Networks Sales, Cisco India & SAARC.

According to a recent survey by Brocade, 10 – 15% of all end points in campus LAN can be virtualized. “Campus LANs are moving to a virtual desktop world where reliability and high-performance networks will be key in delivering proper level of services, uptime and maintenance to support widely varied workloads,” points out K.P. Unnikrishnan, APAC Marketing Director, Brocade Communications.

Of switches and routers

With virtualization coming into play, the switches have become denser and smaller, in turn saving floor space and power consumption in a data center.

“This may mean a shift from many Gig Ethernet ports to a fewer number of 10Gig ports and a shift from many 4Gig Fiber Channel ports to a fewer number of 8 or 16Gig ports. As a result of this, distributed switching architectures such as Top-of-Rack and Middle- or End-of-Row are prevalent in highly virtualized servers,” explains Mylaraiah J N, Country Manager-Technical & Marketing, TE India Enterprise Networks.

Krishnamoorthy of HP points out, “The enterprises are focusing on smart, managed switches. Most of the enterprises were using 10G switch to



ENTERPRISES SHOULD PUT THEIR MONEY ON NETWORKING SOLUTIONS THAT SUPPORT MULTI-VENDOR ORCHESTRATION AND SMOOTH SCALE-IN AND SCALE-OUT.

AMANDEEP SINGH DANG,
COUNTRY MANAGER, DELL
NETWORKING



NETWORKS SHOULD BE INTELLIGENT ENOUGH TO IDENTIFY PRIORITY APPLICATIONS AND DEVICES.

PREM NITHIN,
BUSINESS DEVELOPMENT MANAGER,
BORDERLESS NETWORKS SALES,
CISCO INDIA & SAARC

aggregate at the core, they are now investing in 40G to prepare for the future.”

Cisco's Nithin seconds his thought. He says the networks need to be intelligent. It should be able to identify priority applications and devices. For example it should be able to recognize bandwidth hungry applications like video and initiate auto-provisioning for the priority devices.

According to IDC, the growth in the Ethernet switch market will largely come from 10GbE and 40GbE in the coming years. The 4Q12 results of IDC show that the Ethernet switch market was particularly strong in Asia/Pacific (excluding Japan) with 15.6% year-over-year growth. Gigabit Ethernet is holding on to growth wagon largely in campus, aggregation, and network edge deployments.

Amidst all these developments, Dang says, the good news is that the cost per gig has become more rational. Even as number of employees now does not necessarily mean number of interconnects, BYOD has changed that concept. The employees could be carrying more than one device and they may not be company provided. The latest products have brought value to switching solutions that too at a more optimized cost.

As per market research firm Infonetics Research, the global enterprise router market is set to reach US \$5.0 billion by 2017. With the rise in cloud services adoption, the firm does not see the buyers on a sustainable path with low-end routers at the branch, and it expects them to shift their spending back to branch and mid-range routers.

HP's Krishnamoorthy observes two clear patterns. He says, “At the lower end we see penetration of routers that support SIM (preferably two active SIMs) as then there is no need to buy the dongles and with two active SIMs, we can ensure uninterrupted connectivity.”

On the higher end, the enterprises demand router solutions that can support band optimization and deal with latency.

The cable tangle

Some industry players believe that technology innovations like virtualization, cloud and mobility have more impact on



DISTRIBUTED SWITCHING ARCHITECTURES SUCH AS TOP-OF-RACK AND MIDDLE-OR END-OF-ROW ARE PREVALENT IN HIGHLY VIRTUALIZED SERVERS.

MYLARIAIAH J.N.,
COUNTRY MANAGER - TECHNICAL &
MARKETING, TE INDIA ENTERPRISE
NETWORKS

INCREASED INSTALLATIONS OF CAT6A HAVE BEEN WITNESSED IN TELECOM AND INFRASTRUCTURE PROJECTS

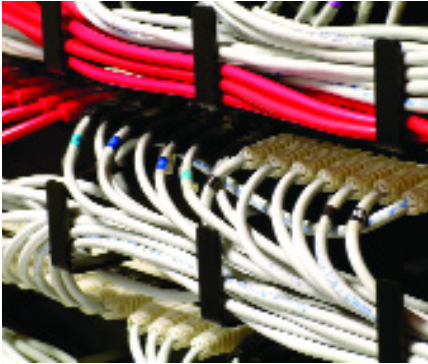
active networking devices like switches, but the structured cabling industry, which is basically passive cabling, is not impacted by these technology drifts. However, speed and bandwidth continue to be the key factors influencing this industry. Customers are looking beyond the ability to manage only the patching field / wiring closet.

The boom in data centers has also raised the bar on technology. Cat 6 system in copper forms the default choice of the customer with single-mode and OM3 seeing increased deployment. Customers are also aware of the need to deploy higher spec solutions e.g. Cat6A to future proof their network for high speed applications such as 10 G (on copper).

Increased installations of Cat6A have been witnessed in telecom and infrastructure projects that have scaled-up in structured cabling deployments. The older establishments that were on unstructured cabling are migrating to structured cabling when they renovate or upgrade their facilities. Uptake of 10G systems is on the increase, generally by the larger enterprises that are looking to implement the latest cabling technology to ensure longevity. Power over Ethernet (PoE) is used for security applications in verticals like BFSI, but hasn't yet been adopted across large enterprises due to its limited capacity currently.

Martin Isaac, Manager Marketing – India/Asean, Molex India Private Limited (Premise Networks Division) explains, “Fiber is still primarily used for backbone applications despite the improved viability of fiber as a to-the-desk solution with the ever decreasing cost of active equipment. Traditionally, installing fiber in the field has always been an expensive option based on the time needed and the necessary fusion equipment. However, the continued demand for bandwidth will ultimately lead to increased opportunities for fiber and the development of pre-terminated fiber solutions, where there is no need for on-site termination will no doubt increase uptake.

OM3 (standard for multimode optical fiber) is a cost effective option for data centers as it delivers 40G under 100 meters. That means OM3 can do 1G/10G/40G. OM4 would be the option to



implement if lengths are over 100 meters.”

He feels OM3 is a good option as the standards stands today. With talk of the standards potentially moving from 40G/100G to 400Gb/1Tb in the future, this may change and OM4 may become the preferred standard. However, this has not commenced yet, or indeed been ratified.

“Each time a new standard is released we hear that fiber will replace copper as a platform of choice. With the release of the 40G/100G standard we see that the allowable copper length currently is 7 meters. This, combined with issue of alien cross talk, implies that the implementation of copper platforms at higher performance rates is becoming increasingly difficult. We may see the tipping point when copper tries to reach beyond 100G,” he says.

Mylaraiah of TE India observes that the industry is moving towards IP convergence with uptake of IP video surveillance for digital security applications. IP convergence means that the cable media will be either twisted pair or Fiber versus Coaxial. Using the twisted pair of fiber means more savings in space and cost.

However, he says that the challenge before the industry is not delivery of technology but that of skilled man-power in structured cabling realm. This is even more difficult when it comes to 10G & above networks.

“It is important to note that though structured cabling may constitute only 5% of the total network cost, but poor installation can render the most sophisticated active network device completely useless. Another challenge is that of upward growth in the price of

copper. This is a cause of concern as it will add to cost of copper cables and ultimately the cost of the network,” he adds.

The next gen

As size of networks grows and large customers implement offices across multiple locations, management of networks is bound to become critical.

Sajan Paul, Director – Systems Engineering – India & SAARC, Juniper Networks, says, “The networking industry has come a long way and 40/100 Gig uplinks are quite common today. However, a key challenge in the networks is building the ability to scale in and out when required.”

Dang of Dell Networking agrees. He emphasizes on the need for enterprises in putting their money in networking solutions that support multi-vendor orchestration and smooth scale in and scale out.

To crack the manageability nut, the industry’s eyes are on Software-defined Networking (SDN). SDN comes with a control layer that sits between the infrastructure and the application layer and can give software as well as hardware related controls to the network manager.

IDC predicts 2013 to be the year of transition of SDNs from market hype into reality, with enterprise datacenter and cloud provider use cases coming to market and getting deployed and with this being the first full year of network virtualization, OpenFlow, and SDN applications. The SDN ecosystem, including the associated network infrastructure, will grow at an exponential pace, reaching a market size of \$3.7 billion by 2016, and account for a remarkable 35% share of the Ethernet switching market in the data center, up from almost negligible penetration in 2012.

The research firm foresees major IT and networking vendors—including Cisco, Juniper, Brocade, Citrix, HP, Dell, and IBM—continuing their shopping sprees for SDN technologies. Industry watchers expect SDN to also get a significant push from the mandate to switch to Ipv6.

heena.jhingani@expressindia.com



THE CONTINUED DEMAND FOR BANDWIDTH WILL ULTIMATELY LEAD TO INCREASED OPPORTUNITIES FOR FIBER.

MARTIN ISAAC,
MANAGER MARKETING –
INDIA/ASEAN, MOLEX INDIA PVT.
LTD. (PREMISE NETWORKS
DIVISION)



MOST OF THE ENTERPRISES USING 10G SWITCHES TO AGGREGATE AT THE CORE, ARE NOW INVESTING IN 40G.

PRAKASH KRISHNAMOORTHY,
COUNTRY MANAGER, HP
NETWORKING INDIA

THE CAMPUS WEARS TECH

The New Age educational campuses flaunt their “techy” ensemble to click with the tech savvy generation of students. Here’s a look at the networking wardrobe changes it involves

BY HEENA JHINGAN





There is a pedagogical shift in the way students learn today. The traditional classroom of desks, notebooks, pencils, and blackboard is gradually giving way to an online forum of computers, apps, and the Internet.

Welcome to Education 2.0, where online publishing and sharing tools will make a lasting impact on the future of education. Though the version 2.0 is still in fancy in India, the higher education sector is fast embracing ICT practices to

compete with global institutions. The new age educational campuses flaunt their “techy” environs with blanket Wi-Fi coverage and sophisticated administrative IT tools to click with the tech savvy and brand conscious generation of students.

A large number of Indian universities are now using technologies such as videoconferencing, learning management systems and cloud computing for better presentation and

delivery of content. This has to ride on a strong IT infrastructure. The institutions are thus pumping in money to set-up robust network infrastructure capable of such delivery. Gone are the days of basic internet connectivity. The educational campus networks sport enterprise-class features, right from 24x7 connectivity and Wi-Fi coverage to multi-device support. That is a clear indication that there is a significant change in the way these institutions bought their switches,



THE EDUCATION SECTOR NEEDS TO BE ABREAST WITH THE TECHNOLOGICAL SHIFT THAT IS HAPPENING.

J.S. SODHI,
ASSISTANT VICE PRESIDENT,
AMITY GROUP



FOR IT MANAGERS, BYOD IS ABOUT SUPPORTING A VARIETY OF DEVICES, THEIR OPERATING SYSTEMS, AND MAINTAINING AN EXPECTED LEVEL OF SERVICE.

PRADEEP JOSHI,
ASSISTANT REGISTRAR - IT
SERVICES AT SHARDA UNIVERSITY

servers, cables and other networking hardware and software.

According to technology market researcher IDC, about 5% of the \$40 billion IT market in India, including hardware, software and IT services, was in the education sector. The market is expected to grow at nearly 12% through 2017.

A CII-PWC report finds that, while the positive impact of information and communication technology (ICT) in the areas of delivery and collaboration has been long established, higher educational institutes are increasingly experiencing the benefits of using ICT tools for student and administrative management.

Higher education institutions in India are increasingly grappling with two major problems. First, their financial reliance on the government has been reduced and second, they have to reach out to the masses. There is usually a direct trade-off between finances and expansion for social inclusion, since higher education is typically very expensive in terms of human, operational and capital expenditure.

A paper of the Kerala state higher education council (2012) observes that the higher education spending in India is only 1.1% of GDP. The US spends 3.1% of its GDP on higher education while South Korea spends 2.4% of its GDP.

With more private and foreign universities entering the fray, higher education has become a highly competitive sector.

According to Calsoft Labs, the use of ICT for promoting education and development has always been a part of policy and plan documents on education. At the moment, the decision makers at both central and state are favoring inclusion of new computer and internet based IT/ ICT in education (adopting cloud based virtual classrooms/universities).

The Government of India has implemented several national as well as state specific schemes that run concurrent to large number of privately led IT initiatives at school and higher education levels. However there is significant disparity in ICT usage between institutions in urban areas and

those in semi-urban/rural parts of the country. The quality of ICT infrastructure and its use is limited in a large percentage of autonomous/affiliated colleges especially due to lack of trained IT staff, connectivity issues and shortage of funds.

The National Mission on Education through Information and Communication Technology (NMEICT) is envisaged as a centrally sponsored scheme to leverage the potential of IT/ICT, in teaching and learning process for the benefit of all the learners in Higher Education Institutions in any - time any - where mode. Content generation and connectivity, along with provision for access devices for institutions and learners are the major components of the mission.

So far, over 400 universities have been provided 1 Gbps connectivity or have been configured under the scheme and more than 14,000 colleges have also been provided VPN connectivity, as per Calsoft Labs.

The National Knowledge Network (NKN) and Connected Digital has launched an initiative to cover 1,000 institutions besides providing digital campuses, video - conference classrooms, wireless hotspots, laptops/desktops to all students of professional/ science courses and Wi-Fi connectivity in hostels.

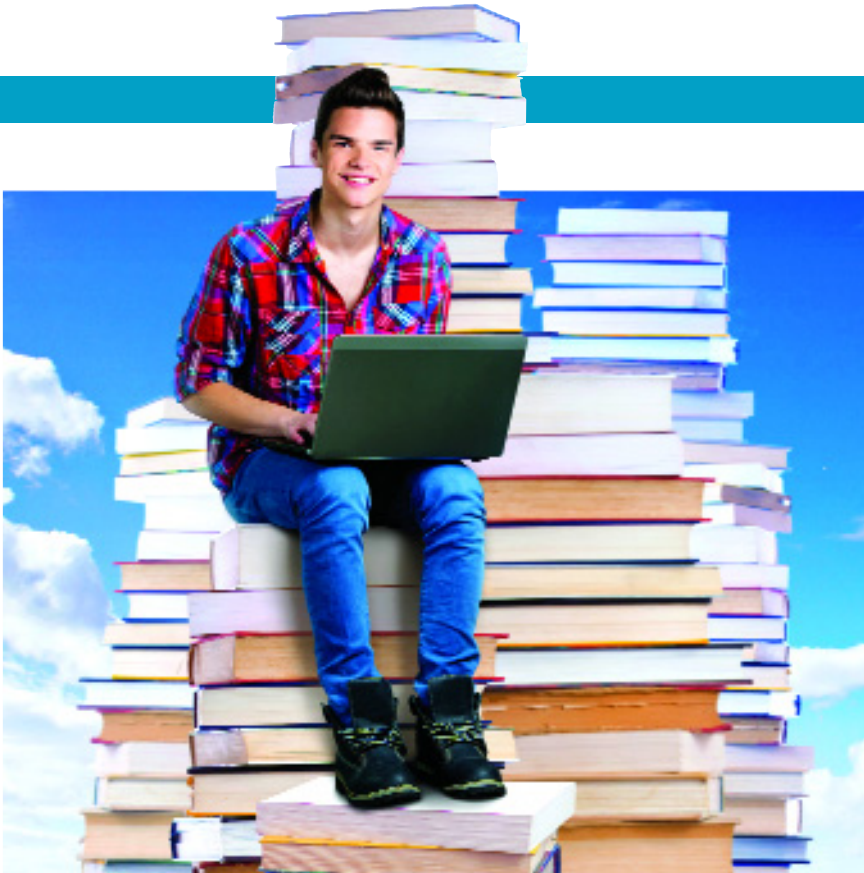
The enterprise class

Driven by competition, institutions are taking the IT route to focus on core academic by automating administrative activities that are resource and time consuming. Education institutions today are behaving more 'enterprise-like' and their IT needs to reflect this change.

Learning Management Systems (LMS), ERP, Library Management Systems, CRM, analytics etc., supported by a robust network are all gaining popularity in higher education space.

No wonder Mother Teresa Women's University recently deployed IBM analytics solution to promote academic success by training their management students on predictive analysis and reporting solutions.

Like enterprises, the educational institutions too witnessing the BYOD



menace. Under pressure from ever increasing IT applications and multiple devices, the campuses are focusing on making the networks future-ready to cope with the impending invasion of video and other high bandwidth consuming applications.

The IIT-Madras Campus is one such example whose network has evolved from a simple twisted pair telephone cable network, to a 100% connected high speed campus network on fiber backbone with a fully functioning data center housing high performance. It has even conducted a 10 Gigabit network upgrade with assistance from networking solutions vendor Molex.

We look at some of the campuses to see how they design their networks to keep abreast of the trends of automation, e-learning, collaboration, network security and mobility.

AMITY UNIVERSITY

Unified networking for efficiency

Amity University is one the first few hi-tech educational institutions in India. With over 100 campuses and 85,000 students, the group was striving for ICT innovation to connect all its campuses through a unified network. Thus, the IT team headed by Assistant Vice President of the group J.S. Sodhi decided to rely on the hub-spoke model IT networking with the hub being at the Noida campus. All the other institutions of the group are spokes and connected to Amity-Noida via MPLS.

Sodhi explains that to be able to connect all the campuses, they built an ISO-27001 certified data center at the Noida hub and chose to rely on enterprise class Cisco 6500 Managed Switch and Blade Server. They also invested in EMC Celerra NS-350 Unified Storage System.

Back in 2011, the group deployed virtual desktop solution from NComputing.

Amity has automated all its operations through the intranet; it has an interactive intranet portal called Amizone, a home grown ERP system that can be accessed by students, faculty and parents. The institution is a believer in the philosophy of change. Sodhi says that the organization recognizes the fact that education has evolved and it is no more about blackboard and textbooks, the education sector needs to be abreast with the technological shift that is happening, and instead of treating as a challenge, efforts should be made to leverage it to improve the quality of learning.

“For this reason, we are not wary of BYOD, we understand the role of Internet connectivity in education. We are completely Wi-Fi enabled campuses. In all, we have about 400 access points in the hostel areas and 550 in the academic area, so at Amity campus you will find seamless Wi-Fi coverage and not just hotspots,” he says.

All this, is not possible without a robust network. Amity has wireless broadband internet connectivity with over 75 kms of fiber optic/LAN cable backbone structure. Each student is provided with a smart card for access control/e-wallet. It subscribes to 650 Mbps bandwidth from multiple ISPs. Of which, Sodhi says, only 450-500 Mbps is used on an average. The network is secured by MAC (message authentication code) authentication, only registered devices can browse internet in their network.

“We have Saba Centra solution for eLearning platform and Moodle (Modular Object-Oriented Dynamic Learning Environment), a free source e-learning software platform, that is configured for recorded lectures, course flow etc. as a complete e-Learning

ACCORDING TO TECHNOLOGY MARKET RESEARCHER IDC, ABOUT 5% OF THE \$40 BILLION IT MARKET IN INDIA, INCLUDING HARDWARE, SOFTWARE AND IT SERVICES, WAS IN THE EDUCATION SECTOR. THE MARKET IS EXPECTED TO GROW AT NEARLY 12% THROUGH 2017.



HIGHER EDUCATION SPENDING IN INDIA IS ONLY 1.1% OF GDP. THE US SPENDS 3.1% OF ITS GDP ON HIGHER EDUCATION WHILE SOUTH KOREA SPENDS 2.4% OF ITS GDP.

program,” he informs.

Over the years, they realized that the campuses in the remote locations could access richer academic content through audio video streaming. Sodhi decided to leverage the existing infrastructure. Instead of making a fresh investment, he integrated e-learning software and over 500 surveillance cameras, which are used for distance learning and general surveillance. The campuses at remote locations can now benefit from guest lectures, and special sessions at metro locations.

Sodhi credits this to the network design they had adopted foreseeing the growing demand for audio-video streaming, which is likely to grow in years ahead.

SHARDA UNIVERSITY

Beyond boundaries with a robust network

Greater Noida-based Sharda University is a one of the emerging names in higher education in India. Spread over about 63 acres, the institution aspires to bring the

best of ICT practices to establish itself in the Indian education landscape.

The university has a dedicated data center with Cisco 6500 switch and it has secured its network using Cisco ASA 5510 and Cisco 5520 Firewall for gateway security.

Pradeep Joshi, Assistant Registrar - IT Services at Sharda University says wireline connectivity alone is a passé. In an era where consumers be it students, teacher or parents demand access to information anytime and anywhere, it is inevitable to have a robust wireline and wireless infrastructure backbone that comes from setting up a reliable network.

The campus has connectivity from BSNL (1 Gbps pipeline with 150 Mbps of bandwidth) and CJ online (50 Mbps of bandwidth) to cater the internet requirements. The entire campus is covered with seamless wireless connectivity using Cisco access points, controlled by central WiSM (wireless service module) installed in high end Cisco 6509 E switch.

“Over 350 indoor and 10 outdoor access points are installed to provide the

wireless connectivity and are capable of handling the load of thousands of concurrent sessions. This is critical as a majority of the students prefer to carry devices that they can connect with the institution’s Wi-Fi to access data on the go, today some even carry more than one of such devices,” Joshi reasons.

He says, “BYOD for users is ease of use, however for the IT managers, it is about supporting a variety of devices, their operating systems, and maintaining an expected level of service. We need to focus on better connectivity of Wi-Fi networks in each class room, hostels and other campus areas. Though at present our bandwidth consumption is not that high, we understand it is bound to spike with further automation and video consumption.”

Sharda University has 70 dome IP cameras and 5 PTZ cameras to monitor various buildings including different schools of Sharda University, hostels and staff quarters.

Last academic session, the organization had automated and integrated its Admission, Finance, HR, Inventory, Hostel Management and Library systems with Oracle PeopleSoft ERP. The Oracle solution is meant to offer scalable online, self-service interface for the institution’s 6500 students, faculty members and administrative staff. IBM P series Servers and IBM Storage have been deployed to support the ERP system.

“In an effort to support the e-Learning program we have a tied up with different publishers and e-library providers like Delnet, Springer and Scopus. We are also in the process of deploying a Learning Management System,” Joshi says.

LOVELY PROFESSIONAL UNIVERSITY

Paperless efficiency and more

Sprawling over an area of 600 acres in Punjab, Lovely Professional University is a place of learning to over 25,000 students. Projecting it as a technology driven campus, the administration swears by IT tools to usher paperless efficiency.

Ashok Mittal, Chancellor, Lovely Professional University says that right from the institution’s inception, the

management unanimously conceived making it a world-class education place to bring best in class to the Indian students, and today we serve students from the country, and from across the world.

“To be a world-class set-up, we needed to keep pace with the trends in the global education milieu, and we realized that technology was fast getting central to educational system, and we had to be with the time,” Mittal says.

They set up their data center with about 40 blade servers, which were later scaled to 60 with Cisco catalyst 6509E core switch to provide the needed scalability and traffic control. The networking solution was implemented by Nortel.

Mittal informs that initially they invested in 40 km fiber backbone for providing seamless connectivity, and today the coverage has been enhanced to about 60 Kms.

“We are a completely Wi-Fi campus with about 1200 access points, supported on technology from players like Ruckus and Cisco. With 624 Mbps of bandwidth for internet from Reliance and Videocon, we believe we are fully equipped to meet not only the data needs today, but also in the future as well,” he says.

Mittal adds that of the current bandwidth capacity, they are using only about 25%. “Our network is robust enough to support about one lakh concurrent sessions, we have about 30,000 students, we would still be comfortably placed even if each student carries more than one device,” he reasons.

With about 15 libraries, they follow a ring topology, where all of them are connected to each other, enabling students to self check-in and check-out.

Reiterating the organization's faith in IT tools for smooth functioning, Mittal says that to begin with they considered buying ERP solutions from the likes of SAP and Oracle, however, they had greater expectations.

They engaged a 40-member team to develop a University Management System (UMS), customized to their requirements. They implemented a Learning Management System (LMS)

and a Relationship Management System (RMS) as well.

He concludes by saying, “We have taken utmost care in making our network scalable yet secure.”

INDIAN STATISTICAL INSTITUTE Structuring IT right

As a part of an IT upgrade, Indian Statistical Institute wanted a network infrastructure that would meet all its needs for 20 years or more. It chose to deploy 10G copper and fiber solutions from CommScope Systimax portfolio, coupled with VisiPatch patching solution.

Headquartered on a 30 acre site in the northern suburbs of Kolkata, the Indian Statistical Institute focuses on projects and consultancy in statistical quality control and operations research. Most of the Institute's 255 academic staff is based in Kolkata, Delhi and Bangalore where it has 110 undergraduates, 225 post graduates and 40 doctoral students. It also has offices in Chennai and Tezpur.

The IT team of the institute specified the new infrastructure that it wanted, to meet all the institute's needs for at least two decades to come. So, although the network was initially specified with 100Mbps and 1Gbps switches, the connectivity requirement was for data transmission at up to 10Gbps.

“A longer effective life means payback on infrastructure investment can be spread over more years, lowering the overall annual cost of ownership,” says, Amitava Datta, Head of Department, Computer & Statistical Services Centre in Kolkata. “So, we needed structured cabling with performance that could meet all the data transmission needs of future academic and administrative applications.”

Amitava Datta and his team wanted high performance and reliability that was backed by solid guarantees and application assurances. They also wanted a supplier who would offer a detailed infrastructure design proposal and demonstrate its effectiveness as part of the tendering process.

To meet all these requirements, the team chose a solution designed and



WE HAVE TAKEN
UTMOST CARE IN
MAKING OUR
NETWORK
SCALABLE YET
SECURE.

ASHOK MITTAL,
CHANCELLOR, LOVELY
PROFESSIONAL UNIVERSITY



THE 10G COPPER
AND FIBER
CABLING CHOSEN
BY THE INDIAN
STATISTICAL
INSTITUTE WILL
MEET ITS NETWORK
PERFORMANCE
NEEDS FOR
DECADES TO
COME.

NATARAJAN
VISWANATHAN,
MD, INDIA & SAARC, COMMSCOPE



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GONE ARE THE DAYS
OF BASIC INTERNET
CONNECTIVITY.
EDUCATIONAL
CAMPUS NETWORKS
SPORT ENTERPRISE-
CLASS FEATURES,
LIKE 24X7
CONNECTIVITY,
WI-FI COVERAGE,
MULTI-DEVICE
SUPPORT

installed by IBM India. The solution included CommScope's GigaSPEED X10D UTP (unshielded Twisted Pair) copper cabling for connections within the academic building. End-to-end performance of this solution matches the full specification of the Category 6A/Class EA standard for 10Gb/s connections up to 100 metres.

For the connection to the Kolkata campus' main administrative building, IBM Automation team proposed the LazrSPEED 300 fiber solution. This multi-mode fiber comfortably exceeds the OM3 fiber standard and supports 10G data transmission up to a distance of 300 meters.

"With 10G cabling in its horizontal connections as well as its network backbone, the institute can comfortably meet the needs of applications like video conferencing," says Natarajan Viswanathan, Managing Director, India

& SAARC of CommScope.

He explains that such network infrastructure has plenty of reserve performance to meet future needs. This is especially important in academic and research organizations because the bandwidth demands of their systems increases relentlessly every year.

"The 10G copper and fiber cabling chosen by the Indian Statistical Institute will meet its network performance needs for decades to come. And the high density of VisiPatch 360 patching hardware, combined with its modular, scalable design, make it easy to add more connections as these are needed. These and many other features of the Systimax solutions chosen for Kolkata campus all help to reduce its overall infrastructure costs," Vishwanathan says.

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ALAN ATKINSON
DELL

Alan Atkinson, Vice president and General Manager, Storage, Dell, talks to Mehak Chawla about disruptive patterns in storage, company's action plan in the storage, big data space and upcoming offerings. Excerpts...

“We are going much more down the software enabled path”

What are the trends in the storage space, especially with technologies like cloud impacting storage buying patterns of enterprises?

We are at one of those inflection points in the industry, which is probably the biggest one that we have seen since the late 90s. In the past decade, roughly from 2000 to 2010, it has been kind of status quo -- nothing has been massively disruptive. But when I talk to CIOs today, it's a very different game. Things like cloud, flash, virtualization and big data have totally changed the course of the conversation. CIOs are not asking us about how do they reduce their infrastructure costs by 5-10%, but are looking at radically different technology to do things like a 50% reduction. To a large extent, it's driven by Amazon because CFOs and CIOs are realizing that they need to adopt some of these technologies to get to the cost model that they need. That's where the whole software defined infrastructure is coming into play. We are already through with the first step in the form of virtualization, which most data centers have done to a significant extent. Server virtualization is not so much of a concern but when we look at storage and networks, there have been some considerable issues with respect to virtualization.

Given the advancements in the storage space, what offerings are expected from Dell?

One of the key announcements that we have made in this space is our flash enclosure. The announcement in essence is that we are providing flash at the price of the disk. So how we do that? Well, it's all software based, where we used single-level cell (SLC), which is the expensive stuff and combined it with read-intensive multi-level cell (MLC). The way we got around the read-intensive MLC, which is unreliable anywhere, is through our software. All the writes or memory goes to SLC and we only write to MLC three times a day, on an average. By doing that, we are able to get a tremendous cost blunt with no difference performance wise.



How is Dell storage positioned to address the big data demands?

We see two separate approaches - one of them is Hyperscale, which means compute very close to the storage, storage very cheap and all of it software defined. Second flavor is NAS and when it comes to scale out NAS, what we are seeing is a much more consolidated type of approach. The common theme across big data storage is going to be relatively commoditized hardware combined with relatively sophisticated software.

The solution is about 45 times cheaper than the competition. We announced that in conjunction with the dense enclosure. The reason why they are interesting together is because our software does the data placement. The hot data comes to the flash and as it gets cold over time, it gets pulled down. We are going much more down the software enabled path. You can expect to see us move much more towards software driven licensing model and software defined infrastructure. Dell storage, over time will take more of a Dell identity and less of an EqualLogic or Compellent identity.

Though EqualLogic continues to do well for Dell, is there a need for a product or version more suitable for SME needs? Going ahead, what enhancements are expected in EqualLogic?

Yes, EqualLogic continues to be on fire from a growth perspective. It has continued to retain the top most iSCSI market share for several quarters now. EqualLogic is doing well because it's easy to use, particularly in a Microsoft environment. We want to leverage that advantage across our storage offerings. Historically, there hasn't been a lot of integration between Compellent, EqualLogic and PowerVault. For instance, they don't replicate. Over time, we are looking to fix that. This summer we have some very exciting compellent announcements coming up and you will see a lot of activity around EqualLogic in the fall time.

Convergence is an interesting buzzword in the SME space. One flavor of convergence is pretty expensive but fairly easy to use. We are trying to combine the opex savings without the huge outlay of capex. Most of the customers we talk, are having the 'software defined data center' conversations with us. When it comes to SMEs, the discussion can go two ways either around cloud or around lowering of the opex. We would like to create a Dell identity encompassing small, large and extra large software defined flavors of storage.

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CFOs

Warm Up to New Tech

Technologies such as cloud, virtualization and BYOD are finding favor with CFOs across industries and changing the traditional IT budgeting process

BY PANKAJ MARU

CIOs across organizations are responsible for helping drive the business using technology. However, it's the CFOs who usually accept and approve the technology procurement or demands made by the CIOs in their respective organizations.

Over the past many decades, there has been a so-called "cold war" between these two key personalities—the CFOs and the CIOs—primarily in the context of IT budgets. While the CIOs see great value in bringing new technology into their organizations to drive efficiency and reduce cost, the CFOs have an extended role to play in addressing the financial needs of each and every department and not just the IT department. As it happens, the CFOs always are faced by monetary constraints and at times are unable to fulfill the demands made by CIOs in terms of IT budgets.

However, this old "tussle for budget" is slowly getting changed now or has already changed to an extent in some organizations, owing largely to the emergence of new technologies and concepts like cloud computing, enterprise mobility, bring your own device (BYOD), virtualization, on-demand services and others.

In fact, these technologies have given a new dimension to the way IT budgets were made in the past and importantly, it has created a breathing space for the CFOs in a manner that they are able to consider the demands made by CIOs in IT budgets. All these years, it has been the CIOs that have been talking and making loud noises about IT budgets but it's time to hear what the CFOs actually think of these new technologies and how these have brought about a change in the traditional IT budgeting and planning process.



IN RECENT TIMES, THE FOCUS ON IT SPENDS HAS MOVED FROM A 'CONTRIBUTOR' APPROACH TO AN 'ENABLER' ONE. THE GENESIS OF THIS APPROACH IS 'CAN I DO MORE WITH LESS?'

The shift in IT spends

In recent times, according to Vikas Kapoor, Director - Finance, Invensys India, the focus on IT spends has moved from a 'contributor' approach to an 'enabler' one. The genesis of this approach is 'Can I do more with less?' and if spending has to be increased, what is the 'incremental benefit' it brings in.

"(IT) Spends are now not only evaluated for setup but also running estimates for the next five years so as to enable correct costing. Tablets are preferred to laptops for 'wow' factor besides being cheaper to maintain and easier for the field force. If data security is not compromised, cloud computing is preferred to avoid large storage networks and to lower the cost of maintenance," says Kapoor.

Tablets and laptops are replacing those bulky desktops and monitors from 'cost' as well as 'look and feel' stand point,

while the assurance on data protection is paving the road for cloud computing in organizations today.

Anand Natarajan, COO & CFO, Fullerton India Credit Co. Ltd, explains how the IT spend was measured in the past and how it has changed amid the rise of new technologies and shifting business scenarios.

"Historically a fair amount of IT spend was measured against the relatively inexpensive manual labor available. That has now changed in the last decade with volumes, wage inflation and competitive pressures demanding the need to be quick, efficient and frictionless," explains Natarajan.

"There is always the need to ensure that we invest prudently and appropriately in order to be able to remain relevant in the market, differentiate on customer and product delivery and optimize returns on

investment (and consequently, equity) to the shareholder,” he adds.

In his view, cloud, enterprise mobility and BYOD – all offer compelling alternatives to investing upfront in captive infrastructure and solutions to the company. Sharing the changes in IT spends made at Fullerton India, Natarajan informs, “We are now moving a reasonable amount of our IT spend away from the conventional own/build structures to purchases of capacity and capability on-tap.”

Furthermore, he says, “This provides us with a range of opportunities – we can leverage off an existing infrastructure investment and one that refreshes periodically, without having to undertake incremental investments/retries. It allows flexible scale-up and scale-down and economies of scale benefits, delivers redundancy and DR support and brings more predictability to our spends.”

As seen by CFOs, it is the flexibility and efficiency offered by new technology that is bringing value in the IT budget planning today compared to fixed, quantity-based hardware procurements and affordable manpower.

Bangalore-based K R Veerappan, CFO, Global Greens, holds similar views as expressed by his counterparts. “In recent years, the focus has been to get more value out of the IT spends and the emphasis is more on productivity. The IT budget has been on the decline. The capital expenditure budget is being reduced and the stress is on reduced revenue expenditure,” says Veerappan, who previously was in-charge of Madura Retail and Garments as Vice President - Finance.

Clearly, CFOs across organizations and enterprises across verticals are taking a very close look at the changes that are happening in the IT space and equally adapting to those technology shifts by incorporating them in their IT budgets to an extent. From CIOs’ perspective, this is an encouraging sign and is a proof that CFOs are not just thinking of money all the time but also understand technology considerably.

New tech and CFOs

Given that several CFOs have brought in some changes in how they budget for IT,

it would be interesting to learn how they view the new trends shaping up enterprise IT.

“Cloud and BYOD should definitely reduce the capex budget in organizations. Moving to the cloud could become a major success if major vendors like SAP, IBM, Oracle, etc., provide end-to-end enterprise solutions on cloud and large enterprises show the courage to move from on-premise to cloud solutions,” opines Mumbai-based Govinder Singh, CFO, Tata Housing Development Company Ltd.

According to Singh, currently, the cloud solutions are predominantly used for nice-to-have modules or add-on modules. “BYOD is an evolving concept but it could be piloted for a particular group within the organization like IT or marketing, where employees are tech savvy and can take care of their own devices. At the same time, the organization will have to reimburse them the cost of maintaining their devices.”

Moreover, he says, “The risk of pirated software and malware will be more in case of BYOD, but a proper verification process would curb that menace. Budgets are tight but if we are able to show value to the organization on new technology implementation, it becomes easier to justify the spends. At the same time, some technologies need to be implemented as the environment and platforms change—for which IT needs to be on the forefront of latest trends.”

Bangalore-based Narayana Health is one of those organizations that are adopting the cloud and BYOD concepts.

“We would like to be associated with technologies that give our patients a quick but comforting and economical way of availing the services. IT budgets will be on the rise, including the provisioning for a large-scale ERP implementation, sizable bandwidth and a good supporting technology that can enable access to medical records on the move,” says Kesavan Venugopalan, Group CFO, Narayana Health.

“We are already in the concept-adoption stage of cloud, enterprise mobility and BYOD trends. While we looked at a very frugal, bare essential cost for IT till recently, the time has come to



THEY(CIOS AND CFOS) BOTH HAVE A BIRD'S EYE-VIEW OF THE ENTIRE ORGANIZATION

GOVINDER SINGH,
CFO, TATA HOUSING
DEVELOPMENT COMPANY LTD

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TODAY'S TECHNOLOGIES HAVE GIVEN A NEW DIMENSION TO THE WAY IT BUDGETS WERE MADE IN THE PAST AND IMPORTANTLY, IT HAS CREATED A BREATHING SPACE FOR THE CFOS IN A MANNER THAT THEY ARE ABLE TO CONSIDER THE DEMANDS MADE BY CIOs IN IT BUDGETS



WE ARE NOW MOVING A REASONABLE AMOUNT OF OUR IT SPEND AWAY FROM THE CONVENTIONAL OWN/BUILD STRUCTURES TO PURCHASES OF CAPACITY AND CAPABILITY ON-TAP

ANAND NATARAJAN,
COO & CFO,
FULLERTON INDIA CREDIT CO. LTD

TABLETS AND LAPTOPS ARE REPLACING THOSE BULKY DESKTOPS AND MONITORS FROM 'COST' AS WELL AS 'LOOK AND FEEL' STAND POINT, WHILE THE ASSURANCE ON DATA PROTECTION IS PAVING THE ROAD FOR CLOUD COMPUTING.

look at full-scale IT, including the technology to support remote medical consultation and diagnostic services," adds Venugopalan.

Certainly, these CFOs have broken the so-called myth of being regressive or stubborn in nature toward adopting and investing in new technology. They are not far from what their CIOs are thinking from an IT perspective in driving business efficiently. BYOD and cloud based software applications are pushing away the capital expenditure (capex) from traditional IT budgets.

"We continue to invest in technology and IT infrastructure. As a retail service provider with a customer base of close to a million customers and a distribution network of over 350 branches covering over 330 towns, technology remains our fundamental backbone for product delivery," Nataraajan stresses on the need of IT investments for business.

He informs that his organization is in a stage of transformation and therefore continues to invest heavily in the business infrastructure and so IT spend hasn't reduced. "While our IT spends have not reduced, how we outlay the money is significantly more productive

than it used to be earlier."

It's quite true that new technologies and concepts are changing certain dimensions of traditional IT budgets and planning—and today's IT budgets have an increasing presence of operational expense against capital expense, driven largely by cloud-based applications and pay-per-use components.

A common ground for CIOs and CFOs

Overall, it appears that the new technologies have helped to bring the CFOs and CIOs together from an IT budget perspective in certain cases. To an extent, it has diffused the old 'cold war' between the two and made their relationship less stressful. But do the CFOs think or feel so?

"Yes, today with the fast-changing technology landscape, CIOs and CFOs have to maintain a cordial relationship. Poor communication can get in the way of the CIO-CFO relationship. CFOs may find that CIOs speak in abstract terms or 'technology-speak', or focus on the 'big picture' while the CFO would prefer more granularity," says Singh of Tata Housing.

"Both have a lot in common. They face the same challenges and issues in the



organization – staff, budget, intervention from management and project prioritization. They both have a bird's eye-view of the entire organization," he adds.

Singh further notes, "Both face rising expectations from higher management but need to have the entire organization engaged and on board in order to implement new, effective policies. So it's obvious that the relationship will have to be cordial to work together toward organizational success."

Veerappan of Global Greens agrees and adds, "These technologies have really helped increase productivity and challenge the high IT budgets. The relationship between the CFOs and CIOs has become more cordial."

Giving more insights into the CIO-CFO relationship, Kapoor of Invensys India says, "There is more camaraderie between CIOs and CFOs, as both are realizing the impact of IT spending and the utility of IT innovation as they deal with one another. With more focus on justifying each spend in light of the recent downturn, a cordial relationship does exist."

However, not all CFOs accept the notion of existence of an uneasy relationship between CIOs and CFOs in the first place. In fact, Natarajan of Fullerton India terms the the existence of any stress between the two key personalities as nothing but 'constructive tension.'

"I don't believe that the relationship has been stressful ever, in a 'destructive' sense. There will always be a 'constructive tension' between delivery and control functions and these are usually beneficial to the overall development of the corporation. So long as there's a mutual understanding of the corporate priorities and appetite, the roles of the CIO and the CFO are complementary," argues Natarajan.

Natarajan is critical of the lack of



technology understanding among his fellow CFOs and also expects CIOs to be better equipped on the risk assessment front. "There's a greater need for the CFOs to understand technology, their drivers and the investment cycles better and for the CIOs to optimize the risk-reward assessments today than it was earlier," he says.

"As a CFO, I look to the CIO to scan the market for opportunities that allow the company to optimize its resources, improve productivity and reduce transaction costs on one side and be competitive, if not market-leading, in terms of product delivery," Natarajan says.

Reinforcing Natarajan's thought of 'constructive tension' but with a slight twist, Venugopalan of Narayana Health expects the CIO-CFO relationship to be more of 'constructive dialogues' wherein

the cordial relationship between the two benefits not just the company but also the customers.

"New technology gives newer challenges but it has to be in line with what the organization can afford to be competitive and creative. Hence there will be more 'constructive dialogues' that will happen to make it more affordable to the patients/customers, which is our vision," concludes Venugopalan.

Though the literal meaning of the terms 'constructive tension' and 'constructive dialog' are different, the core essence for CIOs and CFOs today is to come together, work as a team and achieve progress using technology and pass on the benefits to customers or people.

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AS SEEN BY CFOS, IT IS THE FLEXIBILITY AND EFFICIENCY OFFERED BY NEW TECHNOLOGY THAT IS BRINGING A VALUE IN THE IT BUDGET PLANNING TODAY COMPARED TO FIXED QUANTITY BASED HARDWARE PROCUREMENTS AND AFFORDABLE MAN-POWER.



ENHANCING CUSTOMER EXPERIENCE

Customers who have a positive experience of interacting with a business are more likely to stay loyal to it. Here are some best practices enterprises will do well to adopt

BY ATUL TULI

Imagine a scenario when the book you ordered online did not reach you after the promised delivery deadline of three days. You call the website's customer care and the representative promises that the book will reach you the next day, but it still does not. You call again the next day and connect to another executive this time who does not know the history of your purchases or requests; gives you the same status and adds that there is no record of your previous conversation with the organization.

Does this sound familiar? The book may reach you in another 1-2 days, but would you like to make another purchase at the same website?

Now, let's tweak this scenario a bit. When you call customer care for the first time, the representative tells you that your book was stuck in transit and assures you that it will reach you within a day. She even checks to see whether you have faced this situation before; for example when you had ordered another book a month ago. The book reaches you the next day and you then get another call from the company confirming the receipt and apologizing for the delay in delivery again. Would you go back to the same website for another purchase?

The only difference between the two scenarios is the ability of the organization to turn around an unpleasant experience for a consumer and end a transaction on a high note. This is the difference that one great customer experience can make in spite of circumstances not being in favor of the organization.

Simply put, customer experience is the sum total of relationships a customer has with a business and is based on all interactions and thoughts the customer has about the business. Customers who have a positive experience are more likely to become loyal customers to the business.

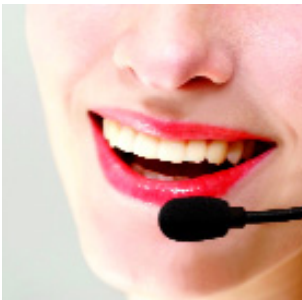
A multi-touch world

While the predictability of customer interactions has vanished, the way in which businesses engage with customers has fundamentally changed. Customers can now interact with brands from multiple touch points or channels (Web, mobile, social, retail stores, kiosks); however, they cite cross-channel inconsistency as their number one complaint. Your customer is only interacting with you as a single entity, she is unaware that you have separate teams to run your Twitter account, tele-support and email support – none of which are connected to the same view of customer information.

To succeed in this multi-touch point world, businesses must indeed shift from channel-centric organizations to customer-centric organizations. The best way to achieve this transformation is to connect internal data, teams, and technologies to drive cohesive personal experiences that increase engagement, sales, and loyalty across channels.

As a first step, businesses must understand that the best investment decisions in improving the customer experience can be made only after understanding the customer lifecycle and expectations. In this context, marketers are already overwhelmed by the quantity of information flowing in from all sources. The emergence of social networks has added complexity to the implications for enterprises. However, embracing social networks has compelling rewards in terms of understanding customer behavior and analytics.

The solution lies in leveraging huge quantities of data – also called Big Data, i.e., traditional enterprise data or machine-generated/sensor data or social data – to truly understand the customer. Big Data solutions help marketers to combine and pool information by linking disparate and siloed channels. Technology vendors are making it easy



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ACCORDING TO A 2011
HARRIS INTERACTIVE SURVEY

86%

OF CONSUMERS WILL GLADLY
SPEND MORE FOR A BETTER
CUSTOMER EXPERIENCE

for enterprises to unlock the value of their data with fast and pervasive business intelligence. By collecting and analyzing transactional data, enterprises can actually map customer needs and expectations. Predictive analytics therefore helps marketers to target the right customer with the relevant offers, thus reducing cost and effort without overstepping and making the customer uncomfortable.

Engage and integrate

Secondly, positive engagements are so important to consumers that they are willing to pay for it. In fact, according to the 2011 Customer Experience Impact (CEI) Report based on a survey commissioned by RightNow (which was acquired by Oracle in March 2012) and conducted by Harris Interactive, 86% of consumers will gladly spend more for a better customer experience. Moreover, marketers understand that acquiring new customers is a lot more expensive than retaining old ones.

Big Data plays a key role here again as it helps in deriving loyalty metrics used in assessing customer loyalty. By linking financial data to customer data and customer feedback, marketers are able to assess the loyalty displayed by customers towards an organization or a brand.

Exceeding expectations of the customers helps ensure superior customer experiences that make the consumers return to a brand more often. Poor experiences are typically a result of unmet expectations, leading consumers to move to newer vendors. The CEI survey also states that 89 percent of consumers began doing business with a competitor following an undesired customer experience. Some industry studies also indicate that it costs an organization eight times more to acquire a new customer than to retain an existing one.

Thirdly, businesses must integrate their various customer interaction channels. As customers are turning to an ever-growing assortment of devices and

touch points, businesses struggle to solve new problems with legacy systems and team structures. This is because internal teams are siloed and held to channel-oriented goals and legacy technology is unable to scale; data and content are scattered throughout the enterprise. Moreover, no universal view of the customer lifecycle or cross-channel performance can be provided with the archaic technology. Millions of customers using multiple touchpoints often find themselves exposed to the product or service provider's internal business problems at the point of engagement.

The time has come to move beyond the limits of individual channels and touch points and instead create well-choreographed cross-channel interactions. To deliver a great customer experience, it is important to invest in a platform that can quickly find the relevant information that meets customer demands. The integration starts with unifying each customer interaction across all communication modes by gaining a 360-degree view of customers. This lets businesses deliver a unified brand message across all channels so that they can deliver customized content and offers. The integration also allows businesses to create the desired transparent, channel-agnostic and personalized customer experience. With a technology infrastructure that liberates all the knowledge trapped in channel-specific silos and puts it to work in a common platform that feeds every touch point, business organizations really can achieve enterprise-wide alignment. Moreover, it lets them attract and engage the right customers, both online and offline, through marketing outreach.

Go social

As a fourth step, businesses must give social networks the full attention they deserve. When ignored, a customer with



an axe to grind can make a service hiccup a very public failure. You may recall the "Dell Hell" episode from 2005, when a blogger posted a series of articles documenting his unsatisfying experience with the brand. The blogs spurred thousands of comments along with links from a host of other sites, and his story ended up receiving mainstream media coverage—ultimately spreading the word far and wide.

Social networks have fundamentally changed the way many customers choose to interact with businesses. Organizations view the proliferation of social networks as a threat or an opportunity. It can be seen as a threat because of the seemingly endless new data streams social networks generate—data that needs to be sifted and processed for the information that is useful.

On the other hand, businesses need to approach social networking as a huge opportunity—a new way to communicate with and learn from customers in a mode that customers have embraced and to which they have become accustomed. For many organizations, the opportunity is there and by capitalizing on it sooner, they can enjoy the benefits without facing any negative repercussions. By taking a strategic, knowledge-based approach, organizations can easily leverage the potential of social networks to truly

enhance the customer experience and improve business performance.

Social Customer Relationship Management (SRM) helps organizations use social data and channels to drive greater customer understanding, make better business decisions, and improve and strengthen relationships. Through a combination of loyalty management, analytics, and service capabilities that help enterprises better understand each customer's lifetime value, vendors now offer solutions to enterprises to help them build more insightful marketing programs by understanding customers' social conversations.

Finally, organizations must adapt to become instantly responsive. The days when organizations could take a week to get back to customers are history. Today, customers are conditioned for speed. They want information and they want it fast. Speed has become a competitive advantage and can make or break an organization's reputation. Answering customer queries, especially their complaints, quickly and efficiently is a pre-requisite to deliver superior customer experiences.

If ignored, customers today have a lot of options to voice their dissatisfaction that could lead to undesired situations for the image of the company. Even if responding with the correct status is going to take time, letting the customer know is critical. A timely response can turn an angry, dissatisfied customer into a loyal one for life.

In today's global markets, customer experience has become a key business differentiator—yet delighting customers is not always easy. By taking a strategic, knowledge-based approach, and leveraging the best practices outlined above, organizations can truly enhance their customer experience and improve business performance.

Atul Tuli is Director – Fusion CRM, Oracle APAC.

89 PERCENT OF CONSUMERS BEGAN DOING BUSINESS WITH A COMPETITOR FOLLOWING AN UNDESIRE CUSTOMER EXPERIENCE. SOME INDUSTRY STUDIES ALSO INDICATE THAT IT COSTS AN ORGANIZATION EIGHT TIMES MORE TO ACQUIRE A NEW CUSTOMER THAN TO RETAIN AN EXISTING ONE



TAXING, THE EASY WAY

Wipro helps Daman & Diu tax department shore up its earning by 37% by deploying VATsoft, an e-filing system for commercial taxes

BY HEENA JHINGAN



The Department of Value Added Taxes, Daman & Diu, was set up to look after the entire tax administration of the union territory. The department is reported to hold a record for highest tax collection per employee in comparison with VAT departments across the country. This is despite the fact that until a couple of years back the tax collection system was not standardized and all the work was done manually, using the traditional pen-paper approach right from registration of the dealer to tax calculation.

With the Government of India initiating NeGP (National e-Governance Plan), Department of Value Added Taxes, Daman & Diu came to be covered under the MMP (mission mode project) for commercial taxes. As per the program, all the departmental transactions and operational process are to be computerized. This kind of a transition requires external expertise and change management at an organizational level. This is where Wipro stepped in a consulting role.

Wipro was involved in the project right from its conceptualization back in 2011, however, real action began only in 2012 when functional modules were being rolled out into e-services. The department has now integrated an e-filing system on its portal, where dealers can register, compute and pay the tax.

Taxing procedures

Ganesh Ramachandran, General Manager, IS - Government Consulting, Wipro Ltd says that before the consulting firm took over the task, the processes at the department were not even standardized, forget being automated. It was haphazard not just in terms of the process followed but also in terms of applicable tax charges.

"Individual invoices were not captured and all the transactions of dealers were considered into two categories - sale or purchase. The tax calculations were performed on overall sale or purchase data and no separate tax charges were considered for commodities of different categories. Such representation of tax liabilities were reported on paper forms at the VAT office with no proper

IN INDIA, A MAJORITY OF THE DEALERS OPERATE THROUGH THEIR CHARTERED ACCOUNTANTS. NOT ONLY SHOULD THE DEALERS UNDERSTAND THE NEED OF AUTOMATION, THE CAS MUST ALSO UNDERSTAND THE NEED AND FUNCTIONING OF THE SYSTEM.

GANESH RAMACHANDRAN,
GENERAL MANAGER,
IS - GOVERNMENT CONSULTING,
WIPRO LTD

BUSINESS BENEFITS

- 37% increase in revenue
- Paperless, error free, transparent system
- **Better customer service:** 98% of data that client deals with is digitized and MIS reports customized as per office hierarchy are provided
- **Improved productivity and efficiency:** The per resource or employee revenue generation is increased by about 40% and time spent on redundant avoidable work is significantly reduced
- **Future ready system:** Now that the processes are standardized, transition to GST will be smoother, simpler.

demarcation of inter and intra state sales or purchases. Moreover, commodities classification according to the tax rates applicable for respective categories was not practiced with diligence, resulting in inappropriate tax payments. Also, with returns being submitted on paper, cross checking and verification of returns filed can be an arduous task considering the amount of paper data generated in the subsequent cycle of returns filing and payments," he explains.

The solution

Wipro's task was to make this hassle free for both users and the administration. The agency needed to take care of all the aspects, including infrastructure and capacity building and security.

Ramachandran observes, "For the ease of both user groups, provision of a single interface to the users of the system to interact with the Value Added Tax office was a must. This was done by using the web portal of the UT administration of Daman & Diu and customization of the National Informatics Center (NIC) Karnataka software VATsoft for filing returns. NIC has been for providing e-Governance and integrated services in Government Sector. VATsoft is being used by several other North Eastern states and union territories in the country.

Since the system was to be used for filing tax returns, the system needed to be a secure environment. Ramachandran informs the system being used by about 3,500 dealers in Daman & Diu includes NIC deployed measures for module security in addition to the physical security of the network components, human resource security and incident management, troubleshooting for these incidents, identity protection and access controls that is built in the forms of functionalities allowed for any user to access and is centrally controlled by the department administrator.

"To make the system more robust, several security mechanisms have been included. The system allows role-based access and also tracks event logging. The security solution that is being used offers anti-virus protection as well as source code protection together with firewall



and intrusion detection systems. Both network and host based protection mechanisms have been included in the security system," he says.

He adds that the implementation has been a smooth one, resulting in about 37% increase in the revenues of the department.

B.S. Thakur, Deputy Commissioner-VAT, Daman, says, "With the help of Wipro Consulting Team, the VAT office is now in a position to render the services to the taxpayers online. With this the VAT department has taken a giant leap forward into the age of digitization, increasing efficiency, transparency and productivity of the VAT department."

The challenges

The implementation was a learning process for both the department and the consultancy firm. Ramachandran explains that they needed to build capacity for the 15 member team of the department. He believes that whenever

THE IMPLEMENTATION HAS BEEN A SMOOTH ONE, RESULTING IN ABOUT 37% INCREASE IN THE REVENUES OF THE DEPARTMENT

a change is introduced in the system, it is very important for the users to understand the significance of that change.

"In India, a majority of the dealers operate through their chartered accountants. In that case, not only should the dealers understand the need of automation, but the CAs must also understand the need and functioning of the system. Doing this is a time

consuming job," he says.

The next step

For Wipro, this is not a regular time bound contract, instead a project where they will get extension on need basis. At present, the agency has delivered solutions for registering, filing and tax calculations. In the next level, Wipro will help in integrating modules for tax refund and audit. Meanwhile, Wipro has also started work to digitize the data, the users can now access data of the past years (3-4 years).

This implementation, says Ramachandran, will ease the migration to GST regime. "The Daman & Diu department stands ready for future enhancements and functional changes with the development of VATsoft." The transition to GST will now be a matter of customization, he says.

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PRASHANT RANADE
CEO & PRESIDENT, SYNTEL

Prashant Ranade, CEO & President, Syntel talks to Pankaj Maru about company's business performance, impact of new technology in IT & BPO sector and discusses the impacts of currency volatility and new visa bill. Excerpts...

“Clients expect a partner that can help transform their business”

How much have new technologies impacted the IT and BPO services demand?

Today, clients expect a partner that can help transform their business and translate into few key attributes, which is where our experience and focus comes in. Firstly, a partner who could help clients transform business, understand and focus on how the clients' business is changing and its implications. Second is about technology, whether it be cloud, mobility, big data or social media and how all these technologies are integrating with the business, so knowledge of technology is essential. Third area is based around our tag line- “Consider IT Done” and “Small Enough to Listen and Big Enough to Deliver”—which says that the partner needs the vision and knowledge of technology, and focus on transformational initiatives is essential.

Eventually, clients expect us to be absolutely positive on delivering promises, which is our focus. At Syntel, our 22,000 plus associates makes us big enough to focus on what we decide and on the flip side, right from juniors to the senior most leadership, we work closely and listen each other. Eventually, people do business with combinations of performance of people, experiences and understanding of markets.

Indian rupee has slipped against the US dollar. In your view, how much will the rupee volatility impact the Indian IT and BPO industry?

Clearly, no expert can predict how currency can go in short term. The current rupee level is the weakest in many years touching Rs.60 to a dollar. When the business is either in dollars, pounds or euros in a global delivery model, against rupee it does help in short term but in the long term it is not good for businesses and the economy.

Interestingly, in last 10-12 year history of exchange rates, there's been a few anomalies where rupee actually became strong at a rate lesser than Rs.45 to a dollar compared to the present Rs.60 level. Barring those anomalies, most of the 12 year period, the rupee has rallied between Rs.46 to Rs.49 against the dollar.



How has been Syntel's business and the demand environment this year?

First of all, for Syntel the demand environment has been stable, certainly lot better than 2 or 3 years ago, when every segment and industry faced the economic uncertainty and financial meltdown. Within Syntel, we are very pleased because in our last 5 year performance we have delivered 18 % CAGR, 24 % earning growth and have increased our strength by 17% annually. So, Syntel had a strong Q3 of profitable growth and all these years our performance has been above the industry average.

Currency consistency is good for businesses and organizations like ours and a stable currency rate is what most businesses expects and wants.

Currency's impact is purely mathematical. One rupee moves 30- 40 bps, so when rupee gets weaker, it impacts the operating or gross margins by 30- 40 bps and when it gets stronger, then it contracts the operating margins. Given this, we certainly do the occasional hedging because we take the clients' order, so we know the backlog, know its cost, and also know the clients' commitment to do the business. So we tend to lock-in at a particular exchange rate. Hedging at a point in time of getting an order if the rupee gets weaker or stronger, helps maintain the operating margins. That's how most IT companies hedge on currencies to mitigate the currency movements.

Will the new US visa-immigration bill impact the Indian IT and BPO sector?

Clearly some of the current bill's provisions as being discussed, will impact the entire industry. But the law enactment requires both the Senate and the House approval and thereafter, will have to see whether it is implemented or not. So there's a range of possibilities based on the bill that is being considered. The Senate is likely to pass the bill while House timing would be roughly in the fall of this year. There's high expectation and possibilities that the House bill provisions would be different and more watered down from the Senate bill. I would like to point out here that today businesses are tuning free trades across regions and are absolutely essential in a long run, which is specific to our industry and Syntel. So this is not something that is going to happen between today and tomorrow morning. There are possibilities in terms of how we can get impacted but are confident to navigate through with our company's history and the fact to implement different models in response to whatever law is enacted at appropriate time.

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Wave Cinemas has upgraded its projectors from 2K to 4K in order to offer higher resolution and better movie-viewing experience

BY KTP RADHIKA

Wave Cinemas, the multiplex arm of Wave Infratech, has eight operational cinemas spread across northern India. Currently, it operates in Noida, Ghaziabad, Raja Garden-Delhi, Lucknow, Moradabad, Ludhiana, Haridwar and Chandigarh. Consisting of 32 screens in total, Wave has about 10,000 seating capacity and offers world-class digital sound, audio and projection systems, with seating claims to have been designed ergonomically for comfortable viewing.

The company prides itself on embracing the latest and modern equipment and technologies of international standards. It

uses audio systems from Martin Audio, screens from Harkness Hall and Dolby cinema processors.

As a part of delivering modern and cutting-edge viewing experience to customers, Wave Cinemas recently installed 4K projectors in its cinemas.

Picturing properly

Yogesh Raizada, Corporate Head, Wave Cinemas, says, "Cinema industry uses different kinds of projectors. At first, it was carbon projectors and then analog projectors came into the picture. After that, digital projectors 2k and then 4k came into existence. Internationally, 10k projectors

are also available these days. However, in the Indian context most of the cinemas are using normal 2K digital projectors.”

What are the advantages of 4K projectors? Wave in fact was using 2K projectors in its cinemas, which provides an image with a resolution of 2048x1080 or 2.2 million pixels. However, as part of its large-scale business expansion, Wave wanted to become more competitive in the film industry and wanted to provide the best-in-class viewing experience to its customers. “Today, new technologies are coming into home-theaters and even to television sets. So, viewers are very much aware about the technologies and they want better picture quality and view in cinemas,” he explains.

4K digital projection doubles the dimensions of 2K projectors to 4096x2160. This equals 8.8 million pixels, exactly four times the count of 2K projection. From an audience perspective, 4K offers improved quality, unprecedented levels of resolution and contrast and, ultimately, a much more dynamic, engaging and immersive entertainment experience in a multiplex. The management of Wave decided to upgrade their projectors to 4K. Before choosing the brand, Wave did a market study and found out that Barco 4K projectors, one of the market leaders, will best fit their needs.

Barco 4K projectors use the 1.38” DLP Cinema chip from Texas Instruments, which can project over 35 trillion Academy accurate colors and delivers a greater than 2500:1 contrast ratio. Raizada points out: “We preferred Barco projectors because of the quality they offer. These ‘top of the line’ projectors guarantee razor-sharp images combined with consistent uniformity, rich contrast and accurate colors.” In addition to that, the projector has better optical design and superior lamp efficiency, which results in a maximum light output and a sharpened visual 3D experience. It also has a patented cooling system, which ensures reliability and a significantly increased lifetime.

Barco projectors come with integrated media block (IMB) installed. “With an IMB, the content decryption takes place inside the projector, which makes piracy tougher. The new link between server and

IMB is not only more secure and reliable, but also faster,” assures Raizada. The projector also has high frame rate (HFR) technology, which projects movies at a frame rate that is twice or higher of what’s seen in normal cinemas. As a result, viewers see less flicker, motion blur and stuttered movement. This improves 3D movies dramatically creating ultra-realistic movie going experiences.

Shifting from 2K to 4K was a smooth process for Wave. “It was an overnight transition. Everything was tried and tested before the implementation and the process was smooth,” shares Raizada. World class viewing experience and customer satisfaction were the greatest benefits that Wave received from the upgrade. “We got a lot of positive customer feedback after that,” points out Raizada. It also provided a competitive advantage for Wave since most of the players in the market are using 2K projectors. “It is a major part of our wider expansion plans,” he says.

Future projects

At present, these 4K projectors have been installed at Wave’s Noida, Raja Garden-Delhi and Lucknow multiplexes. Wave is planning to install it in all their cinemas in near future. About the cost involved, Raizada says that “the technology won’t come cheap.”

With the right kind of technology in hand, Wave is now planning for a huge expansion of their cinema business. In the next three to six months, the multiplex operator is planning to open Cinemas in Jammu, Meerut, Ghaziabad and Rudrapur. “Jammu and Meerut will have three screens each, while Ghaziabad and Rudrapur will have four screens each, consisting of overall addition of 3,300 seats in the next six months,” says Raizada.

On the technology side, the chain is planning to renovate the ticketing system. “Ticketing methods are changing day in and day out. We are planning to revamp our ticketing platforms in another few months and also developing our own mobile apps for ticketing,” says Raizada. The company is also planning to deploy some cloud-based solutions in future.

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BARCO PROJECTORS GUARANTEE RAZOR-SHARP IMAGES COMBINED WITH CONSISTENT UNIFORMITY, RICH CONTRAST AND ACCURATE COLORS.

YOGESH RAIZADA,
CORPORATE HEAD,
WAVE CINEMAS

THE PROJECTOR HAS HIGH FRAME RATE TECHNOLOGY, WHICH REDUCES FLICKER, MOTION BLUR AND STUTTERED MOVEMENT. THIS IMPROVES 3D MOVIES DRAMATICALLY



CLASS ON THE CLOUD

Amazon Web Services' cloud platform helps e-tutor Classle deliver education empowerment to rural students in a cost effective and scalable way

BY KTP RADHIKA

Classle Knowledge is a Chennai based start-up that offers a social learning platform and education empowerment for students in rural India. Founded in 2009, it blends social networking and e-learning, and transforms traditional classroom learning into collaborative online education. It also partners with more than 30 educational organizations, including the Indian Institute of Technology (IIT) Madras, IIT Patna and the Indian government's National Program on Technology Enhanced Learning (NPTEL) to facilitate e-learning.

Today, the company has more than 2.5 lakh student members. Over 100 institutions have signed up for Classle's cloud campuses.

As with most of the start-ups, adequate funding was one of major concerns for Classle in their initial days. Vaidya Nathan, Founder and CEO, Classle, says, "Since no entrepreneur in the past had proposed a similar business idea for rural India, most investors believed it was far-fetched and difficult to implement as a scalable and sustainable business." With this background, one of the most important things for the company was to find a technology solution that was very cost-effective and yet highly scalable.

What Classle needed was a very cost-effective and highly scalable infrastructure platform to start their business. The management understood that cloud based solutions would be the right answer to their problems. Explains Nathan: "Cloud is vastly different from the traditional way of maintaining your own on-premise infrastructure. With Cloud, you do not have to worry about maintaining infrastructure, putting people and resources, spending time on all the undifferentiated heavy lifting that really does not contribute to the business. It also does not require capex at all, is fast to deploy and highly scalable."

The company then evaluated their needs with various solutions available in the market. After a thorough study, they decided to choose the cloud platform of Amazon Web Services (AWS) for their business. Amazon's robust technology infrastructure and its years of experience

in handling different scenarios across business sizes prompted Classle to go with their solution.

The implementation

At first, Classle deployed Amazon Elastic Compute Cloud (EC2) instances with MySQL. They used Amazon Simple Storage Service (Amazon S3), couple of Amazon Elastic Block Store (EBS) volumes for storage. As their operations expanded, subsequently, the company modified their platform using Amazon Elastic Load Balancing (Amazon ELB), Amazon Route 53, Amazon Simple Storage Service (Amazon S3) with Amazon Reduced Redundancy Storage (RRS), Amazon Relational Database Service (Amazon RDS) and Auto Scaling. "The implementation of AWS solution was easy with their simple approach to enabling and configuring services," recalls Nathan.

The company has established Amazon's content delivery service, Amazon CloudFront, as an edge server for streaming files and delivering the learning platform's most requested video downloads. Amazon S3 with the RRS feature serves the dual function of providing Classle's content downloads and acting as an origin server for Amazon CloudFront. Classle notes that the origin and edge server relationship the company has created between Amazon S3 and Amazon CloudFront has allowed it to reduce its web page load time by 180% and has brought the time-to-market down to two days.

Seamless benefits

With the support from Amazon, Classle is now able to offer greater efficiency to its customers. The company has also made significant cost saving. "Classle saves about 30-35% of its costs by using the AWS cloud," says Nathan. "Amazon services are available round the clock. However, we can switch on the services when we need them and only have to pay by the hours that we actually use them. This allows us to focus on our core business," he adds. Moreover, RRS option within Amazon S3 enables them to further reduce costs by storing non-critical, reproducible data at lower levels



AMAZON SERVICES ARE AVAILABLE ROUND THE CLOCK. HOWEVER, WE CAN SWITCH ON THE SERVICES WHEN WE NEED THEM AND ONLY HAVE TO PAY BY THE HOURS THAT WE ACTUALLY USE THEM.

VAIDYA NATHAN,
FOUNDER AND CEO, CLASSLE

PROTECTING PERSONAL DATA AND MAINTAINING PRIVACY WAS A CONCERN. BY CHOOSING THE AWS CLOUD SERVICES, CLASSLE IS NOW ABLE TO MAKE THE DATA HIPAA COMPLIANT



of redundancy.

Classle also maintains seamless business continuity with the help of flexibility that the cloud offers. AWS ensures that servers are up all the time with negligible downtime, if any. The cloud solution also enables them to innovate and experiment a lot more than before, making their services more comprehensive, and accelerating the time to market and enabling them to reach more students with more innovative and relevant services.

And there is more. Classle deals with a lot of personal data. Protecting it and maintaining privacy was a concern for them. By choosing the AWS cloud services, Classle is now able to make their data HIPAA compliant (a US standard for protecting sensitive personal data)

ensuring the highest degree of privacy. "Adopting AWS has given our company a competitive advantage, both at tactical as well as strategic levels. It is helping us to focus on the business and assume that the infrastructure will be available to match the velocity and growth. We are now effectively competing with some large and strong players in the e-learning space," avers Nathan.

Expansion plans

Recently, Classle expanded their focus into schools targeting grades 6-12 with unique innovations to take the distribution to hard-to-reach places and bringing quality education there. "Our seamless scope to expand and grow in depth is already causing ripple effects," observes Nathan.

Classle has plans to grow rapidly and increase the volume of usage for AWS services. "We are working on multimedia apps and are aiming at a target of 2.5 million students in the next 18 months. We also expect the ripple effect to spread to the rest of the world with the sound foundation and robust architecture of AWS cloud platform," Nathan visualizes.

Within the next few months, Classle will also launch academic analytics based employment services as well as domain learning services to continue its relationship with the students and help them in their journey toward life-long learning. For that, the company has already started doing prototypes using Amazon Elastic Map Reduce.

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DMITRI CHEN
EMC

Dmitri Chen, Vice President, EMC Backup and Recovery Practice, Asia Pacific and Japan, talks to KTP Radhika about the challenges faced by CIOs, benefits of deduplication and how it is transforming the backup space. Excerpts...

“In the last one year we have seen a huge demand for deduplicated disk based back up”

With big data pouring in, what are the challenges that CIOs are facing in redesigning their backup infrastructure?

Big data is delivering a lot of value to the businesses and is one of the major trend in the backup space. However, since data is growing massively, companies are worried about how they can control the huge data growth. Research firm IDC estimates that by 2020, there will be 35 zeta bytes of information out there. All this data will put more and more pressure on backup teams to transform their environments.

There are a lot of limitations for the traditional back up environment to tackle the situation. EMC has end-to-end solutions in this space. EMC Avamar is a fast, efficient backup and recovery through a complete software and hardware solution equipped with integrated variable-length deduplication technology.

How is cloud transforming the back up and recovery space?

Cloud is one of the most discussed topics in the backup space. Most of the IT operations are now available on the 'as a service' model and backup is certainly one of those areas. Organizations opt for cloud because they want to improve their responsiveness to business needs. Our own customers have now started changing their IT operations to 'as a service' model so that they can address the demands of their end-users.

More and more customers are looking at how they can scale their business by leveraging hybrid and public cloud. Backup has to become an integrated, seamless part of the journey to the cloud, and to do this successfully, backup teams need to transform their environment to be more flexible and smarter.

EMC has a lot of opportunities here and can help companies in that journey. Collaborating with our partners, we are helping our customers to set up a backup-as-a-service environment. In India, we work with service providers such as Tulip, Netmagic,



How will cloud based backup benefit small and medium size businesses (SMBs)?

The benefit for SMB customers in the backup space is that they don't have any legacy baggage. So they can architect their data protection strategy right at the first time, depending on their environment. And cloud is a perfect way for starting. They can choose their data protection strategy on a private cloud, public cloud or a hybrid cloud according to their industry needs.

Crtl S, Tata Communication, etc. They offer backup as a service using our technology.

In your view, what are the major benefits of deduplication? How will it transform the backup space?

Deduplication is ideal for highly redundant operations like backup, which requires repeatedly copying and storing the same data set multiple times for recovery purposes. As a result, enterprises of all sizes rely on backup and recovery with deduplication for fast, reliable, cost-effective backup and recovery. We have a portfolio of products that are designed to address specific customer problems, however one size doesn't fit all.

Over the last year or so, we have seen an enormous interest among our customers for de-duplicated disk-based backup solution. Before that, customers used to debate about the viability and justification of a de-duplicated disk-based backup solution, since the customer mind set was that it is very expensive. But over the last one year, we have seen a massive adoption of deduplicated disk as a backup target.

This has happened because, when we use deduplication as a technology, the amount of physical storage that is required to backup the data goes down dramatically. So you no longer need to buy 100 TB of disk to backup 10 TB of storage. You need only 10TB of disk for 10TB of storage. And the cost difference between tapes and disks are not so huge any more.

Secondly, the customers are attaching more value for their information. With increasing risks involved with information, legacy backup applications won't provide much scalability to organizations.

The best way to attain growth is deduplicate the data. It will increase the scalability. With massive data growth, we have to standardize the backup platforms and an automated deduplication platform will definitely help in managing the massive data growth.

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COLUMN

NICK HAWKINS

PUSHING THE BOUNDARIES OF THE WORKPLACE

Video collaboration is increasingly changing workplaces, as advances in technology and the benefits of real-time engagement with dispersed teams take collaboration beyond an office environment

COMPANIES GLOBALLY ARE NOW SEEING THE VALUE OF VIDEO COLLABORATION BEYOND SIMPLE TRAVEL SAVINGS, TO INCLUDE REDUCING TIME-TO-MARKET, INCREASING CUSTOMER SERVICE, IMPROVING CRISIS MANAGEMENT, AND STREAMLINING DECISION MAKING

Our appetite for increased connectedness is driving innovators to create new ways to bring us closer together, and these new technologies, such as social business, mobility and cloud-delivered services are the driving forces behind a whole new paradigm for communication centered on the power of video collaboration. Today, it's not just about video conferences in office environments; it's about delivering the ability to meet face-to-face in any environment.

This transformation is due in large part to the integration of video collaboration into day-to-day mission-critical business operations such as mobile inspection on the factory floor, crisis response centers in government or video-enabled kiosks in banking. Companies globally are now seeing the value of video collaboration beyond simple travel savings, to include reducing time-to-market, increasing customer service, improving crisis management, and streamlining decision making.

Research has shown that video collaboration in enterprises can help reduce time-to-market and sales-related costs by as much as 24% and recruitment times by 19%. At the same time, the generation entering the workforce today, combined with technology advancements are driving a visual mobile society. The proliferation of tablets and smartphones are driving new trends such as BYOD (Bring Your Own Device). In fact, in 2012, Polycom conducted a survey of 400 business decision makers throughout Europe and found that companies with flexible work programs powered by visual collaboration solutions report that participating employees are an average of 39% more productive than others.

Trends such as BYOD and flexible working demonstrate a shift that is



seeing more and more people demand the same standards of reliability and usability on their personal devices, as they would on their traditional work-related hardware and software-based applications, and the expectation that they can use devices of their choosing on the company network. The opportunities to take video collaboration beyond the boardroom or traditional work environment by establishing a mobile and more flexible work culture have now multiplied, given the wider choice in devices and platforms and more significantly, a rising need for more flexible working arrangements for a workforce on the move and to accommodate newer workplace structures, such as a surge in freelance and contract workers, and 'hot-desking'. IDC Research predicts the global mobile worker population is set to reach 1.3 billion by 2015, representing 37.2% of the workforce; in Asia Pacific, this is expected to rise to 40% - representing nearly 830 million employees.

This staggering number, plus the ongoing investments in broadband infrastructure across the Asia Pacific region, presents enormous potential for governments, private sector organizations and the SMB sector in the region to explore the growing trends and cater to an ever-growing generation of digital nomads.

Flexible ways of working are becoming increasingly adopted in workplaces, with far reaching benefits which include

retaining a better talent pool, more productive and efficient workers through the improvement of employee work-life balance, reduced real estate and operating costs for organizations, an improved continuity of operations and a reduced carbon footprint.

Mobility solutions incorporating enterprise-grade video has meant that the face-to-face meeting experience that takes place within a boardroom or office, is not compromised when on the move or in a home office.

Mobility can also be seen as key to bringing about improvements to existing businesses processes in various industries. In HR functions, for example, the deployment of enterprise mobility solutions can make the hiring and training process more efficient, reducing time and cost by conducting interviews over video. Mobile video applications available on smartphones and tablets have made this not just an easily adopted method, but also more accessible outside of an office environment. In manufacturing, stronger collaborations in R&D can significantly reduce time to market, while video could be used even on a production floor for remote inspections and repairs, all resulting in reduced downtime.

The government, education and healthcare sectors can also benefit from adopting enterprise mobility solutions for emergency response for increased public safety, distance-learning for extended reach, and tele-medicine for

improved patient care. In addition to productivity, the research by Regus shows that a flexible working structure has also been credited for spurring greater revenue generation and as a driver of economic growth. Mobility solutions easily allow remote workers to be fully participating members of any team collaborations without location ever being a deterrent.

Smarter working practices in APAC

Organizations worldwide are currently reaping the benefits of flexible working arrangements, and in Asia Pacific, an increasing number of governments and employers are adopting practices for what can be considered as the next generation of the smart workplace.

The South Korean government is well-recognized for its progressive efforts in readily adopting technology to promote flexible working practices in organizations across the country. In June 2012, the country's Ministry of Public Administration and Security (MOPAS) selected video collaboration solutions for its SmartWork Center Building Project. The Ministry expects that if each remote worker utilizes their local SmartWork center, as opposed to traveling to the central government facilities in Seoul for between 1-2 days per week, it will be able to reduce emission and transportation costs by approximately US \$310 per one remote worker per year, and reduce commute time by up to 90 minutes per

day. South Korean conglomerate CJ Group is also driving a smart, efficient, and flexible work culture by implementing a mobility strategy to enhance the company's collaboration capabilities among group subsidiaries' branch offices in Korea and abroad.

According to research by Regus, 35% of workers in Hong Kong are choosing to work from locations of their choice. In larger markets such as India, 79% of companies reported that their productivity increased as a result of flexible working practices. Recruitment specialists in the country have also acknowledged that flexible working has become a way of life in India, as the demand for temporary and contract workers continues to rise.

Adopting a mobility strategy

Adopting mobility and flexible working in an organization can now be considered a critical requirement in staying ahead of workplace trends, and indeed the competition. In the modern workplace, mobility and flexibility can be seen as key drivers in retaining talent, and benefiting the organization overall from resulting boosts in motivation, staff morale, customer service and productivity. Add to this, the savings in real-estate and capital investment by instilling a 'hot-desking' policy for employees who prefer to choose where they work from.

In Hong Kong for instance, Regus rightly points out that if more local businesses were to adopt flexible working practices for their staff, they would see improvements in health and morale, thereby benefiting the company overall.

As competition increases and resources shrink, more businesses can reap the benefits and values of a mobile workforce. Enterprise mobility is therefore becoming increasingly important as companies can leverage advancements in technology for more productive business. With more workers on the move than before, mobility and flexible working solutions can transform the way people work.

Nick Hawkins is Director, Technology Consulting Group, Polycorn Asia Pacific Pte. Ltd.



N Muralidaran, CEO, NSE Info Tech Services, in an exclusive interview talks to Harshal Kallyanpur about the company's migration from mainframes to an Intel-based infrastructure, and the overall role of IT at NSE. Excerpts...

“Adopting the new system helped us move ahead of the curve”

What role has technology played in the overall growth at the National Stock Exchange (NSE)?

Since its inception, efficient usage of technology has been the hallmark of NSE. Over the years, the need and use of technology has exponentially grown and NSE continues to innovate and use this technology to provide a state of art trading infrastructure to its members.

Today our exchange's technology is comparable with the top exchanges of the world. In fact, NSE sees the largest number of messages being processed in futures segment in the world and is only the second exchange in world, in terms of the number of messages being processed in equities segment. On any given day, on an average, about half a billion messages are processed in a six and half hour trading window across various segments.

Technology has changed the way equity markets work in India. The markets have matured a lot over the last 8 years and brokers have adopted new technologies. NSE was one of the first to create an electronic market in India. As technology advances, speed of processing transaction also improves. Earlier what used to happen in seconds, now happens in milliseconds and microseconds.

IT architectures continue to get more and more connected and today, we have more than 200,000 dealer terminals connecting every day into NSE's trading system through various means like leased lines, VSAT, internet, mobile, FIX (Financial Information eXchange) among others. Towns with a population over 10,000, today have at least one NSE terminal – something which was unthinkable few years back. Currently, more than 3,000 towns are seamlessly connected.

What were the business requirements that led to the revamping of IT infrastructure?

We wanted greater speed, reliability and throughput and therefore looked at revamping the infrastructure. The NSE network was traditionally based on broadband and large pipes on the X.25



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protocol, offering 64 Kbps of speed. We changed it to IP at a network level to give the brokers the capacity, reliability and low latency that the applications demanded.

We also re-architected the trading system which was set up in 1994 to a newer platform. The infrastructure was previously mainframe systems with a real-time OS by Stratus Technologies. We wanted to move away from legacy to an open platform, while having the necessary levels of reliability and fault tolerance. Therefore, we moved away from mainframes and adopted commodity hardware with Intel Xeon platform with a Linux OS and an internal memory based database.

How has the adoption of the Intel platform benefited NSE?

Overhauling the trading infrastructure in equity derivatives space has provided us an ability to infinitely scale the platform based on business need, increased the capacity to process around seven times more messages in a second and has brought down latency by almost 40 times. The new generation fault tolerant servers are available at significantly lower cost compared to the current mainframes and have helped bring down the total cost of ownership substantially.

For us, moving data in and out of CPU is critical and Intel's architecture offered the desired throughput and helped reduced latency. The integrated I/O with PCI Express 3.0 helped almost triple the movement of data into and out of the processor such that, information can be made available faster than before to support our applications.

The platform is a straight through process, where the order resides in the memory, gets processed and sent back to the memory and data is synchronized. After we have moved to the Intel-based infrastructure, the throughput has increased 10 folds allowing us to process over 160,000 order messages per second. On the other hand, latency has reduced by 40 times going from milliseconds to microseconds.



In recent times, what kind of IT upgradation and innovation have been made at NSE?

The trading platform offers high frequency trading and has resulted into automated trading that is a part of the system. In India, NSE was one of the early exchanges to offer algorithm-based, co-location based trading which was at par with international exchanges. Adopting the new system helped us move ahead of the curve. We can experiment with technologies and applications at the beta stage and then they can be aligned with our platform accordingly.

We have already created a hybrid cloud that provides a cloud-based dealer platform. It offers hardware, software and a highly available operational environment to the members to provide internet based terminals to their clients. The hybrid cloud currently provides infrastructure as a service to 800 members and we already have close to 50,000 terminals seeing a million transactions daily.

We have deployed 600 Intel Xeon servers that provides us five nine availability and the cloud framework is customized to our needs. The software-based service also allows retail investors to trade from mobile.

What are the key priorities at NSE for 2013?

We continue working towards rolling out the next generation trading platform in all other market segments and there by replace all the legacy systems. Also, with the new generation trading platform coming into place, the number of messages being processed in a



With the new generation trading platform coming into place, the number of messages being processed in a trading day has increased. We have already seen a jump of almost 60% in our equity derivatives space.

trading day has increased. We have already seen a jump of almost 60% in our equity derivatives space.

This large data necessitates a better way of capturing, storing, analyzing and visualizing which has led to us relooking at our entire data warehouse infrastructure and revamping the same. We are working on remodeling our traditional data warehouse which is an appliance based data warehouse, such that we can integrate and stream market data into appliance based surveillance.

Another area where we plan to focus our energies is in the mobile space, where we would like to roll out more and more services accessible by investors at large over mobile. If I were to sum up the priorities for the coming year, then it would be legacy modernization, revamping business intelligence systems and mobile technologies. We often closely align our technology rollout with Intel's new processor release; as it gives NSE a leadership edge in adopting the latest technology.

At NSE we are working very actively with top of the line IT service providers on all the three key initiatives, however Intel based devices and servers will continue to be our preferred choice in all the key initiatives. We are working with Intel to accelerate development and delivery of standards based, best-practice solutions for cloud and next-generation data centers as part of their ODCA (Open Data Center Alliance).

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EVENT

HP WORLD TOUR



THE NEW STYLE OF HP

The original Valley startup is once again pulling itself up by the bootstraps and gearing up for a new style of IT defined by cloud, mobility, social and big data

BY SANJAY GUPTA

It is old wisdom that when in Rome, do as the Romans do. Or at least say hello in the local language.

That's exactly what Meg Whitman, HP's charismatic CEO, did in her keynote in Beijing recently. And given the size of the China market (and probably HP's targets for emerging markets like China), she followed her Chinese greeting with a lot of praise for the country: how HP became one of the first JVs in high-tech way back in 1985, the significance of starting the World Tour events right there, etc., etc.

Squarely putting customers at the center of what HP does, Whitman emphasized the relevance of her

company to enterprise and end customers. "You need HP to continue to bring you solutions to succeed in the market," she said.

While that is true to some extent, the bigger reality may be the other way round: HP perhaps needs new customers to sign up as well as old loyalists to stick around more than at any other time in its long, storied history.

HP, the original garage-style startup of Silicon Valley that went on to become one of the world's largest, most respected and diverse IT vendors, has been having checkered success and struggling to maintain its dominance in the world of technology for the past few years.

Among the challenges the company has faced: constant changes at the top (Whitman was the fourth CEO in less than three years when she joined), confusion about how to run the PCs/printers business (still big in numbers but long commoditized), messy/expensive acquisitions such as Compaq's and, more recently, Autonomy's, missing the tablet/mobile boom, and many more.

High time the company came out with an all-round strategy to counter the situation and silence the critics—as well as reassure the customers.

The World Tour event in Beijing was part of a series HP has rolled out, basically, to connect with key customers in different regions and broadcast the message: HP is here to stay. And, of course, to make loud and clear noises about being on a course where everyone is moving—to cloud, to big data, to mobility, to social media, the works.

Like Whitman said, every 10 to 15 years big changes happen in the world of computing. "We are at the next inflection

point of cloud," she noted.

She also referred to the "new way of IT" which is driven, besides cloud, by more data, more speed, more consumerization...or call it more expectations from the vendors.

The new HP

The problems with HP could also be its strengths, if it can play its deck well. One can either look at the huge portfolio in bewilderment or say, "Wow, you've got it all."

With Whitman at the helm and COO Bill Veghte and other lieutenants at her side, HP seems to have realized that it must leverage its past successes, invest in new technologies and make a concerted go at the market opportunities. Trying to keep its old DNA of innovation and people-friendliness intact, the company is projecting a new HP that's more palatable not just to investors and analysts but, more importantly, to the new, more-demanding customer.

Which is why Whitman said in her address: "We helped build the previous world, and we will help build the new one. We have a great track record of success and HP is here to stay."

That, of course, would be easier said than done, especially with nifty cloud and device rivals nipping at its heels and shifty customers changing handsets (and sometimes vendors) at the first touch of discomfort.

No wonder Veghte maintains a punishing global travel schedule to meet up with customers and partners (before his keynote, he pointed to the bags around his eyes as proof – but don't look for them in the stock photo used for this article).

Reinforcing Whitman's spiel on the new way of IT, Veghte said, "HP is not just about hardware and software; it's about 300,000 committed employees around the world." Giving a sweeping view of HP's products, he added, "We are innovating aggressively to make the user experience simpler, faster and secure."

In the enterprise space, HP has of late been talking a lot about its converged infrastructure offerings—for building a common, modern IT architecture that "pools resources across servers, storage



WE HELPED BUILD THE PREVIOUS WORLD, AND WE WILL HELP BUILD THE NEW ONE. WE HAVE A GREAT TRACK RECORD OF SUCCESS AND HP IS HERE TO STAY.

MEG WHITMAN,
CEO, HP



HP IS NOT JUST ABOUT HARDWARE AND SOFTWARE; IT'S ABOUT 300,000 COMMITTED EMPLOYEES AROUND THE WORLD.

BILL VEGHTE,
COO, HP



and networking.” At Beijing, HP announced new additions to its Converged Cloud portfolio, which is touted to deliver improved agility, greater innovation and lower cost of hybrid cloud environments.

The new announcement includes HP Cloud OS, which is based on OpenStack (an open source software for building private and public clouds). While there are other foundations to build clouds, HP and a growing roster of companies are placing their bets on OpenStack.

The pitch about converged products, however, is not entirely new and other vendors are also offering similar, common-architecture products. The differentiation, claims Whitman, is that “no other company can execute like HP can.”

One of the key constituents of HP’s success in the cloud world will be how its 80-plus CloudAgile partners are able to convince their customers to build the various flavors of cloud with HP ingredients.

For its part, HP also has a team of consultants and is organizing what it calls “Transformation Experience Workshops” for enterprises. Through them, the company aims to understand the big pain points or transformational needs of existing as well as prospective customers—and then suggest a solution or a custom package of solutions from its portfolio.

According to Balaji SV, Regional Director (APAC & Japan) of Storage Services under HP’s Technology Consulting division, the conversion rate of such workshops is as high as 70-80%.

A long shot

Another innovation that HP thinks can catapult it to starry heights in cloud computing, especially for the new data centers currently being built all over the



world, is a product called Moonshot. In Veghte’s words, it offers “the fastest time-to-value to build a private cloud.”

Brandishing what looked like a thin circuit board the size of a folded newspaper before the audience at Beijing, he proudly exclaimed, “This is going to be big because it is small.”

HP claims that Moonshot is the world’s first software-defined web server and, compared to traditional servers, consumes 80% less space and 89% less energy—at a cost that is 77% lower. It is also supposed to be incredibly simple.

In a quote posted on HP’s website, Whitman gushes about the product, “HP Moonshot marks the beginning of a new style of IT that will change the infrastructure economics and lay the foundation for the next 20 billion devices [that will be connected to the Internet].”

That’s a long shot among the series of salvos HP has fired. How well are these received and returned by enterprises will be seen pretty soon. The computing ball is on an interesting roll once again.

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SAP partners with Esri to offer real-time spatial data analysis with HANA

SAP HAS ANNOUNCED partnership with Esri, a geographic information system (GIS) and location analytics provider. Under the pact, SAP will deeply integrate GIS solutions with its platforms and enterprise applications to improve business efficiency and decision-making.

Through co-innovation between SAP and Esri, an end-to-end support for spatial data is planned across HANA, the BusinessObjects BI Platform and SAP Mobile Platform. This is aimed at organizations to offer the ability to enrich SAP Business suite applications with geographic content, rapidly process spatial, location and enterprise data using HANA in real time, visualize geographic information in maps, graphs and charts using tools from the BusinessObjects portfolio and deliver applications to field workers that effectively process geospatial and business data using SAP Mobile Platform.

"SAP plans to provide real-time high-

performance processing of spatial data with HANA, a single platform for transactions, analytics and big data," said Steve Lucas, Executive Vice President & General Manager, Analytics, Database and Platform, SAP.

"By integrating with the Esri ArcGIS platform across HANA, SAP BusinessObjects BI platform and SAP Mobile Platform and by enriching SAP Business Suite applications with spatial content, we want to enable customers to combine the added dimension of location information with enterprise data, in real time. This will give businesses a new level of immediacy in their decision-making capabilities and will increase their competitive advantage," added Lucas.

"By working with SAP to integrate ArcGIS across HANA, analytic solutions and SAP Mobile Platform, Esri intends that customers can easily leverage Esri within their SAP landscape," said Chris Cappelli, Director- Sales, Esri.

SafeNet signs pact with Senetas Security

SAFENET INC, HAS announced an extended global distribution agreement with Senetas Security. Under the pact, SafeNet will add Senetas' high-speed network encryption solutions, including the new CN6000 family, to its portfolio of products distributed worldwide. Senetas complements SafeNet's data protection solutions to provide persistent protection of sensitive information at critical points in its lifecycle, wherever and however that information is used.



"This master distribution agreement is a major benefit to Senetas' ability to reach key customers around the world and offer them outstanding on-the-ground support through SafeNet's excellent resources," said Andrew Wilson, CEO, Senetas Security.

Senetas CN is a family of high-performance, purpose-built layer 2 network encryption products that offer performance by a number of criteria, including near-zero impact on data speeds and bandwidth, and encryption of data moving at speeds of up to 10 Gbps with little or no impact on network performance. These FIPS-certified solutions are used to protect data in motion for government and military organizations as well as financial and other commercial enterprises.

Acer announces Intel's Haswell architecture based product portfolio

ACER INDIA HAS joined hands with Intel to launch new product line powered by Intel's 4th generation core processors based on Haswell architecture. The company will be expanding its portfolio with 20% of products designed and built using the Intel's 4th generation processors.

Acer India is looking to establish a stronghold in the market place through its wide range of products under the mobile device banner called the two-in-one Ultrabook devices. With increasing penetration and awareness of touch screen devices, consumers are more acclimatized and receptive to features that are convenient. The new processor is tuned to be responsive to gestures and is powered to give 13 hours of battery life on a single charge. On an average, the processor is engineered to deliver 50% increase in battery life in active workloads over the previous generation.

"There has been a steady rise in consumer demand for devices offering multi-functional usage. With the 4th Generation Intel Core processor, we have aimed to offer superior visual experience and it has resulted in twice the increase in the graphics and media experience. Such form factors and designs will occupy a larger pie in our product portfolio and will witness a 10-fold increase by the end of 2013. In the years to come the focus will rely on offering superior experience and long-battery life," said S. Rajendran, Chief Marketing Officer, Acer India.

The new line of mobile products will shape the company's focus on redefining the computing experience through progressive designs. The Aspire P3 convertible, ICONIA W3 - the first Windows 8.1" inch tablet and Aspire R7 notebook, offer dual functionality and allows consumers to easily switch between work and play. Ideal for professionals and students, the new design solutions from Acer have been introduced keeping in mind the need for



(Left to Right) R. Jeganath, Chief Sales Officer, Acer India, S. Rajendran, Chief Marketing Officer, Acer India and Ramaprasad Srinivasan, Director, MNC Accounts, Intel India unveiling new products in Bangalore

consumers to stay connected on the move.

"The new Intel Core processors provide incredibly responsive, secure and powerful performance for users to create and consume content wherever their mobile lifestyles take them. The new Ultrabooks as well as 2-in-1 devices, powered by the 4th generation Core processors are perfect for the new age Indian constantly on the move. We are happy to collaborate with Acer to introduce their new range of product solutions that boasts of stunning graphic capabilities and performance," said Ramaprasad Srinivasan, Director, MNC Accounts, Intel India.

"With the festive season around the corner, we will be bringing in new additions to our product portfolio. Over the next two quarters, the company is expected to add an additional of 9 products to its existing portfolio. Acer's product line up powered by Intel's latest

4th generation Core processor will contribute a sizeable percent of sales to the overall revenue," said, R. Jeganath, Chief Sales Officer, Acer India.

Intel's leading 22nm micro architecture has been designed specifically for PCs to offer a thinner, lighter and higher performance than the previous generation. This processor is structured for devices such as Ultrabook and convertibles that undergo immense consumer usage. Intel claims that its latest processor guarantees twice the graphics performance for better gaming and multimedia usage.

Acer is soon set to unveil its flagship Ultrabook, Aspire S7 based on Intel's 4th generation core processor. The slim and lightweight, touch ultrabook will be packed with innovative features that include the touch-and-show display for hands-on control and teamwork. Acer's new computing solutions will be available from Rs 38,999 onwards.



LG launches video conferencing endpoints

LG ELECTRONICS HAS launched a new video conferencing system VR5500F & V5500 / V5000 / VR5010H / RVF1000 which are designed to deliver an integrated video conferencing solution for businesses. From a compact design to a full complement of features and technologies, the LG videoconferencing system (VCS) combines Full HD video with a high quality audio system to deliver a vivid conferencing system.

The VR5500F (Full HD) is a multipoint room type system, which can connect up to four different places simultaneously, providing a vivid and realistic experience videoconference similar to those meetings where the participants are in the same space.

In addition, V5500 / V5000 / VR5010H / RVF1000 is another solution corresponding potential for videoconferencing between two points, ideally complementing its new range of LG.

"LG's advanced VCS system needs only half of the bandwidth as compared to other video conference systems. Without compromising on quality of sound and image, this VSC will help build unified, cost effective and efficient teams," said Hemendu Sinha, B2B Head, LG India.

Focusing on customer needs, LG's VCS provides an intuitive interface. Its broad

compatibility with external media devices and software applications enable users to connect different types of displays such as televisions, desktop monitors and projectors. IP technologies work together to optimize video and audio that is clear, sharp and secure also. It is geared for commercial applications and can be applied to a variety of verticals.

The VCS is equipped with significant features like content sharing with dual streaming that allows users to synchronize people and content screen simultaneously with far side. It allows web-based recording where users can record and save videoconferencing data in their PC and, therefore, capture all important visual and audio details.

Users can also save a preset image as a thumbnail to easily identify which camera position is assigned to a specific position. Its all-integrated One Remote Control can access LG VCS and LG TV simultaneously for easy use and for increased synergy effects between LG products. The camera provides clear images even under back light circumstances.

LG's VCS system VR5500F & V5500 / V5000 / VR5010H / RVF1000 are priced between Rs1,90,000 to Rs6,99,000 and will be available in various stores across India.

Manthan Systems introduces analytics for personalized promotions

MANTHAN SYSTEMS, A business intelligence (BI) and analytics provider for retailers, has introduced ARC TargetOne, a personalized promotions solution, extending its ARC Customer Analytics portfolio to real-time and context sensitive campaign execution. This solution enables retailers to drive customer engagement and relevance by ensuring the right conversation is initiated with the right customer at the right time through the right medium.

Backed by ARC, the cloud-ready analytic platform - TargetOne utilizes advanced analytics understanding of customer behavior and communications effectiveness, to increase the ROI of campaign plans. It allows the retail marketer to form associations between customer behavior, communication objectives and context-relevance.

ARC TargetOne enables retail marketers to execute personalized promotions based on multi-channel customer interaction triggers at the point-of-sale and store vicinity, during ecommerce transactions, email click-throughs and social media engagements. In addition, touch governance features in ARC Target One allow retailers to execute 1-to-1 marketing without the risk of inundating or spamming customers.

Manthan's ARC Customer Analytics portfolio, including ARC TargetOne, provides complete lifecycle marketing and campaign optimization functionality for retailers, from data collection and advanced analytics through personalized promotions, execution and delivery.

Compuware unveils new generation APM solutions

COMPUWARE CORPORATION, THE technology performance company has announced their new generation of APM solutions that will focus on end user experience across four sectors. The new generation APM are designed to provide companies with valuable competitive and market-leader insight into website performance.

The new solutions include: Compuware APM User Experience that can provide IT teams and application owners, a complete view of application performance and its business impact for all users, geographies, browsers and devices. Additionally, the Compuware APM User Experience Management (UEM) solution combines real user, synthetic and third party cloud services monitoring in a single powerful platform for managing performance, availability and SLAs across web, mobile, cloud and enterprise applications.

Its APM Application Monitoring combines deep transaction management and smart analytics with an end-user perspective to help user deliver faster applications, rapidly find and fix problems and accelerate time to market.

The Compuware APM Application - Aware Network Monitoring enables



network and infrastructure operators to immediately isolate faults that impact application performance and end-user experience across web, middleware, database and network tiers. Passively collecting network traffic, it is claimed to be the only solution that delivers application-layer insight across enterprise environments, including SAP, Oracle, Citrix, Cerner and more.

“End user experience helps companies to better understand the connection between website

performance, business results and improved process discipline, it has become a valuable tool in today's competitive online marketplace among leading international companies,” said Neeraj Dote, Managing Director, Compuware India.

“With the new generation of APM, companies can improve web and application performance and better manage their customers’ online expectations and experiences,” concluded Dote.

NetApp expands to tier-II cities across India

NETAPP HAS ANNOUNCED its plans to strengthen its base and accelerate growth in the Ahmedabad market. The decision is a strategic move to capture market share in the growing Tier 2 cities across India. With over 422 medium and large scale industries worth \$133.2 billion, Ahmedabad is emerging as one of the most promising IT technology and R&D hubs in India.

The company is focused on extending its leadership in the information

infrastructure market in India with a strong go-to-market plan underlined by robust relationships with key service provider partners, value-added reseller (VAR) partners and enabling them to work together to more effectively address the customer base in Ahmedabad.

Over the past few months, NetApp has launched and undertaken multiple channel enablement programs that underline its partner commitment. The NetApp Accredited Sales Professional

(NASP) and Sales Engineering (SE) technology programs, apart from the various NetApp conducted programs around FlexPod, HPC and Big Data enable partners to build skills internally and provide professional consulting services to their clients.

NetApp is empowering partners with the service consulting capabilities in the areas of solution implementation, VDI building, and implementing business critical applications.

ZTE launches new smartphones and data card portfolio

ZTE CORPORATION HAS launched six new smartphones and four new data card devices in the Indian market. According to Xu Dejun, CEO, ZTE India, ZTE is the leading global OEM supplier and has emerged as the trusted partner of choice for the Indian operators.

"Today ZTE enjoys a customer base of over 32 million Indian handset users and this widespread acceptance is a testimony to our differentiated and rich product portfolio, which is backed by a strong service and support network. India is a key growth market for us and with the foray in the open smartphone market we are sure to offer an enhanced mobility experience to our Indian customers, further strengthening the brand ZTE," said Dejun.

With the initial launch of six devices priced between Rs 5,000 and Rs 15,000, the company aims to build further on its handset portfolio in the months to come. By the year end, the company is looking to take its smartphones and data cards across India.

"We are optimistic on our marketing and channel spends and are looking at strengthening the brand from all fronts. Our distribution and sales structure is

backed by a strong network of 214 service centers across the country. We are replicating the same pedigree of our global innovation leadership in the Indian market and aim to emerge as the third largest smartphone vendor in the country within three years. We see the strong existing customer base as a key growth propeller helping us build synergy and ink a success story in the Indian open smartphone market," stressed Dejun.

Earlier, the company had signed a strategic pact with Pune based Calyx Telecommunications for a sustained pan India presence with the new smartphone portfolio and with Digilife for data cards.

"We are an established player in the real estate, media & entertainment, solar power & hospitality sector. As we diversify our portfolio to distribution channel, we



are delighted to partner and support ZTE with their PAN India expansion. We are cross pollinating ZTE's product excellence with our strong distribution reach," said Dr. Gaurav Somani, Executive Director, Calyx Telecommunications.

"Realizing that the service and after sales support is a key to sustaining and strengthening the brand and as a key differentiator, we have introduced 'At your doorstep' service model in select cities. With this unique model we will offer ZTE

customers the flexibility of getting the handset service issues resolved at the convenience of their homes. We are sure that this cooperation will result in perfect synergy between two companies who share the same vision, mission and goal of empowering the Indian handset market," added Dr. Somani.

OneOcean opens ClipCard Technology center in India

US BASED ONEOCEAN CORPORATION, a big data and cloud technology company has launched its ClipCard Technology (R&D) center in India. This is the company's first center in India and located at the campus of the International Institute for Information Technology (IIIT) in Hyderabad.

A team of enterprise cloud engineers at the ClipCard Technology (R&D) center will focus on developing cutting-edge technology innovation for the company's ClipCard platform. The center will be a strategic hub for enterprise innovation,

adapting ClipCard to help large organizations summarize and manage their data assets across a range of private and hybrid cloud environments.

"Enterprise users of big data are realizing that managing and analyzing data is vital to enhancing organizational efficiency. However, too much data that is collected today is 'dark data,' going unanalyzed because of a lack of tools for easily summarizing and communicating about it. With ClipCard, we are bridging this industry need-gap by making big data assets easy to summarize, search

and exchange," said Prasad Saripalli, Ph. D, CTO and Executive Vice President, OneOcean Corporation.

ClipCard fills the need-gap in the industry by using visualization and enterprise metadata management to create a gateway for intelligent analytics and provide agile enterprise content management on the cloud. Along with India, the company also has plans to tap markets across Asia in near future. The company currently serves partners and users in the United States, Canada and the European Union.



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