



GIG WORKFORCE
WILL BE MORE
PREVALENT p. 18



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AND RAISING
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VOL XXXVIII No 07 | JULY, 2020

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THE BUSINESS OF INFOTECH

DQ 37 YEARS

STATE OF CONNECTED ENTERPRISES


On being inter-connected in a WFH environment



76 pages including cover

Special Subscription offer on page 64



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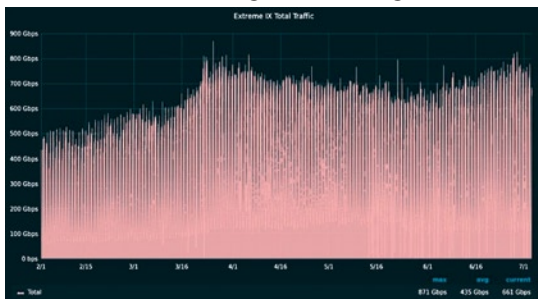
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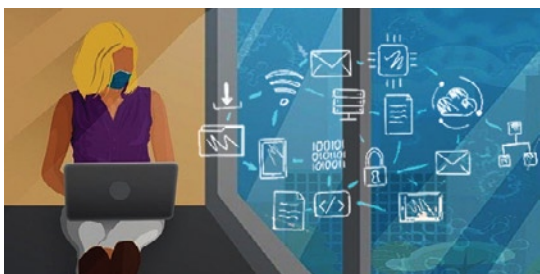


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Everything Wireless and Changeable!

Greetings friends,

We have now finished the first half of the year. Let us revisit the journey over the past four months. It all started with March 22 and then, March 25, when the nation went into complete lockdown. Since then, various industries have been hit. However, some of them have started to get back on the line.

With automation and intelligent networks, what can the future of hyper-flexible factories look like? What happens when you cut the cables and set production facilities free? That invariably brings us to industrial IoT.

Please note that there is no factory that has not been impacted. However, in the heart of Covid-19, new factories have opened up, at least in the USA. A new Datacentre has recently been opened up at Powai, located at some distance from Mumbai. We also need to move on from physical to digital. That's a clear shift we are seeing.

Distancing to the machines will become the first priority. When data is collected from the assets, remote monitoring should be deployed that increases the distance from the machines. It allows the machines to move around a lot. Industry 4.0 allows the ability to roll around equipment, along with cellular.

The merger between IT and OT is perfect timing. Cellular brings mobility, e.g., collaborative robots. Connecting screwdrivers by adding a sensor will provide you the intelligence seamlessly. When IT and OT come together with 5G, there will be further exciting times. The IT is the software layer. The OT could be a machine or a tool. So, you can differentiate between the physical and digital.

The industries are invariably getting connected. There are lots of cables around the shop floor. We can set those up with the help of the programmable logic controller (PLC). It is a natural step, to make everything wireless and changeable.

Pradeep Chakraborty

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Dataquest (not affiliated with Dataquest Inc., a division of Gartner Group, USA), is printed and published by Pradeep Gupta, on behalf of Cyber Media (India) Ltd, printed at M/s Karan Printers, F 29/2, Phase II, Okhla Industrial Area, New Delhi, published at D-74, Panchsheel Enclave New Delhi 110017, India. Editor Ibrahim Ahmad. Distributors in India by IBH Books & Magazines Dist. Pvt. Ltd, Mumbai.

Subscription (Inland): ₹1200 (12 issues), ₹2400 (24 issues)

Subscription (Foreign): US \$145 (SAARC Countries), US \$75 (Rest of the world) By Airmail.

(For subscription queries contact : rsedqindia@cybermedia.co.in)

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STATE OF CONNECTED ENTERPRISES

On being inter-connected in a WFH environment


Today, the various industries across the world are discussing the future of being connected. As things now stand, digitisation and automation are considered prime. So are the Industry 4.0 practices and how aligned are they to the needs of the industry of the future.

Next, WFH has emerged as the new edge. That needs to be serviced as well. Edge computing will also integrate with artificial intelligence in the future. The ability to aggregate, process and leverage data will also

be the backbone of successful digital transformation and intelligent enterprises.

Are Enterprises Connected?

Talking about how much the enterprises are connected today and what are the areas that still remain unplugged, Sameer Mahapatra, Country Manager & VP, Sales, India & SAARC, Aeris Communications said, "We are in the connectivity business. While we create a connected world for our customers and the enterprises, we ourselves are



quite a connected enterprise. With offices in multiple states in India and operations in 190 countries across the continents, we have organised ourselves to operate remotely and all this has been enabled by seamless connectivity planning and future proven IoT technology.”

Pertish Mankotia, CIO, Sheelafoam, said they are majorly connected. However, there are far greater opportunities to connect with customers. Swanand Prabhutendolkar, Senior VP, Data Management, CitiusTech, added, “Given our focus on the global healthcare market, we have been an early and active adopter of technologies that enable digital connectivity. We also do significant work around IoT, medical device integration, Big Data, analytics and cloud computing for our customers, addressing areas such as patient engagement, telehealth and care co-ordination.

“Within CitiusTech, we have been active users of digital tools such as Microsoft Teams, Yammer, WebEx etc. to create a highly connected ecosystem with our customers and employees. The COVID pandemic has in fact accelerated our adoption of tools that help our teams’ function effectively in a WFH situation.”

Major Gen. Amarjit Singh, CIO, Persistent Systems, said, “Enterprise connectedness can be viewed from the external and internal perspectives. The internal

connectedness challenge is multi-level, spanning networks, compute, platforms, systems of record, systems of engagement and systems of intelligence. More than technology, the internal dimension of greater concern or potential value is the organisational structures (people) and business processes. In most cases, technology is able to increase connectedness, provided people and process transformation is possible. For business agility, organisations have to scale up and increasingly, be able to scale down without disruption.

The external perspective can be obtained in the same two dimensions – technology and people. The people dimension is quite different from the internal one, with both upstream (supply chain, regulatory) issues as well as downstream (customers, business verticals, geographies) opportunities.

According to him, Persistent is a global company with a consistently increasing geography and offerings footprint. He said, “We have to build a robust digital operations layer that can be customised to business verticals and geographies, using a plug-and-play approach, using local plug-ins for the compliance (eg., taxation, payroll, HR) and external integrations. This approach allows us to deal with growth and change in



“WITH OFFICES IN MULTIPLE STATES IN INDIA AND OPERATIONS IN 190 COUNTRIES ACROSS THE CONTINENTS, WE HAVE ORGANISED OURSELVES TO OPERATE REMOTELY AND ALL THIS HAS BEEN ENABLED BY SEAMLESS CONNECTIVITY PLANNING AND FUTURE PROVEN IOT TECHNOLOGY.”

— Sameer Mahapatra, Country Manager & VP, Sales, India & SAARC, Aeris Communications

an agile manner. Our success here has been the ability to absorb all technological platforms and plug-ins, as they become available, with the variation coming from the local environment in the countries that we operate in.

“We are deeply connected with our customers through our external ready collaboration platforms, customer hub and Customer360 application. We are well connected with business partners through platform communities. We are also connected with our compatriots in the industry using multiple online communities. Apart from the geographical gaps, the ones we see are in the supply chain, where physical assets are not yet fully abstracted for complete digital visibility.”

Balakrishnan Anantharaman, VP & MD, Sales, India & SAARC, Nutanix, added, “A new type of company will emerge from this pandemic. Surviving businesses will be leaner, more efficient and more adaptable. The Cloud and software-defined infrastructure they use will be crucial in helping them maintain this, as we settle into a modern new world. This environment makes the Nutanix subscription transformation and zero-touch products even more impactful as we help our customers navigate and succeed across this period.”

Dr. Suresh A. Shan, Head, MMFSS BITS, added that Covid-19 and post Covid-19, has struck deep into many issues like global economy and in India. In near future, there will be obstacles like weekly financial quarters, business losses and low profit margins. These Covid-19 losses impact the internal people. Not much has been spoken about the impact that reasons with us to build financially. This constitutes a large part of the economy and the overall consumption across the multiple products categories in the country.

A unique digital NBFC-deployed technology is part of BFSI for enterprise competitiveness and productivity. For rural India, why such an enterprise creates simple, mobile multi-lingual technology for NBFCs is important to the future of productivity. More corporate concentration is on being flexible and data driven. Process policy procedures will foster the best disruption, innovate and enabled the masses for digital to localise entire last mile social customisation.

We also need strong rural base customer-aligned, tailor-made schemes. These smart, customised pure and transformed digital tech financial products and fee-based financial advisory will come into play. It will allow more mobility-based NBFCs technology solutions to understand how such tailor-made products perform in multiple customer requirements and across geography environments. Digital and rural tech for NBFCs enables and empowers the competitiveness and higher productivity. This improves and enhances quality, price, shorter time to market, and new, unique types of last-mile rural remote business models.

Productive, via Automation

Next, how are the companies trying to be more productive, via automation? Pertish Mankotia, Sheelafoam said, “Each automation should justify the RoI. All areas cannot be automated. We look for simplifiers and process automation and believe that the hybrid model can yield better RoI. Automation initiatives should be cost-effective and improve productivity.”

Sameer Mahapatra, Aeris, said that digitisation and automation are no more luxuries. They are business necessities. For us, sales force efficiency by having on the fly customer/partner information is paramount to effective



“IN MOST CASES, TECHNOLOGY IS ABLE TO INCREASE CONNECTEDNESS, PROVIDED PEOPLE AND PROCESS TRANSFORMATION IS POSSIBLE. FOR BUSINESS AGILITY, ORGANISATIONS HAVE TO SCALE UP AND INCREASINGLY, BE ABLE TO SCALE DOWN WITHOUT DISRUPTION.”

— Major Gen. Amarjit Singh, CIO, Persistent Systems

communications with all our stakeholders. Virtual connect with customers, remote deployment capabilities using online tools and self-service tools for the customers have been immensely helpful in making us a very efficient and a connected enterprise.

Major Gen. Amarjit Singh, CIO, Persistent said, “This is one of the most important areas for us in our mission to become lean and responsive to the business cycles. We are equipping ourselves with the intelligent agents and workflow automation capabilities of our SaaS platforms. Since this cannot meet all our requirements, we also have an enterprise bot framework that connects all other agents and is available to increase the connectedness of our legacy applications.”

Increased connectivity calls for robust role-based access control that works within and outside the enterprise. Over the last couple of years, Persistent has been able to automate much of the business stack and been able to re-purpose teams for business intelligence. The difficult part of automation, and which has significant monetary implications, is in the area of computing infrastructure – IT Ops. It is taking the lead by adding a layer of ML, transforming IT Ops into AI Ops. Persistent is already seeing benefits from this ongoing journey.

Dr. Suresh Shan, MMFSS BITS, said that swift action needs to be taken to empower the branch personnel, and continue serving customers safely. The brick-and-mortar locations requires physical human interactions during their pandemic, by educating everyone to take proper sanitization, social distancing, and protective measures and guidance given by the WHO. Still, the older clients in rural areas find digital services more challenging. There is need to provide physical and

virtualonline and offline multi-lingual tutorials through social media platforms for those uncomfortable with digital financial services.

Insights into Data

We also looked at how is data being taken up and being turned into insights. Pertish Mankotia, Sheelafoam said, “Data gives us the facts, trends and help us to drive the initiatives. Data insights bring the ability to compare scenarios and helps in taking the right decision. On the sales and marketing front, we draw insights from data with two perspectives in mind – how can the good initiative be replicated at different locations/markets to generate greater revenues? And, which initiative did not work out well and how can it be corrected?”

Major Gen. Amarjit Singh, Persistent added, “Our approach to BI is incremental. Function-specific improvements, all driven by a longer-term technology architecture and strategy are done. The transformative component is the ability to “pull” data from the entire range of business applications into an enterprise business data lake and “push” insights to consumers by their role and location. Our business data lake is a hybrid one with a SaaS self-service consumption and governance layer. This architecture gives us the ability to distribute innovative business insight generation to a wider cohort of analysts and management and not be restrained by the bandwidth of central teams.”

On a parallel track, Persistent maintains granular observation over global hybrid platforms using the hybrid operations data lake. This provides continuous alerting to the operations teams who are then assisted by automation to respond quickly. The contextual data from platforms is used to provide behavioural



“A NEW TYPE OF COMPANY WILL EMERGE FROM THIS PANDEMIC. SURVIVING BUSINESSES WILL BE LEANER, MORE EFFICIENT AND MORE ADAPTABLE. THE CLOUD AND SOFTWARE-DEFINED INFRASTRUCTURE THEY USE WILL BE CRUCIAL IN HELPING THEM MAINTAIN THIS, AS WE SETTLE INTO A MODERN NEW WORLD.”

— Balakrishnan Anantharaman, VP & MD, Sales, India & SAARC, Nutanix

enrichment to business insights. The Covid-19 situation has given further impetus to improve the engagement intelligence.

Dr. Suresh Shan, MMFSS BITS said that digitalisation of entire rural remote logistics, with equipped value tech chain will lead us to cross selling, and make available and update the information for multiple group companies. Digital transformation will focus to empower every individual. There is need to build highly-distributed skilled automated mobile-based workforce across the country. Agile business and rural remote tailor-made policy, process, procedures are also required. There is need to build simple systems. There is need to build across greater local brand value. There must be automation to suit rural customer needs. There is also need to build on the available and affordable seamless connectivity, (online, offline and hybrid), localised easy and simple, sophisticated multi-lingual data analytics.

As per Sameer Mahapatra, Aeris, the heart of IoT implementation is the rich data generated from the various connected assets that we onboard on our platform. The nature of business allows us to create insights on consumer behaviour, asset efficiency, predictive behaviour on downtime and discoverable profile for various customer sets and more such features.

He added, “The analytics generated through our technology produces deep insights which are of immense commercial value to our customers from different verticals and segments to run their businesses in a meaningful way. CXOs from industries across fleet, logistics, ride sharing, banking and insurance, manufacturing, utilities and agriculture, are beneficiaries of these data insights to further enhance their business goals.”

Flexible Manufacturing and Services

There are new avenues emerging, while looking at flexible manufacturing/services. Mahapatra, Aeris, said that IoT is a big enabler for flexible manufacturing. Things like machines and production schedules, procurement planning and process modifications can now be automated to dynamically adjust using industrial IoT. Industrial IoT is slowly, but increasingly, being adopted across industries and sectors. We see a surge in implementation, especially, post pandemic, as many industries have reaped the benefits of automation and remote operations during the nationwide lockdown.

Pertish Mankotia, Sheelafoam noted, “We have created flexibility in manufacturing. We do not have a production line concept. Our order to the delivery turnaround is less than 24 hours with multiple products. The systems are already turned like that. Flexibility starts right from product development to plant layout, to process automation. The focus is now on the customer side, i.e., how-to delivery fast what the customer wants on his or her doorstep.”

Major Gen. Amarjit Singh, noted that much like the internal systems, where we use a range of subscription-based services, the service offerings are becoming modular and dynamic. A large part of this is driven by the maturity in SaaS platforms, supplemented by BPM and automation offerings.

“We are seeing good uptake for our infrastructure as code offerings on the IBM and Redhat stacks, with emphasis on containerization and microservices, which are the highest levels in service connectedness by design. All these offerings are now delivered in a composable manner using our “Digital Greenhouse” offerings framework,” he added.



“A UNIQUE DIGITAL NBFC-DEPLOYED TECHNOLOGY IS PART OF BFSI FOR ENTERPRISE COMPETITIVENESS AND PRODUCTIVITY. FOR RURAL INDIA, WHY SUCH AN ENTERPRISE CREATES SIMPLE, MOBILE MULTI-LINGUAL TECHNOLOGY FOR NBFCs IS IMPORTANT TO THE FUTURE OF PRODUCTIVITY.”

— Dr. Suresh A. Shan, Head, MMFSS BITS

Industry 4.0 Practices

We also looked at how the CIOs and the enterprises have adopted Industry 4.0 practices. Sameer Mahapatra, Aeris said, “We are ready for Industry 4.0 practices. Our service offerings are aligned to the needs of the industry of the future. Aeris sees itself as a catalyst for 4.0. Our Industrial IoT solution portfolio will be an enabler. We also bring the technology for transforming existing assets into smart assets for the brownfield players, thus, helping them save their initial investments.”

Sheelafoam’s Pertish Mankotia added, “We already have a structured roadmap to adapt to Industry 4.0 practices. We have initiated the automation of processes and few IoT-AI-based solutions on the shop floor. Detecting defects through image analytics and AI is one of those initiatives.”

According to Major Gen. Amarjit Singh, Persistent, “Our work in this area falls in our Industries vertical,

largely in Europe, but expanding rapidly in North America and APAC. Our focus remains edge computing, and enabling the customers in this segment to move their business workload progressively to the public cloud. Our offerings in the Product Lifecycle Management (PLM) domain are enabling customers to remain connected to their supply chain and obtain early feedback from their own customers.”

Fastest Growing Verticals

On the same token, let us also examine what the fastest-growing industry verticals are today. Pertish Mankotia at Sheelafoam, said that enterprises across India are aggressively adopting IoT solutions in retail, healthcare and for transforming their business processes. Data sciences, data exchange, automation and smart manufacturing technologies, are being extensively being





“EACH AUTOMATION SHOULD JUSTIFY THE ROI. ALL AREAS CANNOT BE AUTOMATED. WE LOOK FOR SIMPLIFIERS AND PROCESS AUTOMATION AND BELIEVE THAT THE HYBRID MODEL CAN YIELD BETTER ROI. AUTOMATION INITIATIVES SHOULD BE COST-EFFECTIVE AND IMPROVE PRODUCTIVITY.”

— Pertish Mankotia, CIO, Sheelafoam

brought in use as digital solutions are disrupting the industrial sector.

Sheelafoam's main focus is on two verticals – retail i.e., connecting with the end customers and enhancing their customer experience; and shop floor automating by adopting the Industry 4.0 practices and creating hybrid models for generating better Rols.

According to Sameer Mahapatra, Aeris, fleet, ride sharing and leasing are the fastest growing verticals in India. With delivery and last mile becoming so common, the need for connected mobility is urgent. Aeris' footprint is national, and we have seen an equal penetration across states. Two-wheeler segment in the post Covid-19 era will become one of the fastest growing segments. We see ourselves participating in this increased demand by enabling the conversion of unconnected vehicles to connected and smart vehicles.

For Major Gen. Amarjit Singh, Persistent, the fastest growing connected enterprises come from the BFSI vertical, in India and abroad. Persistent is also seeing progress in IT modernisation, cloud and security offerings in the industries. From a technology perspective, there is good uptake of ML and automation from the BFSI vertical.

Swanandprabhu Tendolkar, CitiusTech said, “As a provider of healthcare technology to companies outside India, we have limited visibility into Indian enterprises. However, we believe that there is significant scope for digital technology to transform patient engagement and quality of care across the healthcare ecosystem in India.”

Future Intelligent Enterprise

How will the future intelligent enterprise be built on

interconnected systems? Sameer Mahapatra, Aeris said the future for the modern enterprise will be fashioned by remotely connected employees, automated systems, intelligent data inputs being generated by AI engines and machine learning.

Pertish Mankotia, Sheelafoam said that we need to create systems that are boundaryless, and adaptable by the humans to thrive in a world of constant change. New technology, mixed with rising customer expectations, will force every industry to make a choice: transform, or be disrupted.

Balakrishnan Anantharaman, Nutanix added that last year, they had identified the rise of the more flexible digital enterprise – capable of acting, reacting and anticipating any operating or market condition. This year, the trend will catapult into the mainstream with the rise of the intelligent enterprise and nation - particularly as more businesses come to understand the importance of employing the latest technologies in an enterprise-wide fashion.

This will be characterised by four trends:

- **Race to the edge** – Computing at the edge will reduce cost, physical footprint and power consumption centrally – and response time, or latency, at the device. This surge in edge computing will coincide with the dramatic rise in quantity of data and Internet of Things (IoT) – much of it as a result of the increased speed and bandwidth of 5G. Covid-19 has also accelerated this, with WFH representing the new edge.
- **Increase in edge computing will fuel AI** – The quantity of data, generated at the network edge, puts great demands on data processing and structural



“THE ABILITY TO AGGREGATE, PROCESS AND LEVERAGE DATA WILL BE THE BACKBONE OF SUCCESSFUL DIGITAL TRANSFORMATION AND INTELLIGENT ENTERPRISES. THE CHALLENGE IS NOT SO MUCH THE AVAILABILITY OF DATA, BUT THE VAST SPECTRUM OF FORMATS, STANDARDS AND CONTEXTS IN WHICH DATA RESIDES.”

— Swamandprabhu Tendolkar, Senior VP, CitiusTech

optimization. Therefore, there is a strong requirement to integrate edge computing and AI.

- **All of this will further influence a hybrid world** – While the cloud has provided AI with the platform it needed to grow to the level of being available on nearly every technological device, the combination of HCI and edge computing will give AI the tools to truly evolve.
- **Application modernisation** - As organisations embrace the new digital normal, they will modernise their applications to work anywhere and in any location. Existing applications will be containerised and new applications will be built around elasticity, microservices and for a cloud native world.

Major Gen. Amarjit Singh, CIO, Persistent said that we are seeing the progression from core systems becoming highly connected across internal silos using platforms in the passing generation, to containerisation and microservices architectures enabling ecosystem connectedness going forward. This not only leads to better monetisation opportunities, but provides agility as well. The cherry on the cake will certainly come from AI and ML providing context and prediction, leaving humans time to work on relationships and complex scenario-based thinking. In that sense, the future will remove much of the drudgery of data processing and provide cues for thinking and strategising.

Swamandprabhu Tendolkar, CitiusTech said that data management will be the most fundamental step and possibly the most complex too. The ability to aggregate, process and leverage data will be the backbone of successful digital transformation and intelligent enterprises. The challenge is not so much the availability of data, but the vast spectrum of formats, standards

and contexts in which data resides. There are too many legacy applications, data sources and processes floating around within organisations, which make data management a complex and resource intensive task even today.

Bringing massive volumes of data together and driving intelligence from it, will be the primary challenge for organisations as they work towards building interconnected systems. Next-gen technologies like IoT, Big Data, cloud, edge computing, ML etc., will be instrumental in driving this transformation.

Dr. Suresh Shan, MMFSS, noted that we have to implement multiple measures to engage staff adjusted movements and small interventions can guide and help to keep all engaged and raise the morale. We have to communicate to all both internal and external customers that we are keen of and taking care of them seriously and looking at multiple ways to support and engage them on a case-to-case basis.

In India, the rural NBFC business strategy exists on mostly manual ways. Very few got transformed digitally. Such a culture determines how things really get done through converted and transformed tailor-made options. The major thing to be taken care of is the deep last-mile knowledge about the people and process. There should be clear vision of how digital financial verticals will transform business.

The government has reduced the burden of EMIs as it will give breathing space to many people. The road ahead is not easy and simple. We are always optimistic and hopeful that the past will be able to comment and command us. We need to connect with all to come out of this coronavirus crisis.



—**BHAVIN TURAKHIA**
Founder & CEO, Flock

Flock is a proprietary messaging and collaboration tool, founded by tech entrepreneur, Bhavin Turakhia in 2014. The app is available on Windows, MacOS, Android, iOS and Web. Here, Bhavin Turakhia, Founder & CEO, Flock, tells us more about how businesses will be, post Covid-19

Elaborate on the video conferencing platforms and their flexibility as per different sectors

Undoubtedly, all business establishments, irrespective of their employee strength or the industry sector they operate in, have been affected by this Covid-19 pandemic. In this scenario, video conferencing has quickly emerged as the core of many collaboration and communication strategies for leading brands, worldwide. We believe that this is not a temporary peak, and this trend will continue in a post-Covid-19 world as well.

This age of remote working has shown us how valuable this medium can be, not just for working from any part of the globe, but also for boosting productivity and efficiency at the same time. By 2027, the video collaboration market is set to hit a value of around \$11.56 billion, with demand for this technology growing at a rapid pace.



SECURE WORKPLACE COLLABORATION PLATFORM

However, many organisations are not well equipped to work from home. Sectors, such as insurance and healthcare, may find it difficult to work remotely due to the nature of the business. However, in the last couple of months, we have seen even these sectors pull out all the stops to adapt to this fairly new work model by employing workplace collaborative platforms. Additionally, the government is trying to develop a secure video conferencing platform for use by the government and courts, which will enable various departments to work seamlessly.

What are the enterprise security risks of using generic messaging platforms?

For all the collaborative and productivity benefits that come with teams messaging platforms, they also open up to a host of security risks if they don't have the right protocols in place. High-risk sectors, where customer privacy is paramount, like financial services, government and law, must be especially cautious. In the recent past, a WhatsApp data breach that targeted millions of people brought to light another vulnerability of these generic platforms.

As communication platforms are used for personal and professional communications, it makes them a prime target for hackers looking to steal private information. Given the drawbacks that can occur, if sensitive information is compromised through a breach of employee communication, businesses should look for enterprise-grade communication and collaboration platforms with inbuilt security features to minimize cyberattack risks. While there's no guarantee in terms of prevention of such breaches as hackers are getting more sophisticated by the day, there are features that lend to a safer and more secure platform.

A key standard practice is to ensure there is encryption, businesses should always consider using encrypted rather than decrypted messages no matter how sensitive the content, due to the higher risks associated with the latter. TLS 1.2 is the industry standard for encrypting communication over the internet and providers of this level of service will typically advertise their compliance with this along with wider security certifications like SOC 2. Look out for information on their data center security, opting for trusted hosting providers like Amazon and Microsoft where possible.

How can you help to keep your organisational data secure in this WFH environment?

With a large proportion of the workforce working remotely

due to the Covid-19 challenge, organizations need to put the necessary measures in place to ensure the security of confidential organisational data. The first and foremost step is to use a secure workplace collaboration platform that enables seamless communication across teams. The next step is to build awareness among employees about the risk and repercussions of a security breach. For this, the top leadership has to educate themselves first about security practices.

It is often a misconception that large enterprises are more at risk when it comes to a data breach. However, small and medium enterprises should also take steps towards educating every individual in the organisation. Additionally, it is extremely vital to empower the IT team to make decisions around security by helping them undertake training and courses that are relevant to their profile.

From an individual standpoint, one can follow the following tips:

- **Prevent any unauthorised system access** – Cybercriminals and hackers are everywhere, looking for an opportunity to hack into your system and gather important confidential data. And if you think they are going to let you off the hook during these difficult times, you are mistaken. The fear of unauthorised access is way higher during these times as hackers know a large portion of the population is working from home. Every small and medium business needs to have a strong access control policy defined for its employees.
- **Ensure two-factor authentication/multi-factor authentication** – An increasing number of companies are requiring two-factor authentication when employees log in to their devices/accounts. Two-factor authentication adds a layer of redundancy to ensure that only the actual account owner can access their account.
- **Beware of phishing emails and messages** – If you ever receive an email around huge discounts, lotteries, etc. think twice before clicking on the link. There are an increasing number of cases where employees receive such emails, which once clicked on provide an inroad to hackers with malicious intent.
- **Secure your home networks** – Even if you have a separate work laptop provided by your office, while working from home, you are probably using your home Wi-Fi. And, your organization's IT team has no control over it, whatsoever. Changing your password to something far more complex than just names or birthdays of family members is the most basic step in securing the home network.



—NITIN KULKARNI
COO, Harbinger Group

The Harbinger Group envisions a world in which its products enable transformation through enterprise software, digital learning or product innovations. Nitin Kulkarni, COO, Harbinger Group, tells us more regarding the future of work

How are you dealing with the Covid-19 situation? What plans have you put in place?

Nitin Kulkarni: We are dealing with it very well. On the employee front, we have multiple online engagement and communication mechanisms to keep the teams engaged and motivated. We have a daily employee interaction called 'VItaMIN' where all employees come on to a video call and engage via chat as well as presenting some of their skills like singing, cooking, etc. There are daily mailers and counselor support that help employees cope with the lockdown in terms of their mental and physical well-being.

On the work front, we use the latest technologies to ensure that people can effectively work

“

GIG WORKFORCE
WILL BE MORE
PREVALENT

from home and collaborate on all their projects. So far, all our customer deliverables have been on schedule and our customers are extremely delighted that we have continued to support them effectively in these times. In terms of plans, we are continuously working on strategic planning for new offerings in the post-COVID-19 world as well as operational plans to enable a smooth resumption of services after the lockdown.

Are you giving employees more control over their schedules?

We have always had a work environment that was focused on empowerment rather than control. We measure employees on deliverables rather than trying to micro-manage their schedules. This has helped us well in the current work from home situation.

How are you assessing on learnings from enforced experiments around WFH?

It is very important to have an efficient helpdesk that can quickly help employees with infrastructure related issues like VPNs, connectivity, software downloads etc. IT is also extremely important to have various online employee engagement mechanisms to ensure that the employees are connected and motivated. These include online interventions related to training, HR events, skip-level meetings, townhalls, etc.

We have successfully implemented the same and are planning to continue all these initiatives even post the lockdown. Having a large percentage of our employees working from home on a continuous basis will be an integral part of our operational model.

This is a challenging time for managers. What advice would you give them?

Managers need to become better at empowering and trusting their teams. They need to increase and improve their interactions with the teams, and always be available in case any help is needed. Managers also need to dramatically increase connects with their customers and improve the level of transparency and reporting to their customers.

How does work/life balance work in a crisis like this?

It can get difficult sometimes but we have seen that over a period of time, most people learn to plan their work and

home activities well. It is important to stick to “office” timings and take “timeouts” during the day to do some non-work activities. On the other hand, given that travel times are zero, people find more time for pursuing other interests/hobbies.

What are the policy responses you would give to the MSMEs and SMEs?

The government must create a substantial stimulus package for the MSMEs. In addition to this, lowering or waiver of taxes for atleast a few quarters would also be desirable.

How are you now facilitating digital work?

We are using some of the latest technologies to facilitate digital work. Technologies like Zoom and Teams are being used actively for collaboration. Our enterprise processes are already automated via cloud-based systems so our operational processes were already digitised.

How are the latest technologies going to redefine the workplace?

Work from home will increase and will become a part of every company's operational model. People will prefer to meet online rather than face to face. Gig workforce will be more prevalent because there will be technology platforms that will support this model. Implementation of social distancing norms at the workplace will become stringent. All training and development will move online, and concepts like nudge learning will be used extensively.

How do you plan for a future of ‘decent digiwork’?

In most cases, the existing processes have been digitised. The future will be about reimagining these processes to take advantage of the technology. For example, almost every organization has some system to help them do performance management.

However, in the future, technology can help take performance management to the next level by enabling the employee on a real-time basis to track her performance, suggest improvement areas and strategies based on personalized data, etc. We plan to re-imagine quite a few of our internal processes, and bring in data science and personalization to make every process extremely employee-centric.



—**JULIAN PROWER**
MD, Dun and Bradstreet India

In a networked world, the stronger your relationships are – and the more strategic your associations – the more value you’ll be able to deliver to buyers. Data and analytics from Dun & Bradstreet (DNB) bring distinct clarity to customers’ relationship-related decisions; whether these relationships involve buyers, prospects, suppliers or partners (potential or actual). Julian Prower, MD, Dun and Bradstreet India, tells us more



CLOUD AND AI NEEDED DURING LOCKDOWN

How did Corona impact Dun & Bradstreet India's business? What challenges did you face because of the situation?

Businesses across the world have been impacted due to Covid-19. No one is immune to the effects of this pandemic. Like other businesses in India, our offices closed due to the lockdown. Although this was a challenging situation, we instigated our business continuity plan quickly to enable our employees to work from home. We seamlessly shifted to our 'new norm' of virtual meetings and online events instead of conferences, and digitized contract signatures.

As an organisation that provides data and insights to drive business decisions, we have been working to help our clients navigate the challenging environment and have developed specific resources and insights in response to Covid-19 to help clients assess the impact on their operations.

Due to the lockdown, are you laying extra emphasis on digital transformation and automation? Which digital initiative are you planning to roll out (or have rolled out) recently?

In recent years, the data and analytics industry has been undergoing a digital transformation, with continued focus on the automation of activities through the increased use of APIs to enable integration of third-party data into business workflows. During the lockdown, we have introduced a number of new solutions as part of our planned product roadmap, including D&B Direct for Finance, which is an API-based offering and several other cloud-based products.

Many of our products and solutions are already available online, powered by the Dun & Bradstreet Data Cloud, and automation sits at the heart of how we run the business. At a more granular level, lockdown has required us to further automate tasks such as contracting processes. We are delivering demos and events via digital platforms in lieu of face-to-face interaction.

Which technology do you foresee emerging out to be a lifesaver in your industry?

Technology continues to be an enabler for data and analytics and key to the ongoing evolution of our industry. We have already seen a convergence towards fully cloud-based services that enable access to real-time data, and AI and machine learning continue to increase the speed

and efficiency at which data can be analyzed.

Rather than the emergence of new technologies, I see the pandemic accelerating the adoption of cloud-based services and the use of AI. Data-related technologies and methodology is being applied to support emergency planning and to track and trace the outbreak, and the data industry is working to support the wider recovery efforts, both from a health and an economic perspective.

Are you also upskilling IT workforce during the lockdown to make them future-ready?

At Dun & Bradstreet India, developing our people is core to our strategy. We believe in continuously upgrading our skills and have a robust learning and development program in place for employees. Many of our teams already work with cutting-edge technology and are constantly learning new skills and techniques to improve the service we provide to clients. We see an increase in online learning in the wake of the lockdown and social distancing requirements.

Has the Covid-19 situation re-prioritised your digital projects?

At Dun & Bradstreet, our core mission remains focused on helping our clients improve their business performance using data and analytics. We have adapted the digital ecosystem to create end-to-end business flows by combining applications, and data integrations to the entire business network. This is more critical than ever in the current situation, as businesses are working to restart operations after the lockdown.

Our goals are not restricted to improving infrastructure, but more importantly, we are focused on creating the most advanced and seamless experience for our clients. Our IT strategy is an integral part of this objective. We continue to focus on delivering the best experience for our clients to meet their evolving requirements. Many of our clients are undergoing a digital transformation journey, which has been accelerated by the pandemic.

We are developing cloud-based and API-driven solutions to support them on this journey, and provide key digital capabilities to help navigate the rapidly changing business environment. In the last month, we have launched four new products: D&B Onboard for compliance, Global Financials and D&B Direct for Finance, and D&B Optimizer for data management, providing our clients with key digital capabilities.



—SAURABH SANGHOEE
VP, Enterprise Business, Orange Business Services

Orange Business Services supports businesses and local governments and public sector organisations through every step of their digital transformation. Saurabh Sanghoee, VP, Enterprise Business, Orange Business Services, India, tells us more

What are the five emerging trends for Datacentre (DC) networking in 2020 and beyond?

Over the past decade, DC networking has evolved with the emergence of cloud DCs. The changing needs of businesses, the growth of connected devices and the massive amount of data generated have contributed to the widespread growth of DC networking. The rapid development of new technologies such as artificial intelligence, cloud computing, big data, and 5G is also leading to a surge in demand for data center networking.

Talking of trends, a series of changes have reflected the growing need for data center networking.

“ DATACENTRE VIRTUALISATION

- **SDN bridging the edge and cloud** – SD-WANs and SDDCs (software-defined DCs) have rapidly become a key priority for most enterprises. SDN emerged from the DC to make a significant impact in the WAN and now it is making its presence felt in the LAN.
- **Rapid growth of SD-WAN** – Digital transformation is driving SD-WAN growth forward in the Asia Pacific. Companies seek to exploit digital transformation benefits, embracing cloud computing, Big Data and analytics, mobility, and collaboration tools. The aim is to uncover new seams of creativity and innovation within their companies – with the ultimate goals of enhancing customer experience and impacting the company's bottom line.
- **Adoption of 100G-400G network** – From 100G-400G, the network operators are leading a rapid transformation to manage the exponential increase in Internet traffic across the network. From operators investing in upgrading their optical transmission, to content providers building giant data center capacities to accommodate increasing connectivity demands, there's continued effort to deliver the best consumer experience.
- **Automation end-to-end monitoring, analytics in DC networking** – Network technologies invented 30 years ago are simply no longer enough to provide the flexible campus networks that end-users demand today. Businesses are looking at a new type of network infrastructure that offers consistent management, contextual insights and intelligent segmentation.
- **Wi-Fi-6 and 5G rollout** – The next-generation mobile connectivity is not yet fully operational, but hopes and expectations are big, and it could play a wireless LAN role in campus networks. In addition to 5G, sixth generation Wi-Fi-6 will offer higher data rates, increased capacity, and improved performance in dense environments, emphasizing the growing need for data center networking.

How is the market now for the adoption of hybrid cloud and DC virtualisation?

Cloud adoption has been witnessing a gradual surge across India with both enterprise big and small, both looking to take advantage of cloud-based capabilities. With the rapid rise in remote working, the cloud infrastructure has turned out to be a vital asset for companies to support their employees effectively and efficiently.

Over the years, there has been an increased interest in hybrid and multi-cloud solutions. India is a top hybrid cloud market with at least 30-40% enterprise adoption. The cost-effective, pay-as-you-go solution offered by most cloud computing companies today have also encouraged many enterprises to adopt and integrate cloud solutions. With the wide selection of cloud solutions available today, organisations are starting to realize that there is no such thing as a “one size fit all”-solution. Organizations are now increasingly looking at commercial modeling to cater to their diverse networking requirements.

Besides, datacenter virtualisation is proliferating beyond servers. Within the next two years, double-digit growth is expected in the use of desktop, application, network, storage, and data virtualization. Also, there has been a shift from storage arrays to software-defined storage with more than 25% of businesses planning to use software-defined storage solutions instead of buying shared storage arrays.

Moreover, virtual environments are increasingly moving to the cloud. Within the next two years, 45% of businesses are planning or considering moving their entire server virtualisation environment to the cloud. Overall, the market is well-positioned to embrace a stream of innovation, fueling growth across segments.

How are you rebalancing your provision of DC services, co-location and capacity management?

We continue to build and innovate our existing automation capabilities. Beyond our own public or private cloud infrastructure, we have significantly strengthened our capacity to propose enriched, automated multi-cloud services to our customers, wherever they are in the world, allowing us to support companies as they transform onto new, digital models based on cloud computing, big data and artificial intelligence.

Besides, we work on co-innovating with clients to create value and deliver vertical- and client-specific innovation. This approach helps us provide the complex and customized solutions that our customers demand while balancing the capacity requirements.

How are you updating DR plans to reflect this new world of vendor-distributed work?

As cloud services develop and grow, it is imperative to review and update existing disaster recovery plans to



CLOUD ADOPTION HAS BEEN WITNESSING A GRADUAL SURGE ACROSS INDIA WITH BOTH ENTERPRISE BIG AND SMALL, BOTH LOOKING TO TAKE ADVANTAGE OF CLOUD-BASED CAPABILITIES. WITH THE RAPID RISE IN REMOTE WORKING, THE CLOUD INFRASTRUCTURE HAS TURNED OUT TO BE A VITAL ASSET FOR COMPANIES TO SUPPORT THEIR EMPLOYEES EFFECTIVELY AND EFFICIENTLY

minimise any possible damage. We continuously review our DR plans to ensure business continuity if a company's critical applications fail or fall victim to an incident.

Today, customers are increasingly moving business-critical apps to the cloud. In the past, the cloud was only about flexibility and agility now, it's about quality of service, being able to do things at scale, and having a reliable and secure infrastructure. There's a significant shift to multi-cloud and managing critical apps in the cloud is having a high impact on the networks. To address the growing bandwidth demands, we've reduced latency and optimized network coverage.

Edge computing today provides for greater control and management with support for high-performance compute, storage, and network resources as close as possible to end-users and devices. From a cyberdefense point of view, edge computing enables us to carry out authentication tasks closer to end-users, which is inherently more secure. Besides, decentralising data and distributing it among devices, makes it far more difficult to bring down a whole network with a single attack.

Are you looking at remote management of DCs?

Yes, we are. At Orange Business Services, we have invested heavily in professional and managed services across cloud operations, legacy systems migration, application management and consulting (from design to security). Businesses are increasingly using the cloud computing model. They want to have their IT infrastructure on remote servers and access them as and when they need it- 'IT on demand.' Keeping up with this emerging trend, we're already providing a range of managed

services and access to customized services offering monitoring, helpdesk, dashboards and reports.

Demand for cloud services will soar in some sectors but wither in other verticals. Which sectors, specifically?

When it comes to cloud adoption, the Indian market is still at a nascent stage, but there's been sustained growth. Even as opportunities for cloud adoption exist across industry segments, we expect a strong surge in cloud adoption with industries across healthcare, banking, insurance, and the manufacturing segment leading the transformation.

How are CIOs looking at DCs in post-Covid-19?

Covid-19 has taken the world by storm. With normal life grinding to a halt, DCs have become one of the key pillars holding the world together with people instructed to stay at home. As enterprises work towards building continuity and recovery efforts, CIO's are responsibly looking to review their preparedness for the future.

To address the challenges concerning data security and access in times of crisis, CIO needs to choose between on-premises to hybrid and cloud storage models that support quick run to business. CIO's are increasingly looking for solutions that are agile, flexible, with an innovative design. The availability of the right set of IT resources is another concern and CIOs are working towards building capabilities for better capacity forecasting.

Cloud platforms, streaming media and digital services have seen an unprecedented load with the surge and are increasingly working on upgrading data center capacities to serve the growing demand.

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Big Data Refinery

The E-inauguration ceremony of the Yotta Infrastructure NM1 datacentre was recently held. The participants were Dr. Niranjan Hiranandani, Founder Chairman, Hiranandani Group, Darshan Hiranandani, Group CEO, Hiranandani Group, Ravi Shankar Prasad, Union Minister, Law and Justice, Electronics and IT, and Communications, Government of India, Uddhav Thackeray, Chief Minister of Maharashtra, Subhash Desai, Minister of Industry, Maharashtra and Sunil Gupta, Managing Partner and CEO, Yotta. Here is a report



Digital Initiatives by Youth
At the inaugural event of Yotta datacentre, Ravi Shankar Prasad, Union Minister, Law and Justice, Electronics and IT and Communications, Government of India, noted: “The biggest datacentre in Asia has been launched today. There is enough scope to meet the challenges lying ahead. The great quest of Aatma Nirbhar Bharat will also be taken forward. This datacentre is the second biggest in the world. Digital initiatives are always pioneered by the younger generation. Most of

the digital companies globally are today present in India. Yotta has set the benchmark.”

He continued, “Digital today is the buzzword. Bridging the digital divide is very important. We also need to bring in digital inclusion. Aadhar is the digital identity. We linked it with the mobile phone. Digital India brings security. On the data part, we have been generating billions of data. We have GSTN. We also have Aayushman Bharat and digital health, UPI, etc., and all are riding on digital. This initiative is commendable and powerful statement of intent. India’s



“THIS DATACENTRE IS THE SECOND BIGGEST IN THE WORLD. DIGITAL INITIATIVES ARE ALWAYS PIONEERED BY THE YOUNGER GENERATION. MOST OF THE DIGITAL COMPANIES GLOBALLY ARE TODAY PRESENT IN INDIA. YOTTA HAS SET THE BENCHMARK.”

— Ravi Shankar Prasad, Union Minister, Law and Justice, Electronics and IT and Communications, Government of India

data storage and data capacity will grow hand-in-hand. We also have the data protection law. No data of Indian companies can be taken out without consent.

For the success of Digital India, we must become a big global data refinery – data cleaning, data processing, data innovation and research – and all of this will need to be done keeping in mind data privacy laws. We shall never compromise on the data sovereignty of India. The data economy has a lot of potential and in all its promise – a good data center is the pillar it builds on. We want India to become a big center of data refinery. Data refinery will be the next big thing happening in India. The way we are articulating the digital march of India, we will make that happen. If you drive on a big highway, you drive with caution. Take the necessary precautions.”

AI is a new norm and needs to be taken to a larger narrative. Mobile economy is another. India today is home to 260+ mobile factories. The data economy has enough potential. Let India become a good, software product base as well. We need to become an accelerator of the data economy. To succeed, we must have transparency, openness, etc. We have to make India the leader in the data economy.

Data is the New Norm

Uddhav Thackeray, Chief Minister of Maharashtra, pressed the key to make the Yotta data centre go live. He said: “We are friends with Ravi Shankar Prasad. There is rainfall in Mumbai. There is data and there is cloud. There is also Kalidasa’s Meghdoot. We are all working remotely. There are opportunities in every situation. Corona has also presented us with new opportunities.”

“Telephone used to have a history, connecting us with people. Then came the mobile. Now, we have everything on the mobile. We have information and knowledge. We have invited investors to Maharashtra. We have a labour problem for now. We launched the digital MahaJobs recently. There will be new jobs available for people. By evening, some thousands of people had already applied.

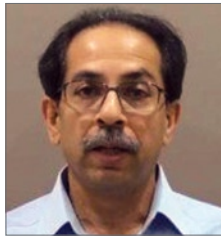
Covid-19 has made the digital future into a reality and given us a new perspective on life. The Maharashtra government is inviting investors to come to our state to do business here and we will extend all support and co-operation to them.

We need to learn to live with Covid-19. We need to save digital from the virus. We need to continue trying to do that. We are now doing WFH. We are now spending more time with our family. Data is the new norm. We need data and data. We also need to move forward. We have now started doing this in Maharashtra. We are looking at the future. We are talking about the future, today. WFH has been made possible by a robust digital infrastructure even in the face of a pandemic. The Hiranandanis are enabling work of the future today with Yotta Infrastructure. The state government will support you in all the endeavours.”

Dr. Niranjan Hiranandani, said that Yotta is delighted to receive direction and the tough process behind that direction from Ravi Shankar Prasad.

Hyper-Scale Datacentres

Earlier, Dr. Niranjan Hiranandani, Founder Chairman, Hiranandani Group, said that Yotta has built a world-class infrastructure. The Minister talked about the ease of doing business. Yotta will keep up with its commitments. By



“THERE ARE OPPORTUNITIES IN EVERY SITUATION. CORONA HAS ALSO PRESENTED US WITH NEW OPPORTUNITIES.”

— Uddhav Thackeray, Chief Minister, Maharashtra

15 July 2020, 45,000 students will be undergoing online teaching. Digital infrastructure will help us do all of this. Digital infrastructure today is the saviour of our country. Fulfilling our needs have highlighted the requirements of India. The idea of having a magnificent Maharashtra has also been fulfilled.

Demand for hyper-scale datacentres is on the rise, thanks to the Government's push for the National E-commerce Policy and proposed policy on Datacentre Parks. Also, with the new normal established due to Covid-19, reliance on technology from enterprises and consumers has increased. All these factors together make for a tremendous growth story for datacentres in India. What makes the Yotta story unique is our ownership of all key input resources, massive economies of scale with our land banks, captive green energy generation and distribution capabilities and unmatched expertise and experience in datacentre domain, including design, engineering, construction and operations.

Darshan Hiranandani, Group CEO, Hiranandani Group, said that India has shown incredible courage in these difficult times. This is a centre that is online and operational in record time. We are backed by a Government that believes in the future, and the future is digital. Digital services will benefit everyone. Yotta has come online in a record time. We, at Yotta, also support the government.

India had the highest data consumption across the world even during the pre-Covid-19 days. WFH, online gatherings, telemedicine, etc., have become the new normal. We must also innovate. Yotta is a perfect example for innovation and competitiveness. Our ambition is to

grow the datacentre capacity in the coming months. Security, efficiency, and speed are our assurance to the customers. We will also have chilled water at the most affordable cost.

This datacentre is a global pioneer, not just in terms of capability and price, but also, in terms of its focus on efficiency and sustainability. We provide the most efficient power offering available in the market today – not just the lowest price of power, but also, a Power Usage Efficiency or PUE that is a global benchmark for the tropics. That is only phase zero.

Credibility, Agility and Scalability

Sunil Gupta, Managing Partner & CEO, Yotta, said that Yotta is all about credibility, agility and scalability. Today, we are launching the largest datacentre. NM1 is offering a high scalable data infrastructure. It is offering gigabytes of connectivity from telcos. Tier 4 certification is like a vaccine. Once you have it, you are safeguarded for life.

Enterprises of all sizes can expect a fully managed hybrid IT. It is a win-win situation for everyone. This is first of the five buildings coming up in the Yotta datacentre park. Besides Navi Mumbai, Yotta is also developing similar sized giant Datacentre Parks at Chennai and New Delhi. Each one of these parks will feature more than 20,000 racks, 200 MW plus power and multiple self-owned fiber paths connecting the Park to the main highways.

Yotta plans to spend about INR 3,500 crores in next 3 years, and about INR 15,000 crore over next 7 to 10 years across these datacentre parks. The Yotta NM1 is located in Panvel, in Raigad district of Maharashtra in India.

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—MICHAEL CANTOR
CIO, Park Place Technologies

Park Place Technologies offers a smart way to monitor, support and optimise the digital infrastructures. It is servicing more than 17,000 customers in 150+ countries. Here, Michael Cantor, CIO, Park Place Technologies, tells us more

What are the five emerging trends for Datacentre (DC) networking in 2020 and beyond?

There are five emerging trends that we see today.

Achieving a closer tie/increased reliability/increased bandwidth between the enterprise network and public cloud. With more critical services placed in cloud, ensuring the reliability of that connection back to the company network via the data center has become a concern. Also, with data warehouses receiving data from public cloud infrastructures, bandwidth between the data center and public cloud is constantly increasing.

Continued outsourcing in day-to-day operations, such as network monitoring and VPN monitoring.

“ STILL LEARNING



HYBRID CLOUD IS ALMOST UNAVOIDABLE GIVEN THE NUMBER OF SAAS SOLUTIONS IN THE MARKET. COMPANIES ARE WELL INTO THE PROCESS OF IMPLEMENTING SERVICES THAT CROSS FROM ON-PREMISE INFRASTRUCTURE TO SAAS/PUBLIC CLOUD

Applying DC networking skills to public cloud networking. Many of the same concepts that apply to DC networking, such as security configuration, are necessary in public cloud as well. Translating those mission-critical skills to the various public cloud vendors and adding a layer of on-demand cost management skill.

Network automation. Using tools such as Ansible to automate more daily tasks, lower the skillset needed for maintenance, and improve the reliability of configuration changes, i.e., lower the number of outages from complex network changes.

Continued dismantling of DC networking as services move to SaaS and public cloud

How is the market now for adoption of hybrid cloud and DC virtualisation?

These are well into the mainstream now. Any organisation not currently virtualising in the data center is significantly behind the curve. Hybrid cloud is almost unavoidable given the number of SaaS solutions in the market. Companies are well into the process of implementing services that cross from on-premise infrastructure to SaaS/public cloud in order to implement functionality such as service integration and data warehouse population.

How are you rebalancing your provision of DC services, co-location and capacity management?

We are minimising further investments into DC services, co-location sites, or on-premise capacity in favour of public cloud.

How are you updating DR plans to reflect this new world of vendor-distributed work?

A significant amount of work and education is going on in this area. While we've put these areas into our DR, we're

still learning as to what options are reasonable for disaster recovery. For example, we do extract all data and back it up, but we have no control over the software and would be unable to start an application with the data if there were a failure. Also, it's difficult to get a vendor to test or simulate DR, and we have yet to see any of our vendors actually get into a DR situation. These factors make it difficult to figure out how to update DR plans. So, while we ARE updating DR plans, it's a trial-and-error update process at this point.

Are you looking at remote management of DCs?

Our DCs are in co-location sites, so they are already lights-out.

Demand for cloud services will soar in some sectors, but wither in other verticals. Which sectors, specifically?

I personally don't see cloud service demand withering in any sector. A couple of sectors have been slower to adopt – highly regulated (financial and healthcare) and GDPR-covered sectors (due to uncertainty over the regulation requirements for local data storage). I think EMEA still lags, but the cloud vendors will figure that out and find ways to eliminate those concerns. In financial and healthcare, they've become acclimated and while behind other industries, I believe they will catch up quickly.

How are CIOs looking at DCs in post Covid-19?

It hasn't changed my outlook. DCs should already be lights-out and virtualised, so operating them in a Covid-19 environment has been unaffected. The one opportunity is to acquire more and more managed services to lower the daily operating burden on a company's staff, removing any need to interact with and monitor the equipment to a minimum.

How did India Manage Data Surge?

The Corona spread and the subsequent lockdown led to a massive surge in the use of the internet across India. Lockdowns, social distancing and the new normal of restricted workforce has pushed users to explore new scenarios to maintain life and business continuity

The lockdown, amidst changing a lot of things all around us, made our Internet connection umbilical. It became a major source of entertainment, our connection to the outside world, collaboration tool to get jobs done and our information place for learning and acquiring new skills.

There has been an exponential surge in the Internet consumption as most of the country working from home or staying at home during lockdown.

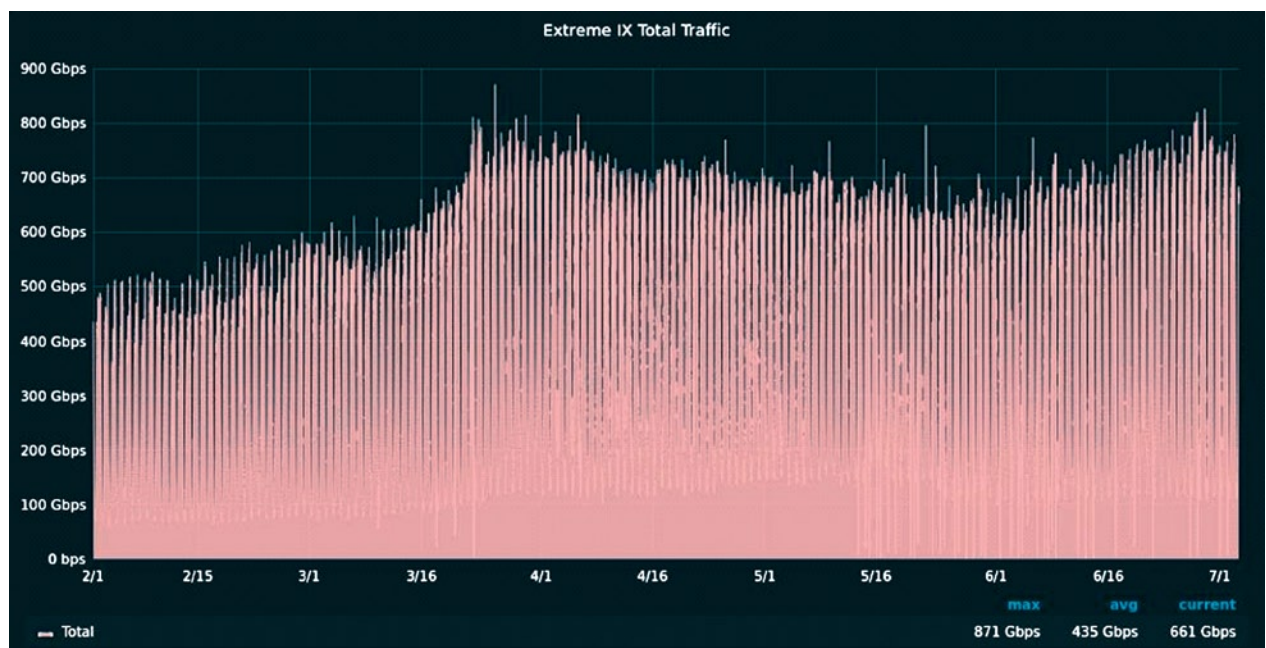
Currently India is home to 18 million broadband connections that saw as high as 18 GB data per day consumed during lockdown. Video conferencing services saw record downloads, e-commerce players witnessed huge demand for groceries leading them to pivot essentials to focus business, and streaming platforms received unprecedented audiences and time spent.

How the Internet Coped

There were understandably some hiccups initially as network infrastructure developers never thought of such an unprecedented situation. The lockdown came unannounced and a lot of service providers were not ready for the abrupt peak. Their upstream capacities were not enough.

Mobile Internet was unable to handle high data rates for many concurrent users. Wi-Fi slowed down due to users FUP/data limits finishing, resulting in bad user experience, as we saw, never seen before, big spikes of data consumption.

But still, the infrastructure held itself up and without facing any major breakdown or letdown, India and India Inc managed through the various phases of lockdown and now Unlock. Here's why:



Graph 1: Extreme IX graph from 1st Feb 2020 to now - This shows about 200G jump in throughput once the lockdown was implemented.



Graph 2: Extreme IX Cumulative graph from 16th March to 31st March which shows more details of how traffic pattern changed during that period.

The current network infrastructure of legacy telcos and mobile internet providers is not optimally built to manage such high demands on a consistent basis. However, owing to cheaper and effective upstream capabilities of an Internet Exchange (IX), many local Cable broadband providers were able to manage the surge in data demand. IX helped maintain data speeds to subscribers for peered content, making it possible for millions of Indians in lockdown work, get entertained and learn new skills.

Secondly, while the pandemic has resulted in more traffic, it was not significantly different from what is witnessed by global providers. Private cable broadband companies like DEN, Alliance Broadband, Excitel, Hathway, and many other ISPs have a decent access network to connect their end users. Their last mile capacities are good enough to handle the surge of data that we witnessed.

And lastly, the nascent but evolving optical backbone of the ISPs ensured the data surge didn't result in breaking or stopping the internet. The data surge witnessed and the FTTH network, both a metro-phenomena, helped transmit the sudden and high demand of data. Most ISPs, with strong LAN infrastructure, offer 100Mbps capacity over their optical networks that can handle higher and increased video bitrates, as witnessed during the lockdown.

However, the lockdown leaves us with some thoughts:

- One, to be a content hub of the world, the internet infrastructure needs to move to FTTH faster than the

pace it is at today. FTTH connections in the country are about 10% of the total wire line connections and are miniscule compared to the 350 million plus connections in a country like China. With the upstream capabilities increasing as video-based content consumption goes up, FTTH promises to unlock a slew of opportunities and applications benefiting consumers, businesses and content providers with a high two-way bandwidth capacity.

- Two, eliminating the FUP limits which is an archaic practice in the country. The recent data surge and immediate digital transformation across sectors in the country, makes FUP limits a growth impediment to the vision of Digital India. Globally, ISPs have moved beyond FUPs or have a high and realistic limit upwards of 300 GB.

Internet Exchange lets content providers like Google, Facebook, Netflix, Amazon Prime and other streaming services players as well as gaming companies in India to scale up and broaden their reach. The exchanges are built to manage demand spikes and ensure uninterrupted and consistent flow of speeds and data. Investments in the internet ecosystem through exchanges helps expand the ecosystem by bringing down costs, ensuring speeds and scalability and managing smooth operations.

(The author is Executive Director, Extreme Labs)

Prioritisation of Automation Essential

Rockwell Automation recently organised a webinar addressing the challenges faced by the Indian chemicals industry. The participants were Dilip Sawhney, MD, Rockwell Automation India, Amrish Goel, President Strategy and CIO, Deepak Fertilisers and Bimal Puri, VP & CIO, SRF Technical Textiles



The chemical industry is facing challenges in lockdown situation. Automation can ease many of these challenges.

Challenges of Chemical Industry

Opening the conversation in the webinar, Dilip Sawhney said it is great that we can still connect with each other in this year of insurmountable challenges. The chemicals industry is an essential industry, and is globally well entrenched and recognized. It was also one of the earliest industries to resume after the lockdown. Covid-19 has presented a number of challenges to the industry at large, and also to the chemicals sector. There have been several challenges from the supply side, labour, or operating under the new normal. You have to ensure the minimum SOPs. What are the implications of the Covid-19 on the chemicals industry?

Bimal Puri at SRF stressed that Covid-19 is there for everybody. The major challenge is: how do we bring people back into the plant. The second, if they are in the plant, and something goes wrong with some key people, how are you able to ensure continuity, even from the remote. Remote connectivity is another important role. You have to ensure how you are maintaining social distancing inside the plant. You also need to also have certified devices inside the plant. If there is a key person infected in the plant, or he or she is in some containment area, how are you going to ensure that the support is available in the plant continuously. You also need to have the required bandwidth, and infrastructure.

Things are not happening predictively so that you can plan. It is becoming more unpredictable as to how things are moving. You need to live with Covid-19, learn with it, and require lot of futuristic vision to work in the post-Covid-19 era. Chemicals plants are continuous in nature, and cannot be left standalone. People, equipment, equipment safety, process safety, environment safety, etc., have to be handled, remotely. Otherwise, you will have a challenge.

Amrish Goel from Deepak Fertilisers added that from a strategic angle, one of the biggest challenges will be from the avenues opening up from demand and supply sides. There is lot of geopolitical movement in terms of changing the supply centres, changing interests of a lot of demand centres etc. A lot of supply reshuffling and rejigging will happen. It will also create new vistas for India, as a country. We should gear up for these opportunities.

From the operation side, there are challenges from manufacturing and supply chain sides. People have seen over the last 3-4 months that we have managed to meet some of these challenges tactically. In the longer duration, we have to ensure that manufacturing goes on seamlessly. The supply chain drives in the right fashion. Specifically, from the manufacturing side, there will be solutions hovering around remote monitoring, from the context of business continuity and availability. We need to circumvent challenges around processes and people.

There are challenges from the supply chain side. For some of us, demand existed before the Covid-19



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— Dilip Sawhney, MD, Rockwell Automation India



“IT IS THE ANYWHERE AND ANYTIME CUSTOMERS THAT WE SHOULD BE RESPONDING TO. THE SUPPLY CHAIN VISIBILITY IS THE MOST IMPORTANT ENABLER IN THE ENTIRE PROCESS.”

— Amrish Goel, President Strategy and CIO,
Deepak Fertilisers

earlier. What got ruptured was the process of logistics somewhere in between. This could be a new normal. People will have to create strong processes to create seamless integration between demand and supply and a perfect visibility of the entire supply chain to do on-the-fly ‘what-if analysis’ of the changes in demand, how does that impact my supply and stocking, how does that impact my manufacturing, etc. We have to gear up to handle all of this.

Building Resilience

Sawhney responded about how we can build resilience among the enterprises today, should another challenge occur. He asked them for their take on building resilience. Amrish Goel noted that a lot of processes that we adopted in the normal times have undergone a paradigm shift. Agility is possibly the best mantra. The challenges are really un-pronounced! Your response time has to be right up there. Process-driven approach may have to be taken on a back burner. Responses to specific situations in a very agile way should be prime. People will want to look at how to address the upcoming and newer challenges from a different angle.

From an organisation’s standpoint and hard assets standpoints, the chemical industry is an asset-heavy industry. Sweating of the assets at all points in time is going to be the underlying mantra for people. Stepping back and decoupling the manufacturing, especially from the market side or people-dependence, is the next thing that people will look upon. They will look at

technologies and strategies that will help them decouple the manufacturing as much as possible, from the shocks from the outside. Shocks can be of any nature.

Rapid Re-adjustments

Sawhney added that with the rapid adjustments and re-adjustments, how do you re-imagine the role of chemicals manufacturing? What do you see as the role of innovation in this new context?

Bimal Puri said that we are discussing the modernization of the plants. We are looking at bringing automation inside the plants. Automation, as an agenda, has to be prioritized now! It will help you during the Covid-19 phase. It will also help in the strategic shift to the demand in the market in the post Covid-19 scenario. If the demand goes up, you have to look at productivity. From a productivity point of view, we are looking at more safety and more man-dependant operations and processes.

Automation will now be on the prioritised agenda. People will now be looking out for automation. If you have a right kind of system that works on an autonomous basis, it helps. So, automation is one important point. Another point is, manufacturing as a process will also evolve, rather than being only dependant on people. This will bring about another big shift.

Managing Business Aspects

Sawhney added that looking at the safety incidents, there could be whole lot of unsafe situations.



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— Bimal Puri, VP & CIO, SRF Technical Textiles

Technology has risen sharply in terms of relevance. How is technology going to play a role to better manage the business aspects?

Amrish Goel said that the normal gets redefined by the new technologies. We were talking about anytime customers before the Covid-19. Demand of that anytime customer will become much more pronounced in the post Covid-19 days. Demand will be much more and even more pronounced. Understanding the needs and demand and creating the flexibility in the supply chain to be able to respond to it, despite the challenges in the supply chain, will be important. Technology will be a way of doing so. It is the anywhere and anytime customers that we should be responding to. The supply chain visibility is the most important enabler in the entire process.

Technology does have a very significant role to play. Things are also changing very rapidly. For some of the new technologies, the early adopters could go on to become the game changers, and possibly, take the lead.

About the role of technology on running our business, Bimal Puri said that in many places, people have not been able to drive the technology-led innovation. It is a question of managing your knowledge. Maintaining your skill is always a challenge. How are you managing your knowledge repository? Manpower will be more available now, than in the past. People are using more of technology. How you perceive things in the future management is very important. The government policies

are now coming in line with the industry mindset. You are free to create a better business environment.

How can Automation Help?

Sawhney concluded that the industry is facing problems in getting skilled and non-skilled labour. How can automation help?

Amrish Goel said a lot of people are taking about how Industry 4.0 is addressing this. There are challenges on the production side and the industrial side. Realtime monitoring and analytics will be better. That helps you address some of the plant-related issues. Availability of skilled manpower could still be a challenge for many. You have to look at incident monitoring, to preventive maintenance, and possibly, address some of those points. We need to look at advance maintenance solutions. Organizations also have to look at matured solutions. There is now a window of opportunity for a lot of us to address these challenges.

Sawhney added that business continuity puts a huge demand in accelerating the digital journey towards digital transformation. So many business leaders are prominently talking about it. The readiness can be questionable, but we have all been thrust into this situation. There is a need for agility. Being agile, and having the capability to respond to the unexpected challenges is key. To bring about agility, automation woven into manufacturing, is very important. The concept of the anytime customer and managing your knowledge repository is very important.

Smart to **Autonomous**

Schneider Electric and Microsoft recently held a webinar on the topic of 'Buildings of the future: Smart to autonomous'. The speakers were Anil Chaudhry, MD and Zone President, Schneider Electric, India, and Anant Maheshwari, President, Microsoft India



Opening the session of the Schneider webinar, Anant Maheshwari, President, Microsoft India, said “Our priority is to ensure the safety of our employees. We are also very focused on providing the digital capability and infrastructure required for any customer. There are three aspects: respond, rebound and re-imagine. First, how do we empower the employee? We first need to have an inclusive and flexible environment that supports the employee. That empathy is the foundation. Microsoft has come together to support all the employees.”

He continued, “How are we supporting the frontline? We are also here to help the governments, especially, in the healthcare and education segments. We are helping them continue to do what they are doing, and enable them to fight back. Especially, how do you bring data, AI, and all the other capabilities, as well as the remote capability? The organisations are also doing good work in supporting them. It is not easy for everyone to get on the platform from day one itself. Even the schools and the teachers were never trained to do this. For the customers, how do you enable WFH was also key. Security, privacy and transparency is inbuilt into our platform. As we go along, these will be very critical.”

Agility at Forefront

Anil Chaudhary, MD & Zone President, Schneider Electric India, added, “These have been times where we have had to re-invent very strongly for our partners, customers,

and employees. Our first priority has been to support our employees, customers and partners. They should also be able to continue doing what they have been doing. We have also seen how all these pillars have reacted very fast. Most of the partners, mid-to-small enterprises, micro enterprises, etc., have been able to adopt WFH. Agility has also come very much on the forefront. We have been able to react, and connect with the customers and partners.”

He said that we have accelerated the way training was done, as was digital connect. We have also brought innovation to the forefront. We have also supported communities that were very much vulnerable to the Covid-19 situation. We have also focused on how we can get the youth back with new skills. It has also helped us accelerate the digitisation process and connect with our customers. It will also go a long way to refine the productivity of the ecosystem. E-commerce platforms are also on the rise. This situation has accelerated the adoption of our e-commerce platform. The traditional engineering customers have accepted it and have come on the Schneider E-commerce platform.

In these testing times, there are sectors like datacentres, telecom, healthcare, and energy, who have stood the test of time. There are also industries that have been impacted in these times. Even the society is redefining the Schneider-Microsoft partnership. There is very strong commitment from Schneider on the foundations of this partnership. Our partnership is all about sustainability,



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IN DIGITAL — THERE WILL BE 20X MORE CONNECTED DEVICES THAN PEOPLE BY 2021, SUSTAINABLE DEVELOPMENT - 39% OF GLOBAL ENERGY-RELATED CO2 CAN BE ATTRIBUTED TO THE GLOBAL CONSTRUCTION AND BUILDINGS SECTOR, AND WAR FOR TALENT - WITH 7% MILLENNIALS SAYING THEY WOULD TAKE MODEST PAY CUT FOR BETTER OFFICE ENVIRONMENT. HUMAN CAPITAL IS THE MOST IMPORTANT ELEMENT.

efficiency, resilience, and being responsible for the climate change. The future looks even brighter.

Trust Matters

Replying to a question, Anant Maheshwari, Microsoft, alluded to the fact that there is very large transformation happening in this world. One, there is trust for the individuals, and person-centric. Second, is the trust for data and digital ecosystem that a number of people are using, and the companies are providing. Even the government is getting involved. They are also figuring out the security, privacy and transparency. Three, there are virtual handshakes hand-shakes happening all around us.

You don't even get to meet somebody even before you sign a deal now. Therefore, how do businesses trust each other? That's an altogether different level of trust. There are very interactive and secure technologies. Microsoft and Schneider Electric are helping businesses stay responsible, and be adaptable to this change. There are digital apps that tell you whether it is fine to enter a facility. Trust is of multiple dimensions today.

Maheshwari added that one of the founding parameters of the partnership with Schneider is the desire to co-innovate, create solutions, etc. We are harnessing the power of Big Data, AI, IoT especially, to transform businesses, and also solve customer problems at scale.

Data and cloud capability are also coming together. Capterra is a customer who has used the EcoStruxure.

Chaudhry noted that all the partnerships are based on fundamental principles. Schneider's EcoStruxure platform and Microsoft Azure are bringing in solutions. These are providing the data around which services are being provided, when you have to manage them remotely. People want real-time data on the occupancy of buildings to monitor their space.

How can they do the best utilisation of the buildings? This real-time data should help the buildings maintain energy usage. They should be able to track the overall efficiency of the buildings. Now that things are being remotely controlled and





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— Anil Chaudhary, MD & Zone President, Schneider Electric India

maintained, we need to be able to diagnose them. We also need to take preventive maintenance steps. Whenever we digitise any building, there is an overall impact on the efficiency by 10-30%.

The experience of the occupants of any building is going to be very important. Experience is all about trust. We want more and more contactless operations. Buildings of the future have to focus on the well-being of the occupants. There is need for a very strong infrastructure. How are we using the real-time data for the future building designs? We need to make the buildings as a unified location, and make them autonomous buildings. We also need to keep in mind that the data is kept safe. We can monitor buildings 24/7, give them the data, and make the occupants feel confident, etc. All stakeholders feel safe, and get extra value and trust. That’s how we are looking at the future of autonomous buildings.

Changes Ahead

In a separate session, Sanjay Sudhakaran, VP Digital Energy, Schneider Electric India, said there will be an unprecedented change in the real estate. There are changes across globalization — 68% of the world’s population is expected to live in urban areas by 2050, risk — \$6 trillion predicted annual cost of damages due to global cybercrime in 2021. In digital — there will be 20X more connected devices than people by 2021, sustainable development - 39% of global energy-related CO2 can be attributed to the global construction and buildings sector, and war for talent - with 7% millennials saying they would take modest pay cut for better office environment. Human

capital is the most important element.

Data is the key to solve our problems. There are things like lighting management, building management system, smart telephony, access control, EV charging, energy monitoring system, lift management system, visitor management system, and parking management.

Guillaume Estegassy, Worldwide Lead, Smart Place & Smart Building, Microsoft said that data chaos is at the core of the building inefficiency. How can we make sense of the data? There will be building transformation. It will move from smart to autonomous.

We have remote management, intelligent IoT sensors, health safety, integrated system, predictive analysis, contactless operations, smart sensing, and condition-based maintenance, etc. You can future proof your buildings using even better solutions. Microsoft Azure takes care of AI, ML and Big Data, besides cyber security and digital services.

Sudhakaran added the Schneider EcoStruxure Advisory Suite has features such as building advisor, power advisor, workplace advisor, asset advisor electrical, and resource advisor. There are close to 30,000 assets being monitored across the globe in over +19 countries, at 1,000+ sites. The building advisor has AI for HVAC systems. You can improve the productivity and comfort, maximize efficiency, and increase the value of the building.

The AI for electrical network increases the reliability, improves decision making, and reduces risk and liability. The AI for workplace leads to ensuring safe distancing, monitor occupancy levels, occupant well-being, and enhanced experience.

Dealing with **Black Swans**

No one knows what the future holds. Therefore, dealing with a black swan event is less about expecting the unexpected, and more about your ability to respond



“The inability to predict outliers implies the inability to predict the course of history.”

– Nassim Nicholas Taleb, author of *The Black Swan: The Impact of the Highly Improbable*

A black swan is a rare event with major consequences. The outbreak of war, the dot-com bubble bursting in 2000, the Fukushima nuclear accident and today’s Coronavirus pandemic are just a few examples. As history has shown, black swan events have significant social, economic, and/or environmental impact.

Of course, no one knows what the future holds. Therefore, dealing with a black swan event is less about expecting the unexpected, and more about your ability to respond.

This is where Digital Operations – more commonly known as DigitalOps – can help.

Adapters shall Survive

When a crisis strikes, it’s not the strongest, nor the most intelligent species that survives; instead, it’s those that are most able to adapt. DigitalOps – built on flexible and intelligent processes – help enterprises adapt to



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the most trying of times. They seamlessly blend people, processes, and technologies to better orchestrate systems and resources to consistently deliver your brand experience.

For example, if you're a manufacturer under pressure from a black swan event, DigitalOps can help you understand how to optimise your supply chain in a timely manner. They can also help you better predict market demand and adjust production schedules, or even show you how to drive greater process efficiency in periods when top-line growth will be challenging. Ultimately, DigitalOps help enterprises improve agility and resilience – essential characteristics for surviving in this ever-changing world.

Benefits of DigitalOps

Let's look at some other ways that DigitalOps can boost agility and resilience:

- **Improved operational efficiency:** When dealing with a black swan event, businesses must still deliver products and services in a cost-effective manner without compromising on quality. DigitalOps – and processes powered by intelligent automation – come into their own here.
- **Better management of working capital:** DigitalOps give businesses better visibility and control of their working capital. As a result, they can act proactively to address issues and respond appropriately to changing market conditions.
- **Effective risk management:** DigitalOps can seamlessly connect even the most complex supply chains. Whether business leaders need to increase or decrease production, they can mitigate supplier risks and create robust contingency plans when backed by DigitalOps.

- **More flexible operations:** Resilience and flexibility go hand in hand. DigitalOps enable businesses to take a flexible approach to operational costs to support more consistent earnings and unlock the capital needed for unexpected investments.
- **Increased market agility:** As markets change, customer expectations change. DigitalOps prepare businesses to diversify and adapt as necessary across their customer acquisition and retention strategies.

But remember, DigitalOps must be backed by a digital-first mindset. Leaders with this mindset will be successful in creating cultures that support employee empowerment, immediate action and continuous learning – an essential foundation for agility and resilience.

Be Proactive

In an ideal world, your business will change before change is forced upon it. Think of a hurricane – the best time to plan for the storm is when the sun is shining and the breeze is mild. Unfortunately, we don't live in an ideal world. Many business leaders are planning for storms while they're also weathering them. The good news is: It's never too late to act and any action is better than inaction.

In closing, in economic life and history, just about everything of consequence comes from black swans; ordinary events have paltry effects in the long term. Therefore, while helping your company handle a black swan event, DigitalOps set the stage for longer term gains too – an improved market position and competitive advantage.

(The author is VP, Digital, Genpact)

On the Cusp of Takeoff?

Despite Covid-19 and its impact, the telecom, media and technology (TMT) industry in India is exuding strange confidence



As things return to normal, the climb back to recovery will be steep. And there will be multiple dimensions added onto a complex landscape – the need to go digital, embrace automation, or to take the nonlinear path for growth using technology – as witnessed in the pre-COVID days.

Importantly, there are new opportunities that are arising from businesses closing in other countries and looking at India as a business option. As we aren't living in static,

zero-sum societies bound by political or economic ideologies, TMT can progress in real fast time, with two principal factors facilitating it.

- **Extensive globalisation** – Nothing helps the TMT industry progress more than globalisation and it needs more of it today than ever. Though the sector can replicate its past accomplishments across different location/s to achieve scale and cost arbitrage, this alone will not lead major players to plug out of other



WITH 1 BILLION MOBILE PHONE USERS, DATA WILL LEAD INDIA'S DX. IT HAS ALREADY ENABLED MOBILE BANKING TRANSACTIONS VIA UPI, PAYTM, OR THROUGH AADHAR LINKAGE (WHICH HAS CROSSED 10 BILLION TRANSACTIONS). IT HAS EASED OUR REACH TO LOAN CREDIT, HEALTHCARE SERVICES, MEDIA ACCESS, ETC.

countries and plug into India. We need to improve our ease of business process and be a true destination of choice for the industry.

- **Intensive digitization** - New-age technologies like AI or ML will lead high productivity and faster product development and services. This will result in lower cost of services, which will help millions of organizations already in distress to manage costs.

New Opportunities

Putting things in perspective in TMT, and specifically from India's standpoint, let's look at the emerging prospects to ascertain what lies ahead once the situation stabilises and the economy picks up.

- **Riding the retail data beast** After disrupting the telecom space, Reliance Jio will likely extend its business into e-commerce. Sitting on a rich pile of user data, Jio's recent JV with Facebook will bring Jio's business platform Jio Mart to WhatsApp. In this winner-takes-all, high-stakes game, this is a potent threat to all major e-commerce players like Amazon and Flipkart.
- **5G to disrupt business** ICT, an essential service even during the global shutdown, will be leveraged to shape many business models. This ICT surge will be led by 5G, with its enhanced speed, high reliability, low latency connectivity and guaranteed service quality bound to disrupt the industrial and consumer space. The pandemic and its aftermath will accelerate the process.
- **Increase in cloud spending** As WFH continues and business and formal activities go online, there will be significant increase in demand for cloud services – which has emerged as the foundation of anytime, anywhere infrastructure and critical in today's times.

As demand for communication equipment and telecom services surges, it will increase spending on security software to secure endpoint, cloud-based tools, VPNs, etc., giving a huge fillip to the TMT sector.

- **India's data edge driving DX** With about 1 billion mobile phone users, data will lead India's DX. It has already enabled mobile banking transactions via UPI, Paytm, or through Aadhar linkage (which has crossed 10 billion transactions). It has eased our reach to loan credit, healthcare services, media access, etc. It's an enabler for startups and MSMEs, severely impacted by Covid-19. As we perceive a common digital platform for connecting buyers and consumers to agencies like GST and banks, data will lead this transformation.
 - **Rise in content delivery network** In the foreseeable future, social distancing will continue to curb large-scale aggregation of people. This will result in increased use of social networking sites or consumption of web-based, HD content. This will quadruple the CDN market in India, opening a large untapped market as everyone cannot afford the likes of a Netflix, for example.
- As AI, ML and analytics find high uptake in Covid times, they will play a big role in helping public and private players come up with pointed solutions. This is not to suggest that challenges or threats won't exist, but the prospects in the sector and the resiliency of the industry will overlap them and help it forge ahead.

These are difficult times, but also interesting times. And only time will tell whether the TMT industry will make the best of these opportunities and take off.

(The author is TMT Portfolio Head, India Market Unit, Capgemini)



—MUKESH KHANDELWAL
VP Engineering, Ace Turtle

The current pandemic has changed the way retail will be operating in time to come. Retailers are facing the reality of what it means to have no E-commerce operation to revert to when stores are shut. Omni channel, supported by agile, unified commerce systems can help a retailer adapt to unexpected market forces. Mukesh Khandelwal, VP Engineering, Ace Turtle, tells us more

Why is it critical for brands to have a unified commerce approach post Covid-19?

Covid-19 has thrown the retail industry out of whack. Everyone, from businesses to customers, is facing a new world where social distancing is the norm - making things psychologically hard. Safe, contact-less commerce has become the new demand from all customers. Customers want to discover products online, and have them delivered at home, or have the choice of going to the store to pick them up. However, the retail industry is not ready to provide this contact-less omni channel experience to the customers.

“ DERIVE BENEFITS

The primary reason is that most of their systems (POS, order management system, Inventory Management system, CRM etc.) are siloed, with legacy systems, built over time. These systems don't talk to each other. As a result, retailers are unable to fulfil the omni-channel shopping experience that the customers expect from the brands in these times and era.

Another point is that as the governments across the world ease the norms and allow stores to open, customers will still want to shop in a safe environment. Hence, it would become critical for retailers to reach out to their customers via online channels, allow them to view the store catalog online and complete their shopping journey either online or offline. Unified commerce is critical to make this happen.

Unified commerce combines product discovery, order fulfilment, inventory management, customer relationship management, point of sales (PoS) capabilities and more across channels in a single unified platform. A unified commerce platform allows brands to reduce costs and time involved across all the phases – from implementation, to maintenance and upgrades. Moreover, it provides a single combined view of the brand's business across online and offline channels. This helps businesses simplify their operations, analyse brand performance across channels and take decisions that will benefit the business in operating faster and more confidently.

How can omnichannel be a help for retailers?

In the current internet wave, customers want the ability to do product discovery and product research on the web, and complete the purchases either online or offline. The line of distinction between online and offline customers is blurring. Hence, retailers have to take an omni channel

approach to serving their customers.

Omni channel allows retailers to showcase their products to both online and offline customers. Customers can complete the purchase either in the store or from the comfort of their homes. Retailers can target both the walk-in customers as well as the customers who shop on online channels (webstores and marketplaces). For retailers, omni channels break the chains of being tied to a physical location and help them provide their customers the best experience of the online and offline world. Retailers can also take advantage of customers' online behaviour to recommend the right product and experience when the customer comes to the physical store.

How will it affect the customers -- online and offline?

The expectation of omni channel has been around for a long time. However, most brands have a broken experience when it comes to omni channel. The online and offline systems are siloed and not connected. It means, all the information about the customer's interaction with the store or website, is not passed on to the other channels.

However, post-Covid-19, this customer expectation has moved from being a nice-to-have feature to being a must-have feature. The customers would want a consistent experience across channels. They would expect that all the information that they have provided online should be available to the store staff. They would expect the recommended products in the website to be based on their past in-store purchases.

A truly omni channel platform provides consumers a seamless experience as they access the brand through different channels. A consumer wants to be able to start



OMNI CHANNELS BREAK THE CHAINS OF BEING TIED TO
A PHYSICAL LOCATION AND HELP THEM PROVIDE THEIR
CUSTOMERS THE BEST EXPERIENCE OF THE ONLINE
AND OFFLINE WORLD



A UNIFIED AND CONSISTENT EXPERIENCE ABOUT THE BRAND IS UTTERLY DESIRED ON BOTH FRONTS VIZ., ONLINE AND IN-STORE. IT APPLIES NOT JUST AT ONE LEVEL, BUT AT ALL STAGES OF A BUYING CYCLE FROM BECOMING AWARE, TAKING A DECISION TO ACTUAL BUYING AND RECEIVING THE SUPPORT

the shopping experience in one channel and have it remembered when they switch channels. Whether it's something in a wish list, a shopping cart, or starting research on their desktop when he is in office and then continuing the experience sitting in the couch with their mobile device, the retailer or brand needs to provide an experience that will build a strong long-term relationship with prospective customers

How is Ace Turtle positioned in all of this?

Order from anywhere, fulfil from anywhere, is something that we believe today has become one of the critical success factors for retail brands. The idea of gratifying customers in creative ways is not new. Brands have been doing that for ages. What customers now expect is much more; a truly omni channel experience.

Ace Turtle's unified commerce platform, Rubicon 3.0, provides that and takes the omni channel experience to one notch higher. It is the ERP of new age commerce. It is future ready and gives the agility to the enterprises to respond to the dynamic and changing market needs. Rubicon 3.0 is much faster, more scalable, and more empowering for users. Clients can themselves configure their use cases as they build their omni channel journey.

Rubicon 3.0 comes with machine learning capabilities that help brands forecast their sales and manage stocks. The platform provides unified data across channels – brand webstore, marketplaces, social commerce, new digital channels and in-store mobility tech. The platform also provides a single view of inventory across channels and is completely configurable. It also comes with the added advantages of Unified Commerce Platform such as faster integration and faster go live; shared

resources leading to speed of operation, hence, leading to increased margins. As the platform provides visibility of all channels and systems, and flexibility, in terms of integration and product functioning, it leads to increase in efficiency and agility for the brands.

How can you integrate multiple retail systems?

We follow a simple process. Once, we onboard a brand on to our platform, all we need from them is the inventory data and the channels that they want to operate in. The unified commerce platform, Rubicon 3.0, does all the heavy lifting, starting from integrating with their catalogue management system (PIM), enabling and integrating with sales channels a brand wants to sell through, and integrating with the delivery partners.

Rubicon 3.0 comes pre-integrated with a number of e-commerce marketplaces, including Amazon, Flipkart, Myntra and TataCliq. Brands can start selling on these marketplaces right from day zero of going live on Rubicon.

We have already integrated with a number of last-mile delivery partners, like Bluedart and XpressBees that allows the orders to be fulfilled with very little effort on integration. Hence, a brand can easily start selling online and become omni channel with very little effort and time.

Data from all of these systems flows seamlessly across our unified commerce platform, Rubicon 3.0, and enables a brand to have a single view of inventory, order and other details, which they want to observe for their sales operation. It is a completely self-service DIY tool, which does not require any coding. Brands can seamlessly operate and manage their inventory for multiple sales channels through this platform.



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—**ADARSH NORONHA**
Director, Indian Subcontinent, HubSpot

The HubSpot growth platform lets your entire company work together — from marketing, to sales, to customer service. Each Hub is powerful alone, but better together. The inbound movement empowers businesses around the world to stop interrupting, start helping and return their focus to the customer. Here, Adarsh Noronha, Director, Indian Subcontinent, HubSpot, tells us more

Why have traditional CMSs become ineffective in scaling up businesses, website management and site evolution?

In most cases, technology becomes easier to manage as it advances. CMS' seem to be an exception - as their level of technical sophistication has increased, so too has the level of difficulty - and required technical know-how - to manage a CMS. And so we find that websites are a constant source of frustration for many marketers.

Many of the problems marketers have with their website can be traced back to the CMS they use. But it doesn't always start out this way - one challenge marketers have, especially for growing businesses, with their CMS' is that they're often selecting and building for their needs now - and this makes sense at the time. But down the track, when you've grown and need your website to keep pace, the problems start to surface.

“
SCALE UP!

For small businesses and startups, managing websites is not that complicated and there are plenty of CMS's designed for their needs. But as an organisation grows, the needs of your customer, and therefore your business, change. You launch new products, grow into new markets and ask more from your website.

According to research from HubSpot, 82% of consumers expect an "immediate" response when looking for marketing or sales help -- that number rises to 90 percent when the question is related to customer service. What does "immediate" mean? 10 minutes. In addition to that, one-third of buyers expect to be able to self-serve in the purchase process. As your business grows, your team won't be able to get back to all prospects within 10 minutes. It's just not possible! Your website needs to be there, when you can't be!

So often, businesses, and marketers, are making a trade-off. A CMS that's easy to use, but lacks the technological capabilities that a growing business needs; or one that possesses all the functionality, yet requires custom development that your average marketer isn't equipped to deliver. Traditional CMSs often force you to cobble together 20 plug-ins, or more, just to build the functionality you need. More plug-ins, more problems - over time, your website is slow, clunky and you're often wrestling with conflicts between plugins. This is not what you pictured.

To keep pace in a post-Covid-19 world, you need a CMS that's usable and flexible enough to make changes to your websites in real-time, powerful enough to support the wide array of functions our websites need to deliver a seamless end-to-end customer experience and, of course, secure.

What are the current trends in CMS and website management?

There are a huge number of trends that come into play when we talk about customer experience and how this translates to a business' website - from accessibility, to chatbots and conversations, to personalisation and delivering timely, relevant and individualised experiences to users. We can step back and look at three core areas where your CMS has to hit the mark - these are around flexibility, scalability and security:

- **Flexibility** – Tools such as drag-and-drop editors, dynamic content tools, and A/B testing features help teams test and optimise quickly and with relative independence.
- **Scalability** – As your needs grow, you need to be able to quickly add functionality and improve performance. Think multilingual content support, API links, data analytics and CDN support.
- **Security** – Websites need strong security no matter

what. This includes features such as security monitoring, SSL certificates and advanced domain security.

Websites, perhaps now more than ever, are an integral part of business and how companies operate - your website is your shopfront. We've seen this ring very true following the social distancing measures put in place and traditional businesses who previously didn't have an online presence have needed to pivot rapidly and move their business online.

We describe the integration of a website to your business as your CMS being your system of content and your CRM your system of record - both are integral for any growing business. Do they need to be connected? Absolutely. It helps hugely if they're integrated at a deeper level - having an all-on-one play or using a tech suite means that your systems interact in a very natural way, because they're designed to do so, and your internal users are having to move between different systems.

Research by Acquia shared that a majority of marketers surveyed said they felt technology made offering customers personalised experiences harder, not easier, due to customer data living in silos - this really shows us how the connection between your CMS and CRM, and all of your martech, really comes into play.

Security is a growing concern for content management. What security measures would you recommend?

Traditional CMSes force you to focus on security and maintenance, rather than the customer experience. When it comes to vulnerabilities in traditional CMSes, often it's a plugin or a third-party integration with your CMS, not the CMS itself, that compromises your site's security, and more than 30,000 websites are hacked every day, so with a traditional CMS it's not a matter of IF you'll get attacked, but when.

While we believe that your CMS should be laser focused on the experience it enables you to deliver, the customer experience and trust they put in your business is fractured, sometimes beyond repair, when your security is compromised. And today's marketer recognises this. In a recent study conducted by HubSpot, site security ranked number 1 when considering the most important factors for choosing a CMS.

We recommend four must-haves for website security:

- Implementing an SSL certificate
- Using a web application firewall
- Using a global CDN
- Implementing a website monitoring service

Keeping your business and customers safe is critical. Security, monitoring and compliance cannot be a luxury or an afterthought. They're at the top of the list and are non-negotiables for any CMS.

SMEs Online

SMEs have remained a critical part of India's growth engine and their role will be extremely crucial in the post-COVID-world. However, the bigger question now is, how will they survive the pandemic?



Challenges faced by SMEs
The vibrant sector that employs 40% of the country's workforce and contributes 30% to its GDP, is one of the biggest victims of the viral outbreak. Companies under this segment are significantly facing a slowdown in their operations mainly in the form of low liquidity and lack of workforce. To ensure sustainability, unfortunately, many players have strictly started taking survival measures like layoffs and salary deductions.

Government Measures

To help SME players sustain their businesses during this hour of crisis, the government has come forward with some much-needed measures. For instance, Long Term Repo Operations (LTRO) worth INR 100,000 crore rolled out by the Reserve Bank of India has enabled banks to increase their lending to SMEs at cheaper rates.

Along similar lines, the incumbent government has also come out with an economic package of INR 1.70 lakh crore under the Pradhan Mantri Garib Kalyan Yojana. This



GIVEN THE UNCERTAINTY IN THE CURRENT SCENARIO, THE RIGHT ADOPTION OF TECHNOLOGIES AND INVESTMENT IN DIGITAL TOOLS WILL HELP COMPANIES BETTER CONNECT WITH AND SERVICE THEIR CUSTOMERS AT EVERY STEP OF THEIR OPERATIONS, WITHOUT ANY HASSLES

aims to help migrant workers and those below the poverty line by providing them with free foodgrain and cooking gas for the next three months.

The government has also extended the income tax return filing date for FY 2018-19 to June 30, 2020, from March 31, 2020. Moreover, it has even extended the deadline for GST returns filing for March, April and May to June 30, 2020. However, the SME segment calls for more concrete initiatives; perhaps a digital push to revive from the current crisis and become future-ready at all times.

The Need to Go Digital

By taking their businesses online, SMEs can add efficiency, innovation and accuracy to their existing operations and eventually reduce the turnaround time of their servicing process. However, due to factors like lack of awareness, skilled labour, financial assistance, and low IT infrastructure, among others, a large number of businesses in this segment are unable to tap the maximum potential of digital solutions. Currently, 68% of SMEs in India still operate offline with no digital presence while completely relying on traditional methods.

Digital SMEs, on the other hand, are successfully taking their businesses to new heights with increasing revenues and profits. By investing in digital practices – be it customer relationship management (CRM), selling on E-commerce platforms or online payments – small players can ramp up productivity levels, add agility and even enter new markets. For instance, by using CRM tools, companies can streamline tasks and prioritise them as per their deadlines. This results in efficient task allotment as well as ensures timely completion, eventually simplifying and augmenting the company's overall way of doing business.

Given the uncertainty in the current scenario, the right adoption of technologies and investment in digital tools will help companies better connect with and service their customers at every step of their operations, without any hassles. For instance, they can start by building a user-friendly website to mark their online presence. Through this, they can showcase their products and service customers online while ensuring compliance with social distancing.

Similarly, they should also consider cloud accounting software or SaaS. Since this software is hosted by a service provider, it eliminates the problem of installation and maintenance. By leveraging this tool, companies can communicate, delegate and monitor key tasks while they are working from home. Moreover, the software can enable companies to view and maintain sensible data in real-time while ensuring that it is only accessed by authorized people. It can, therefore, be a great solution for SMEs to keep their accounting and compliance-related matters updated without any physical intervention.

Not only will these solutions help companies sail through the economic storm engendered by COVID-19, but will also keep them prepared to face more such outcomes – if any – in the future.

As more and more players acclimatise to the new world order and move towards a digital economy, they will learn to embrace the ability of connected ecosystems and add value to their business operations. This transition will however, be an uphill task for many, but those who will quickly adapt to it will certainly shine in the days to come. After all, innovators always lead the change, irrespective of its nature!

(The author is COO, TradeIndia)



—SUMIT GUPTA
CEO, CoinDCX

CoinDCX is a cryptocurrency exchange and has announced a partnership with global identity verification and authentication company Onfido, to digitally automate CoinDCX's entire KYC process while making it faster than ever. Onfido's technology uses AI to help verify users' identities swiftly and securely while preventing fraud, enabling CoinDCX to onboard users in under 5 minutes while meeting KYC regulations. Here, Sumit Gupta, CEO, CoinDCX, tells us more



AI FOR CRYPTOCURRENCY EXCHANGE

What will the CoinDCX and Onfido partnership attempt to achieve?

CoinDCX and Onfido have partnered to achieve the following:

- Enhancing user experience with ease of use and OCR autofill.
- Meet regulatory obligations and reduce risks.
- Faster onboarding with digital identity verification. By integrating Onfido's AI mechanism we can not only simplify the KYC experience for users but also give our users peace of mind by providing the highest level of fraud protection. Onfido's cutting-edge and next-generation technology will enhance CoinDCX's compliance, safety, security and performance, as it has with so many other companies in the past.
- Reduced the KYC verification time. Now, it is reduced from 24 hours to 5 minutes.

How can CoinDCX verify users' identities? There are many ways to commit fraud. Will this be fool proof?

Onfido has been in the identity management sector for quite some time now and their AI is able to identify the frauds way better to handle AML and PEP cases tagged at a global level. They support 4,500 identity documents across 195 countries.

Elaborate on the onboarding process for users

After partnering with Onfido, our onboarding process has been reduced down to 5 minutes. Users can start their KYC process directly on their phone. A QR code is generated when you click on the 'Verify KYC' link, which redirects you to a webpage where the document submission process begins.

All you need to do is upload the back and the front side of your ids by clicking their pictures. You are also asked to upload a selfie. This also helps us to maintain the latest records of the user. Onfido verifies the details in the images of your ids with the details you have submitted to us. If the images of both IDs and selfies are clear, and there are no disparities in the submissions, the

KYC is verified within 5 minutes.

Cryptocurrency exchanges are also hackable. What preventive measures have been taken?

We have a three-layer protocol for security. Additionally, we advise users to install 2FA on their devices and periodically remind them not to reveal OTP that they receive for various activities on the platform.

Elaborate on the TryCrypto initiative that provides helpful tools

There are several tools –

- TryCrypto is an initiative that aims to onboard 50 million Indians onto crypto.
- Funds allocated towards educational initiatives, seminars, and online courses (15%); roadshows and awareness campaigning (25%); meetups, community events, and community engagement (25%); and to product trials (35%).
- CoinDCX will roll out DCXlearn, a full-fledged crypto learning program.

Currently DCXLearn is accepting early entries of upto 5000.

DCXlearn is geared towards giving first-time crypto users a sufficient knowledge base to help them navigate the cryptocurrency market safely and securely.

What is being done to spread awareness about cryptocurrencies in India?

There are many ways this is being done. The CoinDCX's TryCrypto initiative is steadily making progress towards increasing awareness and adoption about cryptocurrencies. There are various communities dedicated to cryptocurrencies and blockchain that organise several meetups, every month to help new people understand the basics of crypto. CoinDCX has rolled out early access to DCXLearn, a full-fledged crypto learning program, which is geared towards giving first-time crypto users a sufficient knowledge base to help them navigate the cryptocurrency market safely and securely.



ALL YOU NEED TO DO IS UPLOAD THE BACK AND THE FRONT SIDE OF YOUR IDS BY CLICKING THEIR PICTURES. YOU ARE ALSO ASKED TO UPLOAD A SELFIE. THIS ALSO HELPS US TO MAINTAIN THE LATEST RECORDS OF THE USER

“ KEY FOR CUSTOMER BASE

Akamai Technologies is a global content delivery network, cybersecurity and cloud service company, providing web and Internet security services. Its content delivery network (CDN) is one of the world's largest distributed computing platforms, responsible for serving between 15% and 30% of all web traffic. Here, Prasad Mandava, MD India & VP, Engineering, Akamai Technologies, tells us more

What should one do in the case of a sudden increase in remote user volumes?

Akamai has rolled out a robust Unified communications program, enabling audio/video and chat on a single platform. We had already deployed dual-factor authentication, largely eliminating the need for passwords and single sign-on for hundreds of enterprise applications. Akamai's Enterprise Application Access (EAA) product is based on a Zero Trust model,

where we treat our offices like any hotspot and enabled application-level access controls.

We have adopted our own enterprise security products for application access, threat protection as well as web application firewall. With EAA and our other Enterprise products, our employees could already work from anywhere. Our infrastructure is already designed with our global, mobile workforce in mind, so it was a pretty smooth transition when we declared global WFH for our employees.



—**PRASAD MANDAVA**
MD India & VP, Engineering,
Akamai Technologies

With COVID 19, a lot has changed in global work environment over the past few months - remote work has become the new normal. Akamai's technology is helping organizations to grant remote workers secure access to the applications for business productivity. Companies are facing security issues due to the sudden rise in remote user volume, as it is difficult to provide VPN access to everyone.

Akamai's edge platform is built for a world where

businesses depend on the Internet for everything. Enabling secure remote access for employees has been a reactive measure, and most organizations only plan for this when a disruption or situation occurs.

How can you maintain application access and security with a completely remote workforce?

Akamai's edge platform provides the maximum security for a workforce. Applications and users have become



THE IMMEDIATE CHALLENGE OF HAVING TO SCALE AN ENTIRE WORKFORCE TO BE WFH AND SECURELY GAIN ACCESS TO BUSINESS-CRITICAL APPLICATIONS IS JUST THE LATEST CHALLENGE

more widely distributed and perimeter security is not enough because workers and applications have become more mobile, and infrastructure has been moving to the edge. Thus, securing your remote workforce has always been a challenge. With Akamai's technology workforce, we can attain the highest level of security in terms of saving the company confidentiality.

The immediate challenge of having to scale an entire workforce to be WFH and securely gain access to business-critical applications is just the latest challenge. Corporate VPN setups are typically not scoped for large numbers for off-site workers, and scaling access is expensive, slow, and complicated for most businesses. Akamai's enterprise security solution as a part of edge platform is working seamlessly to maintain security in remote workspace.

How can businesses that invest in strategic, operational and financial resilience to emerging global risks, be better positioned to respond and recover?

The impact of the coronavirus continues to be felt across the globe, along with most of the country's population currently in some form of lockdown. The economic slowdown across the world has hit industries in all the sectors; from MNCs to startup to small businesses — are trying to survive amidst the pandemic while many companies are struggling to manage their operations or communications during this time.

During this critical time, as consumers are doing online transactions and buying their essentials online, web performance and great digital experiences will be one of the key elements in attracting and keeping your customer base. We at Akamai, help our consumers to deliver with

fast personalised online experiences, which enables them to increase revenue opportunities, scale globally along with increased IT agility. Our customers can connect on any device including mobile phones and get a secure access to websites and applications, making their online shopping experience safe and secure.

How can you maintain business continuity in times of disruption?

As the world battles through the pandemic, over the last few weeks, remote working has become the new normal. This has brought about its own set of challenges mainly due to limitations of the application-based VPN infrastructure. Akamai's Business Continuity Assistance Program, armed with our enterprise security solutions, can be globally deployed in less than 15 minutes to secure and manage remote access. It comes with a 60-day free usage period for the assessment of our technology and services.

Keeping our clients in mind, Akamai launched the Business Continuity Assistance Program. The program is helping our customers avoid business and productivity disruptions in today's challenging global environment. Most companies are not prepared for sudden increases in remote users due to limitations of VPN infrastructure and small remote worker scoping.

The VPN infrastructure is often appliance-based, hard to upgrade, and has limited capacity based on original planning assumptions. With Akamai's enterprise security solutions can be globally deployed in less than 15 minutes to secure and manage remote access. Akamai has also introduced a free 60-day usage period of secure application for its users to enable an assessment where the user can determine our technology and services.



Neh Srivastava, Under Secretary, Ministry of Home Affairs and President, Central Secretariat Services Officers Society (CSSOS), has held many important portfolios like Commerce and Textile, Prasar Bharti and as DG of Foreign Trade, under the Government of India. Here, he talks about the Digital India journey over the last five years

—**NEH SRIVASTAVA**

Under Secretary, Ministry of Home Affairs
and President, CSSOS



DIGITAL INDIA AND RAISING OF GDP

How has been the path, so far, for Digital India?

In July 2015, the Government of India launched 'Digital India.' This is done with the intention of achieving three intertwined objectives. These are as follows:

- Availability of high-speed internet to each and every citizen.

- To make all government services accessible to the common man through E-governance.
- Digital empowerment of citizens.

To turn the country into a digitally empowered society and information economy, the Digital India initiative was introduced. Digital India ensured the online delivery of government services to people. It also introduced public transparency through mandated electronic delivery of government services; a specific ID and E-Pramaan focused on real, standard-based interoperable and integrated government apps and databases.

What have been the accomplishments? Kindly list them.

There have been many accomplishments.

- Mobile internet played an outstanding role in achieving digital India dream. India became world's second-largest smartphone market. As of May 2017, the number of internet users increased to 50 crores. In June 2014, there were 24.3 crore Internet users.
- Indian government is promoting content in local languages in internet.
- In the United Nations E-governance Index, India increased its rank by 11 positions compared to 2014. India ranks 107 in 2016. This was 118 in 2014.
- Number of E-governance transactions per day was increased.
- Launched in 2015, 'DigiLocker' allows people to store and exchange documents safely and electronically as of 2017, with 72,66 lakh registered users.
- All central ministers are present in social media and are utilizing social media to receive complaints and feedback from citizens.
- In December 2016, the 'Bharat Interface for Money (BHIM)' app, a simple mobile UPI-based digital payment system, was introduced. Since then transactions based on UPI have risen more than 20 times. This growth may however be attributed to the push toward democratization.
- 'BHIM Aadhar' was launched at merchant outlets to make digital payments. This means payers do not need to have a cell phone to make digital payments.
- 'UMANG' app was launched to drive mobile governance in India.
- 'Pradhan Mantri Gramin Digital Saksharta Abhiyan' (PMGDISHA) started with the intention of digitally literating 6 crore people. As of 2016 82.7 lakh citizens will be educated under this program.
- 'National Knowledge Network', a revolution towards creating a knowledge society, without boundaries, connected 1,635 institutions as of 2017.
- National Cyber Coordination Center is operating from June 2017. It ensures cyber security and is a backbone to the vision of Digital India.
- The new AarogyaSetu App is also an Indian open-source software service CoVID-19 'Contact tracking, syndromic mapping and self-assessment,' primarily a mobile app built by the Ministry of Electronics and Information Technology's National Informatics Center. In 40 days, the app has reached over 100 million downloads.

What is the road ahead for Digital India?

The Digital India initiative could raise GDP to \$1 trillion by 2025 according to analysts. It can play a key role in macroeconomic factors such as GDP growth, job creation, labor productivity, business growth, and government revenue leakage.

Due to obstructions and obstacles such as middleman, illiteracy, ignorance, insecurity, lack of funds, knowledge, and investment, social sectors such as education, health care, and banking are unable to reach out to people. The major changes in the technology space not only will bring changes to the economic system but will also contribute to the changes in the environment.

The innovations of the next decade would help to reduce the carbon footprint by reducing fuel consumption, waste management, greener workplaces and thereby contributing to a greener environment.

The ICT industry assists in the effective management and usage of finite and non-renewable resources. By increasing accessibility and efficiency, cloud computing technology minimizes carbon emissions. Energy usage can be reduced from 201.8 terawatt hour (TWh) in 2010 to 139.8 TWh in 2020 by higher cloud data center adoption resulting in a 28 percent reduction in carbon footprint from 2010 rates.

Innovative work of Digital India

Digital India turned 5 years on July 1, 2020. We asked the industry regarding their views and the accomplishments and the road ahead. Their comments follow

Following are the comments from Girish Utagi, Managing Principal (Director), Digital Programmes Delivery Lead, CAPCO, Sudhanshu Mittal, Head, CoE Gurugram & Director, Technical Solutions, NASSCOM Centre of Excellence, Nikhil Rathi, CEO & Founder, Web Werks India and Anshuman Magazine, Chairman & CEO, India, South East Asia, Middle East & Africa, CBRE on the topic of Digital India.

HOW HAS THE PATH SO FAR BEEN FOR DIGITAL INDIA?

Girish Utagi: Digital India is certainly headed on an upward track, especially in the financial services industry, where we've seen a significant amount of digitalization.

The payments sector is an area where we have observed a continuous flow of investment with more global players entering this space to provide a spectrum of payment services, and this is something that we have seen reflected around the globe.

In the UK, for instance, digitalisation has been key to the government-backed open banking and PSD2 initiatives, which has seen challenger banks, fintechs, technology companies providing API based services to gain customer base.

Looking at the payments market in India, the Unified Payments Interface (UPI) has been widely adopted by almost every payment service provider. The volume of financial transactions using UPI only proves that digital



payments will continue to rule as services are offered at the click of a button on apps.

Sudhanshu Mittal: While India has been an IT powerhouse for over 2 decades, Digital India initiative sought to build upon that for the development and promotion of emerging technologies. While the development of technologies has been accelerated by the initiative, the adoption by different user segments has not seen that much of traction.

Nikhil Rathi: The Digital India campaign has led India to substantial growth with a massive push in the use of the Internet and data. A lot of endeavours like data localisation, Local pe Vocal etc., are supporting the initiatives of Digital India. So, we are seeing more and more digitization and uptake of India centric services.

The Aarogya Sethu App and the support it brought to the nation while we work through the pandemic is one classic example. These initiatives supported by Indian technology make the country absolutely self-reliant particularly in the face of international dilemmas.

With apps like Cred, BHIM UPI etc, you now have services available on your compute and some of these services are not even available outside the country. The government too has supported the growth of citizen services. With all of this, we see that even though India is a complex country, there has been a lot of improvement and a lot has been achieved.

Anshuman Magazine: The rapid transformation in the country is making it a more digitally empowered society and knowledge economy. Within short span of Digital India's commencement, we have not just seen a paradigm shift in the digital awareness of the citizens and stakeholders, but also an active participation of the government in revising the mediums to digital modes basis industry situation and trends.

However, Covid-19 has initiated government and companies to adopt digital solutions at an unprecedented pace, with the outbreak appearing to be a genuine catalyst for change. Changing global work patterns and a pro-tech government stance is likely to encourage public enterprises and private businesses to adopt newer technologies. Thereafter, our ecosystem of start-ups and established corporates are expected to dive headfirst into the race to apply technologies and digital solutions to

solve unique Indian problems in various assets classes and embrace innovation.

WHAT HAVE BEEN THE ACCOMPLISHMENTS SO FAR?

Girish Utagi: Digital channels will certainly see a further boost going forward with every large company trying to get their customer onto these channels. The current situation with Covid-19 means that interactions with customers will inevitably undergo a change. Where once you could service a walk-in customer, that ability is now constrained; meanwhile, staff within the contact centres of the banks, insurance companies and other large firms are themselves working remotely and are constrained in their ability to service the customer.

At Capco, we have received requests from firms who are looking to explore digital channels to address these challenges, for instance via the use of bots or RPA-based solutions to modernise the contact centres.

Sudhanshu Mittal: Apart from areas focused on governance, E-health, cybersecurity etc, multiple Centres of Excellence focused on different areas like blockchain, mobility, IoT and emerging technologies have been established throughout the country.

These centres, including the NASSCOM Centre of Excellence – IoT & AI, have focused on supporting the innovators developing solutions in various ways and also on promotion of technology by users in different sectors like healthcare, manufacturing, agriculture etc. While there is lot more to be done in terms of the technology adoption, a strong start has definitely been made. The innovative work being done as part of Digital India has led to manifold increase in the intellectual property generation also.

Nikhil Rathi: Digitalisation in India has not only contributed to the tech initiatives, but also into making India sustainable, financially independent, and self-reliant. We could use a number of perspectives to enlist our accomplishments.

From a government perspective, we can look at the success of digital literacy programs, mobile services, such as the mobile Aadhar services, the government connect through the Aarogya Setu app, digital legal systems etc., have managed to improve citizen services dramatically.



WE NEED TO GEAR OURSELVES TOWARD A 'NEW NORMAL' WHERE REMOTE WORKING WILL BE MUCH MORE COMMON. AS A RESULT, NEWER DIGITAL CHANNELS WILL DEFINITELY TAKE GREATER PRECEDENCE WHEN IT COMES TO CUSTOMER ENGAGEMENT

The government is also supporting the development of Indian conferencing systems, payment gateways, etc. Above all, Digital India has brought in a substantial amount of transparency in the government.

From a business point of view, it has supported the ease of doing business through bringing company law boards online, providing easier access to company information, thus helping the companies grow and scale-up. Also, amidst the pandemic, it was digitalisation that helped businesses keep their operations running through the use of CDN tools, cloud, etc., that supported remote working.

From an individuals' perspective, the groundwork laid by Digital India has largely supported digital payments, public safety and security, and the modernization of public services. All of the services seen as basic utilities today, have been brought down from luxuries by digitization. They are not just seen across specific industries, but have transformed public life and supported it, particularly during Covid-19.

WHAT IS THE ROAD AHEAD?

Girish Utagi: We need to gear ourselves toward a 'new normal' where remote working will be much more common. As a result, newer digital channels will definitely take greater precedence when it comes to customer engagement. We expect to see data analytics, in particular, come to the forefront as the customer buying behaviour will undergo a change, as banks and other providers look to build more sophisticated and attractive offerings to gain wallet share.

Sudhanshu Mittal: The road ahead is for the Indian startups and innovators to continue developing the

intellectual property. Copy-paste from western world is not going to work in India, and the solutions have to cater to the unique Indian environment. The Covid-19 problem has exposed various fault lines in the supply chain and logistics industry, which provide strong opportunities for digital innovation.

Nikhil Rathi: While a lot has been achieved, we still have a lot to cover. Through data localization we have to bring in our data back to the country and as fast as possible. This is particularly to ensure that in times of strife, our data can be audited and protected within the country. Through the local pe vocal initiatives, we have to ensure that our data and our assets are secured, and digital concepts lead us to financial growth and stability and jumpstarts our economy.

Anshuman Magazine: According to a survey by CBRE, digitisation is taking precedence across the sector and more than 90% of the occupiers and developers are aiming to bring a technological shift in their business operations within the next five years. With 'Tech' and 'Digitalisation' leading the economies and businesses out of this unprecedented time, it is soon making itself viewed as an 'essential' commodity. In this age of growing digitisation, C-Suite priorities no longer keep IT and business solutions in isolation from each other; instead, the focus is on leveraging the synergy between the two.

With growing digital consumption pattern, Data centres are expected to see a huge demand in India and are playing a critical role in keeping the country literally online. With growing dependence on digitisation, data centres will eventually enhance the digital infrastructure requirement for under the Digital India programme.

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Venkaiah Naidu, Vice President of India, Launches Elyments Social Media App

M. Venkaiah Naidu, Vice President of India, has launched a social media app Elyments. This app has been launched under the Aatmanirbhar Bharat (Self-Reliant India) campaign.

He said on the occasion, “We are aspiring to make India a leading power in every field. We should remain resolute in our response. PM Modi has given a call for Aatma Nirbhar Bharat. India has come to be known as a superpower because of the technology experts.”

MeitY, in partnership with Atal Innovation Mission-Niti Aayog launched the Digital India AatmaNirbhar Bharat Innovate Challenge to identify the best Indian apps that are already being used by citizens, and have the potential to scale and become world-class apps in their respective categories. This new venture or Abhiyaan has given a quantum jump to India. Young thinkers are willing to innovate and explore. Innovation is the watch word for the 21st century. There should be transformation of the nation, and transformation for the betterment of the people.

Over 1,000 volunteers from the Art of Living have created the app called Elyments. It is now available in 8 Indian languages. It will soon be available in all the major Indian languages. It is hoped that even the normal people will be able to communicate better. This app also demonstrates Indian technology and a step towards Aatma Nirbhar Bharat.

The role of the Guru is crucial in this transformation. He or she makes you a better human being. The Guru guides us all the times, including, difficult times. He urged all the countrymen to adopt this app.

FEATURES

- Take picture-perfect images with AR and VR features
- Lag-free, instant messaging
- Secure data
- Updated news
- Made in India for the whole world

LUXURY BECOMES NECESSITY

Sri Sri Ravi Shankar said that this is India’s first social media super app, Elyments and is made by a team of more than 1,000 volunteers of Art of Living. The giants of the industry have guided them. Today, the dialog and narration has changed. What was a luxury a few years ago has now become a necessity.



Social media is all about communities. We should use this app judiciously. Good news and inspiration can also be done through social media. We hope this app can connect us with the whole world. The more you become media savvy, the more you understand the world. Your logic and knowledge will expand. Your life will have bigger dimensions. Humanity is absolutely essential while we develop technology. We should look to exchange information, and growing our lives. We can help people to uplift their spirit. Positive messages can change their outlook towards lives. We should have a world of peace, harmony and belongingness.

Aatma Nirbhar Bharat is a great thought. Every part of our country can become strong and self sufficient. Let us celebrate our wisdom and our knowledge. Through this app, let us make India proud, and the world, connected.

ONE APP FOR EVERYTHING

Elyments, developed by Bangalore-based Sumeru Software Solutions, is a comprehensive social networking app that is literally a one-stop-app for everything you might need. Connect and converse with friends, share updates, network with like-minded people, discover interests, make seamless voice and video calls, and much more with Elyments.

On Elyments, people will be able to connect globally and shop locally. From day zero, Elyments has been built with user’s privacy as a primary concern. Data of users is stored in India and user’s data will never be shared with a third party without user’s consent.

Meity Celebrates 5 Years of Digital India and Aatma Nirbhar Bharat

The Ministry of Electronics and IT (MEITY) is celebrating 5 years of Digital India with the theme of Digital Bharat and Aatma Nirbhar Bharat.

Addressing the distinguished audience at Electronics Niketan, New Delhi, Ravi Shankar Prasad, Union Minister, Law and Justice, Electronics and IT, and Communications, Government of India, said there has been strong economic growth across India. Digital entrepreneurship has been on the rise. All the digital and other platforms have become milestones of success. I need to complement Meity. Aadhar had to fight many battles. This has been a real journey. There is a reason to have a modest feeling about success. The communications department has been working very efficiently. By focusing on Digital India, we have successfully taken on the challenge provided by Covid-19. Digital governance has come to be the core of India's response.

He continued, "India is in the areas of digital delivery of services, empowerment, etc. The way the Prime Minister, Narendra Modi has supported and guided, is an inspiration. These five years are very well deserved. We must scale to greater heights in the future."

Ajay Sahni, Secretary, MEITY, said there is fair amount of activity happening for Digital India. It has brought about a large, well-knit ecosystem. We have made efforts to bring broadband to all parts of the country. We have huge datacentres across the country. We have also built various kinds of services via the e-governance projects. There is repeated and relentless focus on inclusion. The Minister has ensured we do not lose sight and work towards building the country. Common service centres (CSCs) are spread across the nook and corner of the country. There is thrust on taking E-commerce all the way to the villages. It has been a wonderful journey so far.

FOUR PILLARS OF GOVERNANCE

Nandan Nilekani, Non-Executive Chairman, Infosys, said the Digital India and MEITY have been central to the digital journey of India. The entire digital platform was made possible only because of the infrastructure that India has today. The Government has been the enabler, as a customer, technology, collaborator and providing solutions. MEITY was even present at the formation of Nasscom. The software technology park idea was also driven by MEITY.



There is also a huge role of AI for India. Our focus has been on transactional efficiency. We are going to create massive data in the public space. AI can be applied in a big way to derive insights. MEITY is greatly focused on AI. The Supreme Court launched Suvas, a language translation tool. The official multilingual mobile app of the Supreme Court was launched last year. It is the "Supreme Court VidhikAnuvaad Software", a machine-assisted translation tool trained by AI. Ease of doing business and AI will play a crucial role.

KEY ROLE OF DIGITAL INITIATIVES

Sanjay Dhotre, Union Minister of State for HRD, Communications and Electronics & IT, Government of India said that digital empowerment was and is the major purpose of Digital India. The majority of the Indian population resides in villages. CSCs are giving service to the villages. A total of 116 districts were direct beneficiaries. The initiative will be accelerated with Digital India. As a partner of AtmaNirbhar Bharat Abhiyaan, there is also focus on economic development.

DIGITAL INDIA STARTUP ECOSYSTEM

Earlier, Debjani Ghosh, NASSCOM, spoke on Digital India Start-up ecosystem. Digital India has been a privileged journey for all of us. All of India was locked up. However, we were working, studying, shopping. This was because of the infrastructure that India has. The startups have brought the innovation needed to make Digital India. The digital warriors have been very busy with the grassroots levels. What is required that we quickly adapt. At least 50% of the Indian startups are also changing their business models. The need of the hour is to change.

NASSCOM Joins Hands with 12 Global Technology Industry Associations

In an industry first, the twelve major independent regional organisations representing the Technology and Business Services Sector across the world have united to launch The Global Technology and Business Services Council. The council aims to demonstrate how the global tech industry dealt with the COVID crisis ensuring business continuity and employee safety, the overwhelming feedback it has received from clients across the world, the critical support it provides to various sectors, the absolutely critical role of highly skilled tech workers and the “essential services” they provide.

Last but not the least, the innovation it drives and why it is critical to preserve the global, interconnected and collaborative nature of this industry.

GT&BSC, an alliance of twelve international associations representing the technology and business services sector across Bosnia, Bulgaria, Czech Republic, Egypt, India, Latin America, Latvia, Malaysia, Poland, Romania, Russia, South Africa, Sri Lanka, United Kingdom, United States and Ukraine, collectively represent the interests of over 10,000 organisations, including multi-nationals, indigenous tech companies, SMEs and start-ups.

Even before COVID struck, technology was already permeating itself into multiple layers of businesses. With the pandemic the speed and the depth of technology adoption is only going to accelerate. It has further brought to light the critical role of tech workers in supporting key IT infrastructure, managing data and global processes for critical sectors such as healthcare, government, banking, supply chains, telecom, come up with innovative data driven analytics, products and solutions that help in better decision making. These are highly skilled technology workers and every nation needs access to them.

“The one thing that is common in keeping multiple industries afloat during these trying times and enabling them to transform into digital businesses is “Technology”. Shared efforts by governments, international organisation and global businesses remind us of our connectivity and interdependency and why it is important to retain the global nature of the tech industry. This is a time for



collaboration, harnessing investment and innovation from around the world to maximise the speed and depth of economic recovery in all countries”, said Shivendra Singh, VP, Global Trade Development, NASSCOM.

NASSCOM is also a signatory to the global business community call by the Information Technology Industry Council (ITI), US, to policymakers worldwide to adopt clear and consistent guidance on including technology workers as those providing essential services. This is also in alignment with recent guidance published by the U.S. Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency (CISA) that designates key categories of Information and Communication Technology (ICT) workers as essential services.

The tech sector was central to the rapid deployment of work from home models not only in India but across the world, providing key support to governments and healthcare for strengthening the fight against COVID. Across countries, technology is helping track the outbreak, clean hospitals, deliver supplies and develop vaccines. This is all referenced in the report being published titled, “A unified global response for the technology and business services industry”.

The council from hereon will promote the industry globally, capture and share value creation, demonstrate the innovations it drives, provide a global network to share best practice, work collaboratively on global research programmes and thought leadership and represent the interests of the sector to multiple stakeholders.

CBSE Collaborates with IBM To Integrate AI Curriculum in 200 Schools across India

The Central Board of Secondary Education (CBSE), the national level board of education in India for public and private schools, controlled and managed by the Union Government of India, has announced the integration of Artificial Intelligence (AI) in the high school curriculum (Grade XI & XII) for the current academic year (2020 – 2021). Developed in collaboration with IBM (NYSE: IBM), the curriculum is part of CBSE's Social Empowerment through Work Education and Action (SEWA) program and will be introduced in approximately 200 schools across 13 states in India (Delhi-NCR, Karnataka, Tamil Nadu, Orissa, Kerala, West Bengal, Andhra Pradesh, Telangana, Maharashtra, Madhya Pradesh, Uttar Pradesh, Rajasthan and Punjab).

The IBM AI curriculum is structured around a course framework for students consisting of base strands of knowledge (basics, history, applications), skills (design thinking, computational thinking, data fluency, critical thinking) and values (ethical decision making, bias) in AI. It is further made robust with problem-based learning outcomes and assessment methods for teachers, to build foundational skills of AI in students making them not just consumers of AI, but creators as well. To meet CBSE's requirements for Grades XI & XII, the curriculum was co-developed with Australia's Macquarie University and Indian implementation partners – Learning Links Foundation and 1M1B.

Manoj Ahuja, Chairperson, CBSE said, "AI will certainly become all-pervasive in our lives in coming years and it is important to inculcate the necessary skills & knowledge right from high school level. The unique proposition of the IBM AI curriculum is that it allows Grade XI & XII students from all streams, in addition to Computer Science, to build the foundation for themselves to be AI ready. This same ethos has been carried forward in our 'AI for Better India' initiative as well as 'IBM EdTech Youth Challenge' which helps break the myth around AI. With support from IBM, we are proud to lead the way for the nation by developing such an innovative training-based learning approach for students & teachers, while inspiring them to use AI for social good."

The IBM AI Curriculum was launched in collaboration with CBSE in September 2019 with an aim to impart AI skills to 5000 Grade XI students and 1000 teachers across India. Following the program launch, a series of Principal Orientation and Teacher Training sessions were conducted between September 2019 and June 2020. As part of the partnership between IBM and CBSE for the AI Curriculum, trainings (online and classroom) for over 5000 students

were conducted resulting in a cumulative 408 hours of training workshops.

Speaking at the launch event, Sandip Patel, GM, IBM India/South Asia said, "The question on the minds of educators and economists alike is how will technology impact jobs moving forward and how can we prepare our students to succeed in an increasingly automated, AI-driven world. The objective of our exciting collaboration with CBSE is to help address some of those challenges by designing one of the most accessible and comprehensive gateways for students to begin their AI journey. As they think through designing innovative solution to address key problems, we also get them deliberate about the ethical implications of the technology. The potential success of the IBM designed AI curriculum in our everyday lives can be glimpsed in the work showcased in this year's 'AI for Better India' initiative. We congratulate the finalists and eagerly look forward to bring in a new generation of problem-solvers who will leverage AI to build a better world for everyone."

IBM and CBSE also announced the 2020 IBM EdTech Youth Challenge to encourage teams of students and teachers to leverage emerging technologies including cloud, AI, Blockchain to solve existing or imminent problems that society is facing. Final winners stand to get a two-week internship & mentorship experience from senior leaders at IBM as well as opportunities to participate in national or international hackathons or conferences.

IBM and CBSE also announced the winners of the 2020 'AI for better India' hackathon focussed on leveraging AI to solve real world problems. IBM mentors from the software labs were instrumental in empowering students with industry skills to ideate, design, build solutions and present to clients. Of the 464 AI project submissions received, 103 projects submitted by 260 students were selected for expert mentoring by IBM mentors. These projects were onboarded to the Hacker Earth mentorship platform as part of the 'AI for Better India' challenge by IBM. The finalists graduate to 2020 IBM EdTech Youth Challenge.

- **1st Place:** 'HEALTHHub - AI Health Kit for India's rural areas' by Akanksha Rani, Yash Pandey, Anish Ahuja from Apeejay School, Panchsheel Park, New Delhi
- **Joint 2nd Place:** 'MEDBox - Smart Medicine Box' by Madhav Malik, Luvya Aggarwal from Jaypee Public School, NOIDA
- **Joint 2nd Place:** 'Saylus – AI-enabled Women Safety Platform' by Bhavye Khetan from Delhi Public School, Gurgaon

Schneider Electric Extends Strategic Partnerships with AVEVA, Lenovo and Stratus to Enable IT/OT Convergence

Schneider Electric, which provides energy management and automation, today announced the expansion of its partnerships with leading technology companies to address the convergence of IT and OT. Bringing together system integrators with IT solution providers to build integrated industrial edge computing solutions, the expanded partnerships have resulted in the immediate release of three programs including: new reference designs, co-developed with AVEVA, and integrating solutions from Lenovo and Stratus; a learning path for system integrators; and a collaborative online community for learning and sharing opportunities within Schneider Electric Exchange. The industrial edge programs from Schneider Electric empower system integrators to expand their value to the end user, enabling their customers' industrial digital transformations.

"The smart factory is becoming smarter. Our expanded partnerships and new industrial edge programs empower system integrators to leverage their domain expertise and become IT/OT convergence specialists and meet these needs for their customers," said Philippe Rambach, Senior Vice President, Industrial Automation, Schneider Electric. "We know that smart manufacturing is driving an unprecedented wave of IT technologies into industrial spaces. As companies leverage AI, robotic processing automation, and more, they will require edge computing solutions to reduce latency and enable resiliency, while ensuring privacy and security, and addressing important data and bandwidth requirements."

For industrial operators to capture the benefits of increased automation, they cannot rely on cloud-technology alone to bring the resiliency and speed demanded by AI, HD cameras and other Industry 4.0 technologies. Local edge data centers are IT infrastructure enclosures/spaces/



facilities distributed geographically to enable endpoints on the network. When in industrial environments such as a manufacturing plant or distribution center, this application is referred to as "industrial edge." Analysts have identified the edge as becoming increasingly important.

"The industrial edge is one of the fastest-growing segments of industrial automation and a key driver that is influencing digital transformation," according to Craig Resnick, Vice President, ARC Advisory Group. "To achieve the shortest possible ROI, manufacturers must properly measure asset performance, rapidly identify any problem areas, and make any crucial changes in real-time that will drastically improve their operations. The industrial edge is where this important on-site data capture occurs; real-time analysis of this data is performed and converted into intelligent information, and then shared with the cloud and throughout the entire enterprise while addressing manufacturers' concerns, such as latency and security for production environments."

Mindtree Partners with Husqvarna Group to Drive Digital Transformation

Mindtree has announced it has been commissioned by Husqvarna Group to provide DevOps-centric SAP services to help drive the company's digital transformation initiatives.

Mindtree will partner with Husqvarna Group's Gardena Division, based in Germany, which is the leading brand for high-quality garden tools in Europe. Mindtree's engagement with Gardena will focus on helping the company accelerate its digital transformation efforts. The company seeks to gain better visibility into its operations, more effectively improve service and product offerings across sales and service channels and optimize its supply chain.

"Husqvarna Group and its Gardena Division are well-known global brands positioned at the forefront of their industry, and we are delighted to be their global partner," said Debashis Chatterjee, CEO and Managing Director,

Mindtree. "Our unique product IT operating approach will help to accelerate Husqvarna's product lifecycle – from ideation to development to release – enabling the businesses to meet customer demand more effectively."

Mindtree will apply agile and DevOps concepts to help Gardena develop and deploy SAP applications at a faster pace to meet the business demands of the digital age. This partnership contributes to the company's goal of transitioning from a shared services center to a DevOps-enabled product IT operating model.

Breaking down silos between application development and IT operations will enable tighter collaboration leading to faster time to market for new software and app releases. At the core of this approach are continuous delivery methods that combine agile, DevOps and automation, releasing software changes on demand with a high degree of confidence in quality.

DROR's Social Distancing Enterprise Solutions helps Metalman Auto Reopen Manufacturing Units

Metalman Auto, a company engaged in manufacturing of sheet metal and tubular fabricated assemblies for the automotive industry, has adopted innovative enterprise solutions offered by DROR, a citizen safety app, to support their employees and manufacturing plants amidst the pandemic in India.

With their new enterprise solutions being used at Metalman Auto's manufacturing plants, DROR has been able to provide an array of customized benefits for enterprises and workplaces alike. The app helps HR department track and preview the team's real-time social distancing score enabling to maintain social distancing within the office premises and sustain a safe work environment. In addition to the above, the app also sends a daily, weekly, and fortnightly tracker to the users through which they can analyze whether the social distancing protocols have been maintained or not. Necessary actions can be taken by the HR team based on the report generated by the app. Using Geo-fencing technology, the app helps identify and alert employees if they are within the proximity of 500 metres and below of a COVID-19 containment zone. An invasion alarm is also introduced that alerts users of any social distancing violations taking place inside the workplace premises. Lastly, the invasion alarm uses Bluetooth signals to alert the user of being

within a 2m radius of another user further reiterating the need to maintain social distancing.

Nishant Jairath, Director, Metalman Auto mentions, "Social distancing tools like DROR enterprise solutions will allow a smooth and seamless reopening of enterprises, manufacturing plants, factories and other workplaces in Unlock 2.0. It is a powerful tool and one of the first apps to realise the importance of maintaining social distancing in order to overcome the virus. We are closely working with our HRs across our plants to ensure that the rejoining of our employees happens smoothly with the help of the app. This new ecosystem is giving us the required transparency and clarity to help us deal with the pandemic situation in a much better manner. Our HR department has been closely working with the app leading to the individual employee reports generated periodically proving to be extremely useful. The app is indeed a technological game changer in today's time, and we support DROR's initiative and look forward to using more such innovative solutions of theirs in the near future that propels us to greater heights."

Dhiraj Nauhbar, DROR's Co-Founder and CEO, mentions, "We are happy to partner with Metalman and help them with our enterprise solutions. We are enabling technology-driven social distancing tools for individuals and enterprises and ensuring their privacy is intact and not breached at any point in time."

Seqrite Reports New Malicious Spam targeting Manufacturing and Export Industries

While the world is engrossed in Corona virus-themed attacks, Seqrite, a specialist provider of endpoint security, network security, enterprise mobility management, and data protection solutions, has detected a new MalSpam (malicious spam) campaign, targeting manufacturing and export sectors in India. The researchers of Seqrite spotted that malware actors are leveraging multiple sophisticated techniques in this campaign to bypass traditional defence mechanisms. However, Seqrite is successfully detecting and blocking any such attempts using its patented Signature-less and Signature-based detection technology.

According to Seqrite, some of the common Remote-Access-Tools used by attackers are Agent Tesla, Remcos RAT and NanoCore RAT. Researchers at Seqrite have been following the tracks of these campaigns since April 2020 and have found that attackers don't restrict themselves to a single geography or vertical. They also noticed that similar campaigns existed earlier as well that targeted varied organizations including those managed by the Government. The attackers generally use publicly available systems such as Pastebin and Bitly to host their payloads as it helps them hide behind legitimate services that remain undetected

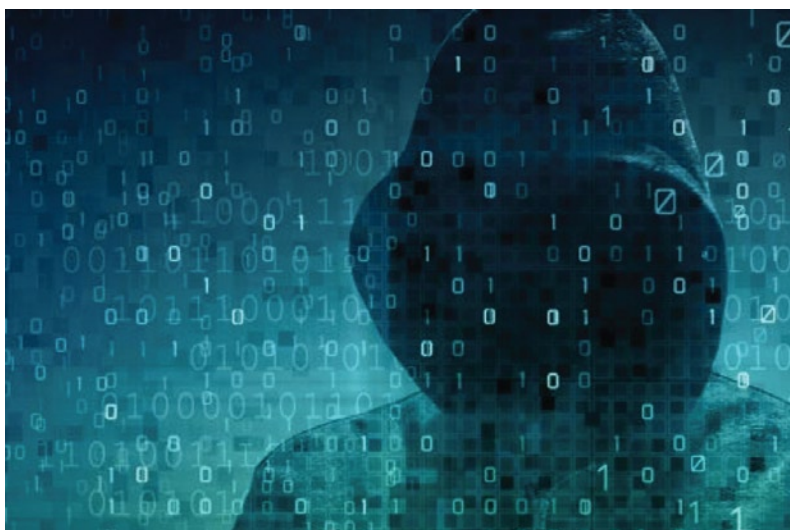
So, how does this attack begin?

The attack begins in the form of a phishing email sent to a genuine user. This contains MS Office PowerPoint files with a malicious Visual Basic for Applications (VBA) macro. Cyber Attackers use VBA programming in Microsoft Office macros as a medium to spread viruses, worms, and other forms of malware on a computer system.

Post execution, the malware takes advantage of pre-existing legitimate software to download malicious payload from Pastebin and continues to spread the infection.

What are the techniques used in this attack campaign?

- **LoLBins or living-off-the-land binaries** – These are built-in tools on operating systems, which are used



for legitimate purposes. Attackers abuse these tools for malicious objectives as security products usually whitelist them.

- **Hosting payloads on legitimate file hosting service Pastebin** – By hosting malicious payload on Pastebin, which is a web-based platform widely used for source code sharing, attackers can bypass network security controls and enter the computer system to steal critical data.
- **Bypass Anti-Malware Scan Interface (AMSI)** – AMSI is a Windows feature that allows security products to integrate with frameworks such as PowerShell and provide better protection against script-based malware. Cyber Attackers use variety of techniques to bypass AMSI and potentially detection by security products.
- **In memory payload execution (file less technique)** – In this method, a file less infection directly loads malicious code into the memory of the system and evades antivirus protection as there is no file to be scanned and analysed.
- **Final advice?** The timely detection and blocking of such attack campaigns is essential for maintaining the integrity and trust in the businesses. Seqrite recommends users to exercise ample caution and avoid opening attachments and clicking on web links in unsolicited emails. Businesses should consider disabling macros, keep their Operating Systems updated and have a full-fledged security solution installed on all the devices.

A Much Needed Solution in the New COVID-19 World

The dynamics of the business world saw a seismic shift post-COVID-19 breakout. Enterprises across have reached crossroads where effective plans for business continuity is the need of the hour. It is in times like these, where organizations need to understand what is critical for their revenue and mitigate risks as much as possible. Digital transformation is playing a major role in aiding business continuity and the factor that determines the success of a business continuity plan (BCP), a detailed remote access plan. Only when business-critical processes can function without any hiccup, a robust business continuity solution can be achieved.

“The business continuity plan of any organization must include a detailed remote access plan. With remote working becoming the new trend, VPN solution has become paramount. Array Networks Best-of-Breed SSL VPN built from the ground up for enterprise-class SSL VPN includes remote access VPN, remote desktop access and secure web access ensuring business continuity with scalability, flexibility and sustainability. To ensure profitability, enterprises need to maintain workforce productivity and this can be achieved with business-critical processes being provided uninterrupted remote access,” said Shibu Paul, Vice President - International Sales at Array Networks.

The aim of a business continuity plan is to ensure that virtually 100% of the workforce can work remotely. The existing remote access solutions need not necessarily be the right answer for a BCP as traditional VPNs are not built for all employees as these traditional VPNs are set aside for corporate teams and not in-office workers. Enterprises need to find a trustworthy BCP augmentation solution for remote productivity; satisfying the full set of requirements for employees, IT and the corporation as a large entity and cost-effectively leverage the existing hardware investment with a minimal additional effort to implement it.

Array’s BCP solutions include wide ranges of solutions/products:

- **Remote Access Solution:** The best-of-breed SSL VPN remote access solution allows businesses to securely scale remote access in response to pandemics and other unanticipated events, providing flexibility and scalability

to enable remote working for any type of worker in any organization. Available as physical appliances or as virtual appliances, the AG Series is ideal for enterprises that need to support multiple communities of interest as well as service providers that need to provide remote access to globally dispersed data centers.

- **Remote Access VPN:** VPNs require different levels of remote access and often require a user experience tailored to their unique requirements and devices. Mobile devices and BYOD present additional challenges in providing on-demand connections for native mobile applications in a manner that keeps data secure in the corporate network and limits exposure. As most VPNs lack these requirements, Array’s secure remote access solutions provide greater levels of security, a greater range of access methods, a broader range of device support and the ability to provide differentiated, identity-based access tailored to the needs of multiple communities of interest. The benefits of remote access VPN are minimized attack vectors, limited exposure, achieving compliance, drive productivity, mobilizing businesses.
- **Remote Desktop Access:** Array’s remote desktop access solution leverages proven remote desktop protocol (RDP) and SSL technologies to allow workers to remotely connect to office PCs from any device, anywhere and at any time. No additional laptops, software or training are required; remote access can be cost-effectively scaled for as many workers as needed from a single appliance. Security is assured as data never leaves the network. The benefit of remote desktop access is to drive productivity, reduce costs, business continuity and eliminate data leakage.
- **Secure Web Access:** Enterprises can publish select applications in a secure web portal for use by any employee group, on any device in any location. This eliminates any chance of credential hacking and secures sensitive data transmission when applications are accessed from outside devices.

Taking business continuity to the next level simultaneously with digital transformation is necessary and for that organizations need to take steps to arrive at a sensible, pragmatic plan and Array Networks business continuity solution is facilitating organizations to succeed in the transformation.

Healthcare Organisations Deem Data Security and Compliance as **Leading Factors** in **Hybrid Cloud Adoption**

Nutanix has announced the healthcare industry findings of its second annual Enterprise Cloud Index Report, measuring healthcare organisations' plans for adopting private, hybrid and public clouds.

Healthcare organisations around the globe are under pressure to drive digital transformation to meet increasing patient care demands. Overall ECI data found digital transformation significantly impacted cloud implementation across various industry verticals, and healthcare organizations were no different with 68% citing this trend. In line with top healthcare IT trends, healthcare companies ranked personalized healthcare (52%) and AI assistants (44%) as positively impacting their cloud adoption. Embracing cloud is essential for healthcare organizations to deliver the most advanced care.

No stranger to regulation, the healthcare industry knows compliance must remain top of mind. In fact, more than half of healthcare respondents (55%) cited regulations governing data storage as a top factor influencing future cloud model adoption at their organizations. The report also found that healthcare organizations were marginally less concerned with cost and budget than they were with accelerating IT deployment.

Other findings from this year's report include:

- **Security and compliance rank as top factors driving cloud deployment decisions:** When asked about the top factor influencing how they decide where to host a given workload, data security and compliance came up most often in healthcare companies (29%). By comparison, cost placed a distant second, with just about 16% of healthcare companies citing it as the top factor. What's more, well over half of healthcare respondents (60.4%) said that the state of intercloud security would be the factor having the biggest influence on their future cloud deployments.
- **Hybrid cloud is considered the most secure, with public cloud coming last:** While nearly all industries surveyed in the ECI said they consider hybrid cloud to be the most secure IT operating model, the percentage was even higher among healthcare respondents. Healthcare organizations chose hybrid cloud as most secure almost 33% of the time, compared to the average of about 28% from all ECI respondents. At a distant second, healthcare



IT pros ranked on-premises, non-hosted private cloud as the second most secure infrastructure (21%). They indicated that public cloud infrastructure was least secure, with only about 7% choosing it as the most secure option.

- **Expect aggressive adoption of hybrid cloud:** An overwhelming majority of healthcare companies (87%) identified hybrid cloud as the ideal IT operating model. In the next three to five years, healthcare companies shared aggressive plans to increase hybrid usage by a net 44% while decreasing traditional data center deployments by about 35%. While other industries currently outpace the healthcare space with higher adoption of hybrid cloud, ECI data finds healthcare companies have confidence that the issues of tools, cloud skills, and other obstacles impeding adoption will be worked out fairly quickly.

“As real-time data becomes more crucial, especially with regard to patient information in times of a pandemic, data management and security remain of utmost importance for healthcare organizations. More organizations in healthcare are seeing the benefits of adopting digital solutions so they can remain efficient, agile, and deliver an improved patient experience. A hybrid cloud model enables IT teams to secure patient data and ensure regulatory compliance, while enabling healthcare providers to continue delivering advanced care to patients,” said Balakrishnan Anantharaman, VP and MD-Sales, India and SAARC, Nutanix.

The respondent base spanned multiple industries, business sizes, and the following geographies: the Americas; Europe, the Middle East, and Africa (EMEA); and the Asia-Pacific (APJ) region.



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