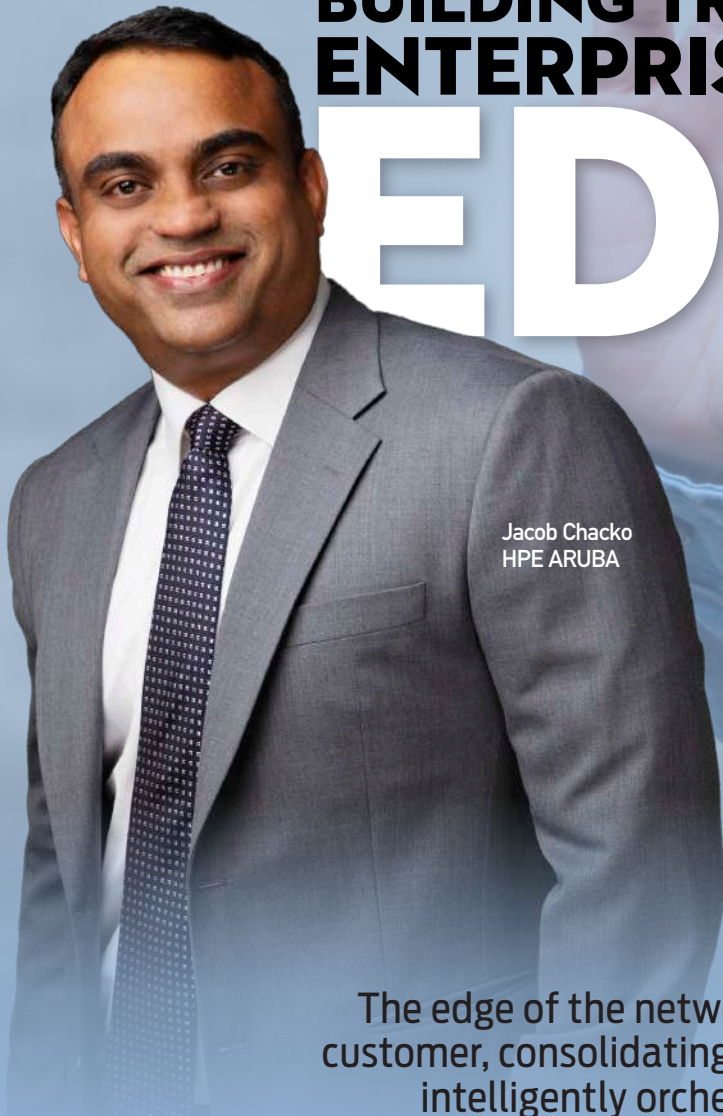# BUSINESS
TRANSFORMATION

THE CHANGE TO FUTURISTIC BUSINESS

JUNE 2020

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HPE ARUBA, TECH MAHINDRA

BUILDING TRANSFORMED ENTERPRISES AT THE
EDGE

Jacob Chacko
HPE ARUBA

Ram Ramachandran
Tech Mahindra

The edge of the network is closest to the digital customer, consolidating analytics in real time, while intelligently orchestrating with the core.

Deborah Alvord, Gartner.

WORKSPACES WILL NEED TO TRANSFORM

Farhan Syed, KPMG.

REALIGNING THE BANKING ENTERPRISE

Tom De Waele, Bain.

STEPS CEOS MUST TAKE TO COPE WITH PANDEMIC

Ranjith Kaippada, Cloud Box Technologies.

E-RETAILERS CAN NO LONGER DELAY AI

Ektaa Sibal.

WORDS, THOUGHTS, MINDSET

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JUNE 2020

Why Should You Partner with NetApp to Help Customers Achieve a True Hybrid Multicloud Experience?

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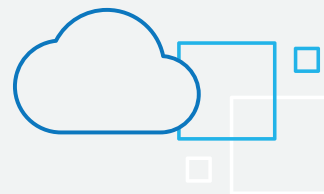
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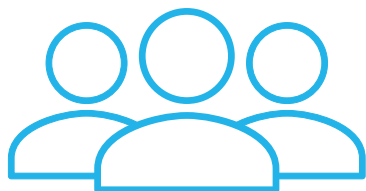
87% of customers report that hyperconverged has made their organization somewhat or significantly more agile.

BUSINESS TRANSFORMATION
THE CHANGE TO FUTURISTIC BUSINESS

FIRST STEPS IN AIR TRAVEL TRANSFORMATION

Air travel was a primary infection vector from the time the pandemic began in January–February 2020. The global average of air passenger traffic movements now resides at less than 20% of what it was a year ago. Some domestic and special air cargo flights make up the utilisation of the global passenger aircraft fleet. Reopening of air passenger traffic and revival of the global economy have now become intertwined. People start to travel, businesses will surge, and supply chain velocity will pick up. That's the theory. But there is a flip side.

Nobody has ever shut down the global economy and global travel and then restarted it again. Moreover, not all countries are seeing a flat pandemic curve as yet.

But there is one single achievement that all countries have reached and that is understanding the mechanics of what is required to control this pandemic. In this approach, some of them have been very successful, and some are still learning the ropes that will be required for their own local requirements.

According to IATA's Regional Vice President for Africa and the Middle East, Muhammad Ali Albakri: Today we face the biggest challenge in commercial aviation's history. Restarting an industry that largely has ceased to operate across borders, while ensuring that it is not a meaningful vector for the spread of COVID-19. Meeting this challenge will mean making significant changes across air travel experience: pre-flight, at the departure airport, onboard, and post-flight.

On another note, every global IT survey indicates that organisations are now accelerating their digital transformation initiatives. But even with such a new perspective the classical challenges of managing the journey still remain.

Is DX a two headed project with the business and IT heads pushing their agendas or are is it a blended model driven from the top? Where is the innovation in customer experience built from – inside or outside? Does the vendor bring in their ecosystem of partners to drive in global learning and best practices? Or should it be a straight jacketed project plan with no scope for failures and changing blueprint?

We address these fundamental questions from the vast experience base of vendor HPE Aruba and global system integration partner Tech Mahindra in our cover feature.

Says Aruba's Jacob Chacko: The digital transformation journey is like a Lego puzzle. Most organisations do not have the skill levels to complete the Lego puzzle on their own. That is why, both technology vendors and channel partners play a key role in completing the Lego puzzle. Says Tech Mahindra's Ram Ramachandran: The organisations that succeed are constantly trying out new things, because digital is a lot about acceptance of failure along the journey. And not many organisations are ready for it.

Read more on this fascinating subject and the other thought leadership contributions in this month's BT, Business Transformation.

Best of luck in your #BackToOffice efforts.

Arun Shankar
arun@gecmediagroup.com

WHY WORKSPACES AND WORKPLACES WILL NEED TO TRANSFORM

Not all employees will be working from home all the time, and this means relooking at the office and working hours, writes Deborah Alvord at Gartner.

DEBORAH ALVORD,
Senior Director Analyst,
Gartner.

Service organisations that cannot shift all employees to work from home during the coronavirus pandemic need social distancing measures for on-site employees. Not all employees can work remotely. For those who remain on-site, like many service employees, changes in workplace processes and design will help provide the social distancing they need to stay safe.

Discrete measures are needed to reduce interactions between people and keep physical distance between them on-site. Many service organisations cannot implement remote work for all of their employees due to the lack of available infrastructure, the physical nature of some service and support roles, or because of union contracts.

Public health officials promote social distancing as a critical non-pharmaceutical action to slow the spread of the coronavirus, but discrete measures are needed to reduce interactions between people and keep physical distance between them on-site.

Gartner recommends that service and support leaders implement the following measures.

SOCIAL CUSTOMS

Implement a no-visitor policy. Allow only authorised employees into the office during this time.

Greet without physical contact. Encourage employees to avoid handshakes and hugs while greeting and interacting with colleagues.

Increase awareness around the six-foot rule. Encourage employees to maintain six feet or two meters from other employees when possible.

SCHEDULING SHIFTS

Flexible work hours or rotational shifts. Allow flexible work hours or reduce work hours so that fewer employees are on location at any given time.

STAGGERED SHIFTS

Implement staggered shifts if the work demands a certain number of customer service reps be on-site for handling complex customer issues or for other critical tasks. Allot alternate desks to customer service representatives in the staggered shifts to create time between shifts to thoroughly sanitise workstations.

WORKPLACE DESIGN

Insert partitions to raise cubicle wall heights. If there are low or no cubicle walls, add or supplement dividers to create a higher physical barrier between agents to reduce the spread of infectious droplets due to a sneeze or cough.

Revisit and revise seating arrangements. Ensure that customer service representatives are not sitting too close to each other. If you have close or congested open workplaces, allow customer service representatives to use alternate desks and implement rotational remote work where possible.

COLLABORATION

Pooling tasks. If multiple roles perform similar tasks that must be performed on-site, consider pooling and rotating those tasks so some employees can work remotely while one person takes on-site responsibility. Combine pooling with flexible hours to further increase social distancing and reduce the risk of an employee becoming ill.

Virtual meetings. Ensure that employees can shift in-person meetings to virtual meetings or emails whenever possible. You may need to provide them with laptops or other devices, but also provide support on their virtual set-up and online collaboration tools so they get comfortable using the systems and software. ■

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REALIGNING THE BANKING ENTERPRISE AROUND CUSTOMER

Increasing the number of banking channels does not deliver improved customer experience and needs internal alignment, explains Farhan Syed, at KPMG.

FARHAN SYED,
Partner, Head of Advisory,
KPMG Lower Gulf.

KEY TAKEAWAYS

- Banks could adapt by removing silos to align the entire organisation around the customer.
- This goes far beyond front-office and customer-facing functions. It involves aligning six key stakeholder groups.
- To align front, middle, back office around customer agenda can be an enormous challenge.
- Successful organisations are those that put customers at the heart of their strategy.

For the last two decades, banks have been extending their services to new channels, devices and touchpoints. The result: a 1,000% increase in the number of customer touchpoints.

As customer interactions increase, bank executives tend to see revenue decrease due to the number of channels required for service.

Under this scenario, the promise of reducing channel costs by adding digital services has not generally been realised.

To compete more effectively, capture the inherent value in digital channels, and reduce the cost-to-serve of traditional channels, banks could adapt by attempting to remove organisational silos and aim to align the entire organisation around the customer.

This goes far beyond front-office and customer-facing functions. It involves aligning six key stakeholder groups: customers; employees; partners; and alliances; front, middle, and back-office functions; and the broader digital ecosystem.

To align the front, middle and back office around the established customer agenda can be an enormous challenge without a properly structured and orchestrated approach. It starts with understanding the organisation's most important customers and then building the business around them.

That means aligning core operations, policy administration, claims management, financial management and other back-office and support functions with the aim of creating the best experience for those customers.

The need for customer centricity is now being felt across the C-suite. KPMG International's 2019 Survey of global CEOs in the banking sector found that less than half believe they are achieving ROI from their investment in customer experience. In a separate survey of more than 3,000 global CIOs and other IT executives conducted by KPMG and Harvey Nash in 2018, 55% cited enhancing customer experience as a top business priority.

Generally successful organisations are those that put their customers at the heart of their strategy, planning and execution and continually ask what does this mean to my customers, what is the impact on my customers and how will my customers respond

They are insight driven: these companies know their customers at a profound level; they know their physical and their psychological needs and, consequently, they are able to craft market-leading propositions. They are continually listening to customer feedback in real time and creating experiences that are inspirational and motivational.

They practice customer foresight to anticipate customer needs: generally, many are organised around the customer, with test and learn being a way of life. They are organised to respond quickly and to execute efficiently and effectively, so that in many cases they meet the need just as the customer realises they have one.

Banks should therefore strive to become distinguishable by the degree to which their customer experience efforts are integrated and connected. The boundaries between their front and back offices are blurring and they are intimately close to their customers and driven to innovate by the insights they gain.

Customer-centric corporates today are structuring their businesses in new and exciting ways. They are seeing customer experience as a source of commercial value; not just a differentiator versus competition. ■

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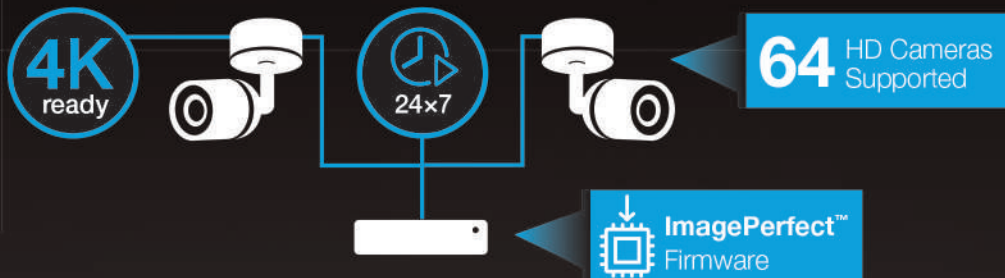
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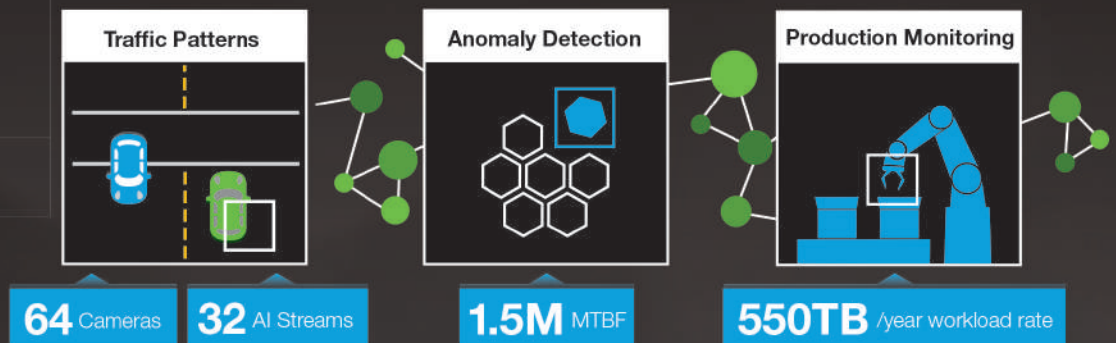
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INDUSTRIAL, OPERATIONAL SYSTEMS NOW MORE VULNERABLE

Integration of digital and operational systems is drawing attention to the need for end to end security training, explains Maher Jadallah at Tenable.

MAHER JADALLAH,
Regional Director
Middle East, Tenable.

KEY TAKEAWAYS

- Production and operational managers need to ensure they are aware of the threats faced.
- With remote working policies activated, the team responsible for remediation must be identified.
- Automatic snapshots of the initial and changed state, must accompany any actions taken to rectify a situation.

Automation within industrial environments is now commonplace, due largely to the convergence of the data side of the business, traditionally the realm of IT and the operational technology, OT side used to manage industrial control systems, ICS. A security incident on either side — IT or OT — can compromise both systems.

It is imperative that those tasked with securing critical operations in these challenging times fully understand the new threat landscape. Here are some areas to consider and address:

OT VULNERABILITIES

With the number of malware threats to industrial systems on the rise, further extending the vulnerable attack surface in an OT environment, production and operational managers need to ensure they are aware of the threats faced.

A further consideration is the risk of lateral movement, where an attacker gains a foothold in one infrastructure and then traverses across to the other - from OT to IT and vice versa.

ERRORS AND DELAYS

A skilled or managerial worker should be onsite at all times in case of an unplanned, or emergency, situation. The reason for this is that there is greater risk of an error being overlooked, or negative knock-on caused by configuration changes, if someone unfamiliar with these complex environments alters settings.

Automatic snapshots of the initial and changed state, or an automated trail of the configuration resets, must accompany any actions taken to rectify a situation. This will allow the changes to be reversed if required. It should also capture the identity of the personnel initiating the action, and the date and time stamp of the incident, to verify it was correctly authorised.

MONITOR ACTIVITY

Following on from the points above, it is also important to check for any unexpected changes that could be an indicator of compromise, or an active attack, at both the network, and device level.

With remote working policies activated, the team responsible for remediation must be identified so they are ready to respond, should an alarm be triggered. This could be based on proximity, skill levels, planned escalation, and so on. The channel for alerts also needs to be worked out beforehand, whether it is SMS, phone, email or others.

DASHBOARD MONITORING

All networks, devices, systems, and plants need to fall back into an integrated dashboard that allows full-scale monitoring of behavior. In case of alerts on the dashboard, the team can isolate the fault or intrusion and deep dive at a granular level to identify the nature of the compromise or threat.

We are living through unprecedented times and the pandemic can create any number of challenging macro environment situations. But, at the end of the day, critical businesses must continue, operations must deliver, and the fabric of a nation must survive. ■

EFFECTIVENESS OF DIGITAL EDUCATION IS UNKNOWN

Since online education is a first time, schools and teachers should engage with parents, write Dr Leila Hoteit and Maya El Hachem at BCG.

DR LEILA HOTEIT,
Managing Director and Senior Partner, Boston Consulting Group.

MAYA EL HACHEM,
Managing Director and Partner, Boston Consulting Group.

As governments around the world implement measures to protect their citizens and residents from the Coronavirus Covid-19, schools remain closed for the foreseeable future. Prolonged periods away from schooling environments is highly detrimental to learning and development, particularly for young children.

Many schools will be adopting digital models for the first time, and many teachers will be delivering them with minimal training in technology education. Therefore, the level of effectiveness is unknown.

Decisions regarding staffing, technology, and programming are difficult as it is unclear if schools will be closed for three months or over a year. School leaders should prioritise in the short, medium, and long-term as they navigate their response.

SHORT-TERM PRIORITIES

School leaders should ensure two-way communication by talking to parents and listening to their concerns. At the same time, they should focus on supporting families and continued student engagement, rather than academic gains. Doing so will enable schools to be responsive to their needs and continue building a sense of community. They should offer flexible engagement options for parents by providing methods for them to interact with their teachers and school leaders.

Simultaneously, school leaders should continually improve online instruction. Technology is not the only component that will ensure success in this regard, and many teachers will be adjusting to new teaching methods that require significant effort and training. School leaders should arrange regular check-ins and mentoring sessions with teachers, as well as opportunities for staff to virtually share their concerns and best practices among each other.

MID-TERM PRIORITIES

It is feasible that the ongoing disruption could last for six months or less, and school leaders should be planning for this scenario by planning for remediation. This includes adjusting the school calendar to begin early to minimise learning loss and preparing a plan for course adjustment once school resumes. Moreover, they should consider introducing more afterschool programs to compensate for lost instruction and time away from the classroom.

A lack of data will also be an obstacle for school leaders that will need addressing in this timeframe. This can be done by devising a plan for how teachers and leaders themselves will handle the insufficient student data when they do return. While doing so, they should evaluate how this gap in knowledge will affect students' grades and their chances of securing placements, as well as the school's analytical capabilities and accountability metrics and systems.

LONG-TERM PRIORITIES

Should the current circumstances due to Covid-19 exceed six months, school leaders should upgrade digital offerings by thoroughly evaluating online delivery, testing new platforms, and implementing new approaches. While doing so, they should also devise a plan to develop soft skills.

Given the extended time in which students will be using education technology, school leaders should explore how soft skills and emotional competencies, including teamwork, creativity, and character development, could be integrated into online services. School leaders should also explore new ways to deploy staff and consider reassigning them as a result of the hours saved by education technology. ■

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6 STEPS CEOS MUST TAKE TO COPE WITH PANDEMIC IMPACT

As a CEO, Bain's Tom De Waele, advises you to take six top actions to help you battle the consequences of the pandemic against your business.

TOM DE WAELE,
Middle East Managing
Partner, Bain.

KEY TAKEAWAYS

- Revenue disruption will lead to liquidity crisis for businesses.
- Recovery may not be a quick bounce-back.
- CEOs need to plan for multiple quarters of lower revenue.
- Stakeholders including employees, customers are probably experiencing fear.

As the novel coronavirus outbreak has upended businesses around the world at alarming speed, one thing has become clear to executives grappling with the crisis: doing nothing is not an option. COVID-19 is unlike any previous crisis and taking traditional crisis-response approaches will not be enough.

The process of containment and slowing the spread of COVID-19 in each country will create major disruption, irrespective of the seriousness of the virus spread. This should not cause additional fear in a situation that is already frightening for everyone.

The high likelihood of a substantial revenue disruption will lead to a potential liquidity crisis for many businesses. This could mean that the recovery may not be a quick bounce-back. Accordingly, CEOs need to plan for multiple quarters of lower revenue.

Stakeholders including employees and customers are probably experiencing fear or panic. Hence, you need to appoint a senior, fully dedicated COVID-19 war room team focused on this all day, every day.

As CEO, you must be out in front with a planned cascade of possible actions, probably more aggressive than your team can imagine right now. Customers will change some behaviours permanently, accelerating prior trends. Taking bold action now can set you up for success through the downturn and beyond.

Six urgent priorities:

#1 PROTECT EMPLOYEES AND CUSTOMERS

Implement the best-known guidelines available for both employees and customers. This includes monitoring global health guidelines and other companies— and continue to fine tune. Don't be afraid to overcommunicate with full transparency and assist epidemic-limiting initiatives in any way possible.

#2 STRESS TEST P&L

Outline macro scenarios by market, translate into revenue-decline and P&L scenarios. You should also build extreme downside scenarios as this has the potential to be a 100-year event. Therefore, an outline of the major operational actions should be in place.

#3 DEFEND REVENUE DECLINES

You need to take a customer-centric view and ask yourself questions like how you will build trust, loyalty and market share through and beyond this crisis. Similarly, you should build specific revenue-mitigation actions for declines in core revenue streams.

#4 STABILISE FOR NEW NORMAL

Stabilise supply chains of physical goods from likely geographic and labor disruptions while building contingency operational plans for all aspects of the business

#5 CONSERVE CASH

You can control the spending hand brakes by initiating immediate actions. Set aggressive break-the-glass cost actions triggered by more extreme revenue scenarios. Outline a medium-term plan to lean out the cost structure for the future. It should be a plan that is more automated, more variable and, more shock resistant

#6 PLAY OFFENSE

Define how you will outperform competitors and expand share through and beyond the crisis. This also means that you should prepare for bounce-back and recovery. At the same time, plan for and take advantage of a leapfrog change in customer behavior, especially digital. ■

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NEXtCARE members opting for video consultation using teleconsultation app feature

With the rapid spread of the novel coronavirus, a large number of NEXtCARE members are now opting for video consultations through the teleconsultation feature in their MyNEXtCARE app. The company was the first to launch this service in 2019. The consultations are provided by Health at Hand, a DHA licensed telehealth service provider with qualified doctors who speak English, Hindi and Arabic.

The teleconsultation feature helps members in Dubai and Northern Emirates to seek professional medical care from the safety of their home, without co-participation. Members can access the service without out of pocket through a quick registration on MyNEXtCARE app or the web version and are connected to a trusted licensed doctor within two minutes. Apart from that, members can also request refill medications for three months through the service. Dubai members are able to get prescription medicine delivered to them within 60 minutes, or even have lab test requests issued through the app.

With the pandemic keeping people in their homes, the teleconsultation service has experienced a large volume of video calls through MyNEXtCARE app which has led to an 8.5% utilisation rate for some groups of clients. NEXtCARE were quick to respond to the change in the market and supporting government mandate by making the Teleconsultation available overnight to 800,000 members.
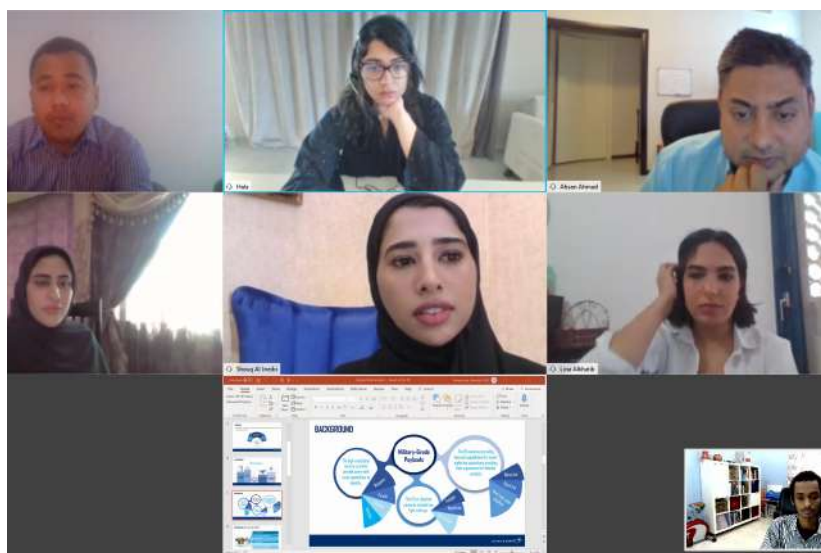
Lockheed Martin launches online summer internship for UAE university students

Lockheed Martin has announced that its annual summer internship programme for UAE university students will run on a virtual platform to comply with distance learning measures aimed at containing the spread of Covid-19. Lockheed Martin's Centre for Innovation and Security Solutions, based in Masdar City, has hosted the merit-based programme every year since 2017, and will take the initiative online this year as part of its commitment to advance human capital development in the UAE.

Top-performing Emirati and UAE-based university students pursuing degrees in science, technology, engineering, and mathematics fields are invited to apply to join the programme, which will run for three months between June 7 and September 7, 2020.

As part of the internship programme for 2020, up to 15 students will work remotely under the guidance of Lockheed Martin's world-class engineers and chief scientists on real-world projects that will positively impact the UAE's aerospace and defence industry.

Students will receive specialist training in fields related to Artificial Intelligence development, Unmanned Aerial Vehicle design, defense simulation exercises, business administration skills, and IT systems management. In the past, successful interns have gone on to secure employment opportunities within Lockheed Martin, as well as UAE government organisations and several entities across EDGE, the UAE's advanced technology group.

Jaguar, Land Rover deploy 362 vehicles globally to support Covid-19 response

Jaguar and Land Rover have now deployed 362 vehicles globally to support charitable organisations and front-line workers tackling the spread of coronavirus. Most recently, a fleet of 15 Jaguars has been supplied to support the Help NHS Heroes campaign, a nationwide effort delivering vital supplies to NHS staff.

Boxes containing foodstuffs and other essential supplies can be ordered via a bespoke app before being made ready for collection at their NHS place of work. The scheme is helping thousands of frontline NHS staff and carers by providing easy access to fresh, nutritious food. The fleet of Jaguars will now allow for convenient home deliveries too.

In South Africa, the Jaguar Land Rover team has partnered with the South African Red Cross and the Minnie Dlamini Foundation to deliver more than 2,400 food packs to those most vulnerable in their society, enough to last a month, as part of the Feeding South Africa Together initiative. Jaguar Land Rover is also working closely with the UK government and has offered its research and engineering expertise, as well as digital engineering and design, printing of 3D models and prototypes, machine learning, artificial intelligence and data science support.

Jaguar Land Rover is also scaling up production of its protective face visors in a continued effort to support the fight against Coronavirus. New tooling, developed by WHS Plastics, will produce a further 14,000 visors each week for key workers across the UK. J

Dubai Silicon Oasis, Fakeeh University Hospital start free tele-maternity services

Dubai Silicon Oasis Authority, DSOA, in partnership with Fakeeh University Hospital has announced free tele-maternity advisory services exclusively for the Dubai Silicon Oasis, DSO, community. In response to the ongoing novel coronavirus pandemic, mother and baby care advisory services will be provided by Fakeeh Home Health Care, a subsidiary of the DSO based Fakeeh University Hospital, to women in the DSO community free of charge during their pregnancy and throughout the important initial weeks following delivery.

Fakeeh Home Health Care services include ongoing tele-advisory support during pregnancy for women who do not have an obstetrician or are having a challenge contacting their maternity provider in light of the coronavirus restrictions. Following delivery, the subsidiary also provides professional home and tele-advisory visits to meet the needs of new families and provide support in learning different approaches according to their child's development and temperament. Fakeeh Home Health Care is a state-of-the-art home health care facility that provides at-home care for patients and their families. It has more than a 40-year-old history of providing care in Saudi Arabia and the wider region through Fakeeh Care, and is supported by the 300 bed-capacity Fakeeh University Hospital.

The Home Health Care subsidiary provides 24×7 support through its team of highly qualified health care professionals, which are trained through its comprehensive and rigorous training programmes. Their training has also been specifically enhanced to provide care and support remotely. Its services include post-operative care, physiotherapy and rehabilitation, elderly care, mother and baby care, and disease management.

Dubai Airports' CEO warns airfare may jump 3-4 times due to social distancing

In an interview with CNN's John Defterios, Dubai Airports CEO Paul Griffiths warned that airfares might have to increase by three or four times if social distancing rules are implemented on aeroplanes. He asserted this will not be a sustainable position, and a longer-term solution that doesn't involve social distancing will be needed. Griffiths discussed the challenges of testing for coronavirus in airports, with hope for faster methods being developed. If each passenger needs to wait ten minutes before the result is there, again that is a further limit on the airport's capacity.

One idea being suggested to restart the tourism industry is for reciprocal transport bubbles or corridors to be established between countries. Griffiths suggested that countries who locked down quickly may be in a better position to form these agreements. Governments that have taken early action, such as the UAE government, and have got the virus under control, will be in a very good position to negotiate bilateral relationships with other countries that are in a similar position.

In terms of its impact on the industry, Griffiths believes coronavirus is unparalleled: We have got every single aspect of the supply chain, demand, public health, and it being a global phenomenon. This is unprecedented in terms of the impact it has had on travel and tourism and the global economy. *SOURCE: CNN.*

Nissan manufacturing face shields for healthcare workers in Japan, US, UK, Spain

Nissan began making protective face shields for healthcare workers in Japan who are on the frontlines in the fight against Covid-19. The current plan calls for making 2,500 shields a month. Production started at the Nissan Technical Centre, the Nissan Research Centre, and the company's Yokohama Plant.

In addition, in response to a request from the Japanese government, Nissan is studying ways to support companies that manufacture ventilators and artificial heart-lung machines. Nissan plans to help these producers by proposing improvements to manufacturing procedures, providing working space or manpower to help companies step up production, and supplying parts that are in shortage.

Nissan has already started similar initiatives in other regions. In the US, the company is making protective face shields for health care workers in Michigan, Mississippi and Tennessee. In the UK, a team of volunteers from the Nissan Sunderland Plant have been supporting the delivery of protective face shields. Up to 100,000 shields got distributed weekly. Nissan provided additional funds for an injection moulding tool that greatly increases the number of shields produced.

In Spain, Nissan is beginning production of medical respirators in collaboration with Hospital de Sant Pau, the engineering company QEV Technologies and the Eurecat technology centre. Manufacturing of the respirators will begin this week at Nissan's Powertrain Plant in Barcelona.

Institute of Design and Innovation launches Agile Factory to train local communities

To address the needs of local communities in the UAE during the Covid-19 pandemic, faculty and students at Dubai Institute of Design and Innovation, DIDI, have launched Agile Factory, a start-up initiative that houses interdisciplinary design solutions for the challenges posed by the Covid-19 pandemic.

More than 50 first- and second-year students at DIDI, the region's only university exclusively dedicated to design and innovation, joined the Agile Factory established by their professors Dr Renata Morais, Dr Carlos Montana, and Sayjel Patel, to harness the power of design, emerging technologies and data gathering to create new products and services that respond to the pandemic on a local and global level.

Students at the university voluntarily joined DIDI's Agile Factory as part of their coursework. Agile Factory covers three research areas: Open Data Interfaces, Design for Emergency, and Hacking Manufacturing. The Hacking Manufacturing team have designed protective face shields that are fast and easy to make using local resources. Following 18 iterations, support of DIDI Fab Lab team and a round of consultations with doctors in the US, the UK, India and the UAE, the team has selected two prototypes for further development.

As part of DIDI's common research agenda with the University of Melbourne, The Open Data Interfaces team developed their own data set collection for an online memorial platform that will use data visualisation to tell the human story behind Covid-19 fatality statistics. The purpose behind this platform is to provide a virtual grieving space in the context of the restrictions placed on traditional memorial services, following lockdowns around the world.

The Design for Emergency team has developed a prototype for a time capsule app and interactive platform to build social relationships during a time of extreme isolation. The Colive 20 app comes in response to the needs of local youth for a safe space where support for mental health and well-being can be found.

P&G to donate 1 million masks, 100,000 hand sanitisers to UAE healthcare workers

Procter & Gamble, P&G, is stepping up as a force for good and announced a series of holistic, inclusive and far-reaching initiatives aimed at protecting everyday heroes in the UAE and across the GCC, providing support for communities, relief agencies and their employees as part of their P&G Protect Our Heroes mission.

In addition, under the response and relief programme, P&G Protect Our Heroes, P&G is also serving communities with the following initiatives across the Middle East, East and West Africa:

- Manufacturing masks and Safeguard hand sanitisers for donation across the Middle East
- Extending support to frontline workers and families affected by Covid-19 through in-kind and PPE donations
- Providing essential product donations to relief agencies and governments to support healthcare workers including Always, Safeguard, Gillette, Fairy and Ariel
- Leveraging advertising voice to recognise and support health care workers and increase awareness on safety and hygiene measures among the community
- Supporting online learning programmes for children of determination in UAE
- P&G is also matching employees' personal donation to support the combat against Covid-19

OMAR CHANNAWI,
CEO, P&G Middle East, East and West Africa and General Export Markets.

Dubai Science Park's Agiomix, Alliance Global, Bio-Rad, providing Covid-19 testing

Thermo Fisher is currently producing more than five million Covid-19 tests per week.

Medical and biotechnology companies in Dubai Science Park, a holistic science-focused business community, have made a significant contribution to the UAE's ongoing efforts to flatten the Covid-19 curve. Dubai Science Park, part of TECOM Group, is home to more than 350 companies employing over 3,600 people.

Among the firms is Dubai-based next-generation genomics company Agiomix, the largest licensed commercial sequencing facility in the Middle East and internationally accredited by the College of American Pathology. It is playing a vital role in clinical testing of Covid-19 working closely with all government entities and the Dubai health authority. Patient samples are tested three times per day, seven days a week at its lab, one of the first to offer accurate, reliable results for the medical community. Alongside other nationwide efforts, this has contributed to the world-leading per capita testing figures for Covid-19.

Multinational biomedical distribution company Alliance Global, based in Dubai since 2006, has been at the forefront of efforts to screen and diagnose Covid-19 cases in emerging markets. The group supplies PCR, polymerase chain reaction, test kits, instrumentation and consumables to laboratories. It has also devised a comprehensive solution for Covid-19 testing, based on benchtop molecular testing, which has been supplied to many countries and healthcare providers across the region. The business has supplied over 100,000 Covid-19 molecular tests and tens of benchtop lab setups to customers in Africa, the Middle East and Central Asia.

Bio-Rad Middle East is another firm producing diagnostic products and distributing them to healthcare customers in Africa, the Middle East and other parts of the world. The subsidiary of California-based Bio-Rad Laboratories has been a member of Dubai's science-focused ecosystem since 2014. Following the outbreak, laboratory service providers in the UAE have used its systems to complete PCR tests. The life sciences company recently launched validated standards and controls to improve the quality of test results.

Dubai Chamber finds e-retail companies succeeding in UAE and adjacent markets

A recent analysis by the Dubai Chamber of Commerce and Industry revealed that e-retail companies in the UAE have succeeded despite the challenges of high demand due to the spread of Covid-19 and the disruption of supply chain worldwide. The companies have managed to achieve benefits beyond the domestic market to include neighbouring markets as well.

The analysis, based on updated data from Euromonitor attributed this success to the fact that it was due to the support of government initiatives, the presence of modern infrastructure, and a strong logistical sector, which was reflected in the resilience of e-commerce in the UAE.

The analysis reviewed the percentage of goods that are not in stock in 38 major economies around the world, and monitored the levels of inventory for the major e-commerce platforms, and the daily percentage of stock keeping units that were marked as goods not available on the retailer websites for each country.

The data show that the UAE occupies an advanced position globally, due to the UAE's pivotal position in the global trade map, its large storage capacity and its extensive logistical networks which contributed to record low percentages, 3.4% on January 21, of materials that were out of stock before the outbreak of the epidemic.

The benefits of the UAE's strong logistics and warehousing sector extend beyond the domestic market to neighbouring markets, for example, Saudi Arabia, which has a similarly low rate of 2.2%, given that Saudi Arabia is the top regional trading partner for the UAE.

According to the availability schedule of products in the Emirates, stocks of low-life products, such as fresh food, are always refilled with a rate of products not available in stock at zero or close to zero for basic materials such as eggs, poultry, starchy roots and vegetables. On the other hand, items with a long shelf life may sometimes experience slightly higher rates of daily stock outs. This is understandable, as is often the case during a pandemic as many consumers panic and tend to buy and store items that fall under home care and canned food categories.

8×8 migrates video hosting from AWS to Oracle Cloud saving 80% in network costs
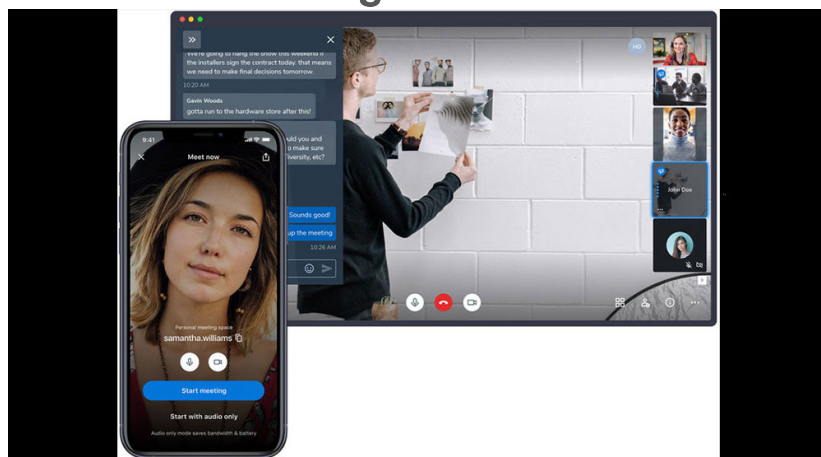
Oracle has announced that 8×8, an integrated cloud communications platform, is using Oracle Cloud Infrastructure to power its secure Jitsi.org and 8×8 video meeting solutions as it scales to handle explosive growth in users. 8×8 has seen a significant increase in usage across its private and secure video meetings solutions, including Jitsi Meet and 8×8 Video Meetings, exceeding 20 million monthly active users worldwide, as video conferencing has become the standard communication tool during this critical time.

8×8 moved its video meetings services from AWS to Oracle for substantial performance enhancements, experiencing more than a 25% increase in performance per node on Oracle Gen 2 Cloud Infrastructure when compared with the previous cloud provider, global reach, and savings of more than 80% in network outbound costs.

Demand for technology that enables public and private organisations of every size around the world to stay connected has driven explosive growth in video conferencing in recent months in areas such as remote working and customer engagement, distance learning and telehealth. Some organisations relying on Jitsi Meet and 8×8 Video Meetings services during the ongoing pandemic include WeSchool in Italy, Every Child Paediatrics and Retreat Behavioral Health in the US, and Bionical Solutions in the UK.

To support the rapid change in the way businesses, organisations, health care providers and educators work, the 8×8 video meetings platform needed to hyperscale quickly to support demand. As 8×8 expanded its offerings and global reach, its customers consumed a tremendous amount of network bandwidth and compute, which exceeded 1.5 petabytes a day of egress network traffic and was increasing day by day.

Running on Oracle Cloud Infrastructure gives 8×8 scale, performance, and low network latency and allows it to focus on serving millions of end users. While this performance is critical for its growth, equally important is the significant reduction in cost for compute and network services. Across every essential service to 8×8, compute, network transfer, and storage, Oracle Cloud was significantly less expensive than AWS.

STC Group signs 5-year master frame agreement with Nokia for advanced technology
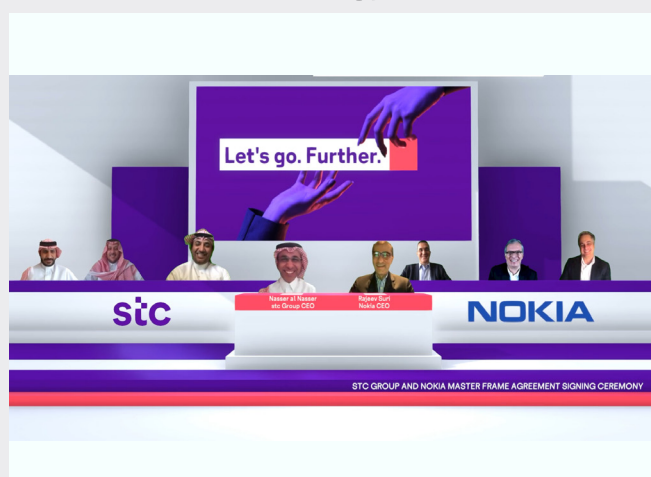
STC Group and Nokia have signed a five-year Master Frame Agreement, MFA, to further strengthen their strategic partnership. The agreement aims to expedite buying process of Nokia's latest equipment, software and services for STC Group to introduce innovative services faster to its subscribers as a pioneer.

This will allow STC Group companies to seamlessly buy advanced technologies such as 5G, Internet of Things, IP and optical network technologies, and customer experience management from Nokia's end-to-end portfolio for mobile and fixed networks.

For the first time in the region, the agreement was remotely signed due to Covid-19 pandemic, purely relying on software innovations and demonstrating the power of AR and AI. These technologies enabled virtual signing ceremony in a digital environment. The agreement was signed by the signatories Nasser Suliman Al-Nasser, STC GCEO; and by Rajeev Suri, President and CEO of Nokia.

Abu Dhabi Airports, Tawazun deploy unmanned robot to disinfect premises, planes

Abu Dhabi Airports has partnered with Tawazun Strategic Development Fund, TSDF, to launch the new CoDi BOT Unmanned Ground Vehicle, designed and manufactured by UAE-based company Marakeb Technologies, an affiliate company of TSDF, for the disinfection of viruses including Covid-19. The introduction of new state-of-the-art technology is the latest measure introduced by Abu Dhabi Airports to contain the spread of Covid-19, and aligns with the directives of HE Sheikh Mohammed bin Hamad bin Tahnoon Al Nahyan, Chairman of Abu Dhabi Airports.

This collaboration is part of a broader initiative by Abu Dhabi Airports to integrate the most advanced technologies within its operations, to achieve a high level of efficiency, and provide the best services to its travellers. The CoDi BOT UGV will be piloted from May throughout Abu Dhabi International Airport, including in staff areas and cargo facilities, as well as being used as part of cabin deserialisation processes on passenger aircraft.

Specifically ensuring aircraft cabins are kept clean and sterile, the CoDi BOT UGV is designed to be able to maneuver through airplane cabin, which is a unique feature of this product, while ensuring the safety of its operators through remote control capability, using real-time video and high-speed 4G data connection.

The introduction of the robot helps operational teams carry out safer missions during the sterilisation of aircraft while parked at Abu Dhabi International Airport, AUH, eliminating the risk of human exposure and self-contamination. The robot's versatility also enables the disinfection of spaces within the airport terminals, reinforcing public safety against Covid-19 and any future virus outbreaks.

The UGVs will be operated in conjunction with the extensive range of preventative measures implemented at Abu Dhabi International Airport in response to Covid-19. Measures include thermal screening, nasal swabbing, and polymerase chain reaction testing, in line with the recommendations by the Ministry of Health and Prevention.

ADNOC's Panorama helps to cope with Covid-19 through scenario planning

The Abu Dhabi National Oil Company, ADNOC, has announced its Panorama Digital Command Centre, Panorama, has generated over $1 billion in business value since its inception three years ago. Panorama is a key part of ADNOC's ongoing strategic investments in digitisation and artificial intelligence to enable the company to drive greater efficiencies, optimise performance, and respond to complex market dynamics with agility and speed, as it continues to deliver on its 2030 smart growth strategy.

Panorama aggregates real-time information across ADNOC's 14 specialist subsidiary and joint venture companies and uses smart analytical models, AI, and big data to generate operational insights and recommendations.

In addition to the business value Panorama has enabled, it has also proven to be a valuable asset in navigating the current Covid-19 situation. The access to real-time data and analysis provided by Panorama enables simulations and scenario planning, and plays an important role in ADNOC's business continuity. Managed by the ADNOC Group Digital team, Panorama is currently being accessed through secure remote work settings.

In addition to its digital transformation journey, ADNOC is also leveraging technology to strengthen its health, safety, and environmental performance. An HSE information system is currently being built into Panorama, enabling real-time readings across multiple environmental key performance indicators.

Panorama is just one of many digital transformation initiatives by ADNOC. Other digital initiatives include its smart data analytics Thamama Subsurface Collaboration Centre; its use of AI-assisted value chain modelling, rock image pattern recognition, and predictive maintenance technologies; and blockchain-based hydrocarbon accounting, to name a few.

Volkswagen ME launches e-commerce platform for purchases integrating with dealers

Volkswagen Middle East is making its sales business fit for the future, by digitalising the purchasing process together with dealer partners in the UAE and Saudi Arabia. The new e-commerce platform is set up to meet digital demand by giving customers the option to purchase a vehicle remotely, enabling Volkswagen to keep both staff and customers safe during the current situation and beyond.

The online purchase process is a simple procedure whereby customers can explore available models and select a desired vehicle online.

Test drives can also be arranged by appointment with the local dealership in line with the current safety regulations. To reserve a car, a deposit or full payment in Saudi Arabia can be paid securely online, or paid remotely with the dealership; the dealership team will then be in touch to take over the rest of the process, including finance and insurance options prior to arranging delivery of a vehicle to the customer's home.

Customers will also have direct personal access to the dealer's sales representatives digitally through a Live Chat, to allow them to discuss any further requirements. Currently, the online sales platform offers customers the opportunity to purchase any of the current available Volkswagen passenger vehicles from family SUVs such as the Teramont, Touareg and Tiguan, to sedan and hatchback models, including the popular Golf GTI, Golf R and Passat.

Al-Futtaim installs future-proof lighting, audio studio system at Al Wousta TV station

Al-Futtaim Technologies has announced that it has completed installing the lighting systems for the recently revamped Al Wousta TV station. The TV station which is located in Al Dhaid area of the emirate of Sharjah focuses on promoting the heritage, culture and traditions of the Central Region and highlighting its nature and archaeology to viewers all over the world.

The studio structure consists of a highly flexible motorised suspension ceiling system with 68 hoist and 20 motorised pantographs. The movable hoist system ensures that the studio lighting equipment can be placed according to the set design and lighting requirements.

The fixture package from Al-Futtaim Technologies included lighting equipment which is based on the highly efficient LED fixtures which are specially designed for broadcast and media production with optimised colour rendition for HD camera systems.

The expected lifetime of the LED Luminaires is about 30,000 hours and the control network are based on the Ethernet-based structures thereby ensuring a future-proofed operation of over 10 to 15 years.

In addition to the ARRI lighting system, Al-Futtaim Technologies was also tasked with installing the acoustic works which are located in the recording rooms, control rooms and TV recording studio, wooden cladding in common corridors, Catwalk in TV studio, aluminium glass partitions for offices, AV system including stage and the curtains and theatre seats in the TV studio building.

*MURALI S,
Managing Director of
Al-Futtaim Engineering
and Technologies.*

SCHNEIDER ELECTRIC, AVEVA PARTNER TO LEVERAGE PANDEMIC INVESTMENT INTO DATACENTRES

Schneider Electric and Aveva have partnered to deliver end to end solution for hyperscalar, multi-site, and regional datacentres. The newly announced solution partnership is dependent on a degree of innovation that it brings to the evolving datacentre market. The solution integrates Schneider Electric's EcoStruxure for Datacentres power, building and IT management systems with Aveva Unified Operations Centre. The partnership is expected to deliver improved efficiency from standardised systems and processes across multiple sites and the entire enterprise.

As hyperscalers build datacentres as an expanding fleet to meet global demand, the complexities to operate and maintain these facilities are creating challenges. Operating at this scale requires a different approach for mission critical facilities powering the globe's digital infrastructure.

The combination of Aveva Unified Operations Centre, scalable industrial software with Schneider Electric's EcoStruxure for Datacentres control and monitoring capabilities enables deep visibility into day-to-day operations. The new joint solution provides a homogenous view of engineering, operations, performance across a heterogenous, legacy installed base.

The global datacentre market can be divided into three segments

RASHESH MODY,
Senior Vice President and Head of Monitoring and Control, Aveva.

KEY TAKEAWAYS

- The new joint solution provides a homogenous view of engineering, operations, performance.
- How do I manage and scale larger solutions, this is where next generation solutions are appealing.
- We bring operations technology, information technology, Industrial IoT, under one integration umbrella.
- It is the customer that really decides the architecture, we provide all the bricks.

– the hyperscaler, global scale datacentres; the regional and aggregated edge datacentres; and the distributed, small scale, local edge datacentres. The local edge datacentres are usually well equipped with small scale solutions. But where the sweet spot for the recent Schneider Electric and Aveva partnership, is expected to play, is in the regional edge datacentres and global hyperscaler datacentres, according to Rashesh Mody, Senior Vice President and Head of Monitoring and Control, Aveva.

"How do I manage and scale larger solutions. This is where this next generation solution we are talking about is very appealing," he points out.

Out of the four global solution markets that Schneider Electric operates in, including buildings, industry, infrastructure, and datacentres, it is datacentres that had the smallest contribution at 15% in 2019. With the acceleration of digital transformation during the pandemic, datacentres have been scaling their compute and network capacity. The Schneider Electric and Aveva partnership is targeted at gaining revenue market share out of that global investment.

The Aveva portfolio of solutions provides capabilities across operations, engineering and performance. Aveva also integrates multivendor and multiplatform solutions into one single panel of glass. "From an operations perspective, we have tools to improve efficiency throughput, worker skill management, simulation, predictive analytics, under a single pane of glass. We bring operations technology, information technology, Industrial IoT, all under one integration umbrella. And that is what big datacentres have been looking for," remarks Mody.

"How do I bring all this different vendor information together, but with connected and contextual data. It is not only bringing data and connected but it is also

about, how do I use it," he points out. Aveva adds a layer of data analytics over all other solution platforms operating in datacentres and brings the pieces together. How to improve performance efficiency throughput; energy-saving; worker skill management; amongst others.

"The solution is flexible in terms of deployment and in terms of scalability, features and function. It is the customer that really decides the architecture. We basically provide all the bricks," says Mody.

Hyperscale datacentre providers will benefit from this partnership by connecting platforms and data sets that previously existed in disparate systems. They will also be able to scale regardless of number of sites or global location.

Datacentre staff will be empowered to make faster, and more informed decisions and optimise asset and operational efficiency throughout the datacentre lifecycle. As a result, datacentre providers can deliver a globally consistent experience to address the expanding digital infrastructure needs of their clients.

The solution can take data that has been managed at individual datacentres, often in siloed sub-systems, normalise it across multiple sites and can ultimately provide enterprise level IT, OT, IoT integration to deliver real-time decision making. The complete solution will deliver operational efficiency and a more reliable datacentre fleet.

With regard to the joint go to market – Mody explains that it is driven by Schneider Electric and Aveva has embedded its teams inside those of Schneider Electric. "We get them up to speed on digital transformation and digital twin simulation, and all the different technologies. We have regular collaboration and we are jointly doing a number of projects together. The front-end sales, support, services, implementation, deployment is run by Schneider."

CIOS MUST REPRIORITISE AND RE-STRATEGISE, KEY THEME IN GCF'S COVID-19 WEB SUMMIT

15+ regional top IT executives, across GCC, India, South East Asia deliberated future course of action that CIOs should take in the face of the pandemic.

Global CIO Forum, successfully completed its half day web-summit on the theme of Workforce Transformation, CIO Rethink and Reprioritise. The half day event was staged on 20 May on the GCF UniteWebSummit platform and saw more than 500 attendees participating including CIOs, IT decision makers, IT Managers, and business heads from multiple regions including GCC, Middle East, Africa, India, South East Asia and the US.

GCF UniteWebSummit's rapid go to market roll out has been supported by various sponsor partners including Appian, Exclusive Networks, Microsoft, Nutanix, Lenovo, Shure, Mindware, Dell Technologies, Citrix, Westcon, Automation Anywhere, Veritas, Finesse, Square One, TSME, ARCON, Juniper Networks, Datacentrix, and Share Technologies.

The opening keynote of the websummit was by Dr Khalid Saeed, Regional Advisor, Mental Health and Substance Abuse unit, Department of Non–Communicable Diseases and Mental Health, World Health Organisation. He spoke on the topic of mental health during the pandemic. Dr Saeed, pointed out, in much detail that stress and anxiety levels had gone up around the global population, and this must be recognised at the work place and in teams.

Excerpts from Dr Saeed's slides describe this trend:

A national representative study in the Chinese population reported that almost 35% of respondents experienced psychological distress. A national study in Iran in March 2020 identified more than 60% of respondents in psychological distress. A national survey in the United States of America in March, reported that nearly half 45% of adults indicated that their mental health had been negatively impacted due to worry and stress over the virus.

National surveys, local studies in Australia, Canada, Denmark, Ireland, India, Italy, Japan, and, South Africa all have reported that experiences on anxiety, depression, stress, and loneliness are widespread. A study conducted among Italian and Spanish parents indicated that 86% of parents perceived changes in their children's emotional state and behaviors - difficulty concentrating 77%, irritability 39%, restlessness 39%, nervousness 38% and feelings of loneliness 32%.

Statistics from Canada reported that 20% of the population aged 15–49 increased their alcohol consumption during the pandemic, and in Ireland, 40% increase in sales was observed in 4 weeks during March in comparison with similar period of previous year. Data from China suggest that frequent exposure to social media is related to anxiety, depression, and stress during the outbreak.

The next presentation was by Ajay Rathi, Director of IT, Dubai Healthcare City Authority, who presented how we need to rethink our workforce. Rathi pointed out that previously only 10% of the global workforce used to work remotely. He presented country-wise statistics on remote working with a baseline of March 2019. Today it is close to 100%.

Because of this human resource policies of an organisation will change and workers will be measured on output and not on input, that is how many hours of work they put in. Rathi also presented the changing value system of the remote work force that will change human resource policies.

The next presentation was by Mohammed Abulhouf, Regional Sales Director, Saudi Arabia, Nutanix Middle East. Abulhouf spoke about the emergence of the multicloud and how vendor Nutanix is supporting the growth of hybrid cloud. Abulhouf explained that globally the adoption of public cloud has met with some limitations. Public cloud adoption is influenced by data gravity, installed base of legacy applications, regulatory restrictions, loss of application control, and unpredictable costs.

It is for this reason that Nutanix is advocating the usage of hyperconverged infrastructure to support the future, which is hybrid cloud. Hybrid cloud offers benefits of being scalable and elastic, performance sensitive, can support mission critical applications, can support cloud native applications, and offers predictable savings.

The next presentation was by Manoj Saxena, Chairman, RosettaNet Singapore, who spoke about the partnership with Global CIO Forum to launch the Global Technology Outlook Survey 2020. The global survey was launched on 20 May and will continue through the months of June and July, with early results for slicing and dicing in August and September. As an example, one of the objectives of this survey, using the results of the skills gap analysis, will be to reduce the gap between the industry and education service providers.

Saxena presented some of the representative questions of the survey that bring a 360-degree approach into the survey including: What has been the greatest impact to your operation and how are you preparing to respond to this unprecedented pandemic; Who does your Chief Information Officer or Head of IT report to; What is the key success factor a CIO is measured in an organisation; What are the biggest challenges for adopting Industry 4.0; Where do you see the biggest gap in the skills for digital transformation; What is the % of IT budget that an organisation should spend to be future ready; Where is agile applied in the organisation.

Anil Bhandari, Chief Mentor, ARCON, pointed out that the ongoing pandemic has created the concept of social distancing. Amongst the newer generation this was already prevalent. However, according to Bhandari, the pandemic and social distancing is triggering amazing transformation. This has created work from home, learn from home, and earn from home. He pointed out that while travel has come to a halt, we can also commute. And the biggest competitor for airlines that has emerged in the last two months is video conferencing, which will soon have augmented and virtual reality added to it. Zoom has transported 300 million users in the last few months and its valuation had jumped to $45 billion.

The pandemic is also driving transformation of business models, where having access is more important than ownership. According to Bhandari, the requirement is now to have secure access to anytime, anywhere, to anything, with any device. This requirement can be met by building a secure virtual access layer. He points out that is similar to working in cloud, without having cloud.

In the next presentation, Krishnan Gopi, Chief Disruption Officer, GEMS Education, opened by pointing out that the classroom of the 1900s and 2000s have not changed much. This is an indication, that transformation in this sector is long overdue. Transformation in the education sector is now being driven by technology giants, education technology vendors, and school groups.

During 2018-2019, the GEMS Education Group, was fixing fundamentals including information security and single source of truth. During 2019-2020, it was strengthening building blocks with close to 20 million online sessions. During 2020-2021 it will accelerate transformation. The future of education will be more experiential than theory. It will include advanced analytics, machine learning and Internet of Things, delivered through augmented and virtual reality, with credentials verified through blockchain. Gopi pointed out that the pandemic has now accelerated this adoption.

His key takeaways include awareness that today's curriculum needs to change; the future of education is tech-enabled; listen to your key stakeholders; work with regulators for new products and service offerings; and enhance information security controls.

n the next presentation, Venkatesh Mahadevan, CIO, Dubai Investments, revealed that for CIOs, things may have changed for the better. He said, that when we resume work, the blueprint to move forward will not be the same. CIOs will need to revisit the documents they prepared three to four months ago, while the world has gone on leave. It will be useful to enter into partnership with vendors, since both vendors and CIOs are going on this journey together. There is going to be a paradigm shift in how we do business.

he world is changing because of the pandemic, pointed out Dr Erdal Ozkaya, Regional Head of Information Security, Standard Chartered Bank, in the next presentation. The biggest security threat during this time is ourselves and the mistakes we make. A security threat is like the curfew during the pandemic, which is first imposed and then lifted and then imposed as preventive.

The three drivers for any cyberattack is for money, revenge, or war, pointed out Ozkaya during his presentation. While attackers need to find only one way to get in, the organisation has to protect all the doors. Attackers are always a step ahead. Attackers are usually patient, determined, insensitive, risk takers, careful, and deviant.

The next presentation was by Sumeet Pathak, Digital Workforce Evangelist, Automation Anywhere on the role of robotic process automation and automation during the pandemic. Pathak pointed out that three-fourth of the world continues to be in lockdown. Most organisations have now been arm twisted into thinking differently. Many have had no choice but to start their digital transformation journeys. And those with business continuity practices in place have been tested to the hilt, according to Pathak.

He pointed that recent surveys organised by Automation Anywhere have indicated

that if robotic process automation is in place then additional investment into BOTS enabled business continuity may not be needed. Hence intelligent process automation helps to make an organisation more resilient. While the onset of Covid-19 has not left organisations any choice, Pathak emphasised that mindset of the workforce is a big challenge for adoption of intelligent automation in legacy organisations.

The new go to market of Automation Anywhere in the face of the pandemic is to be efficient for the pharmacy, government, healthcare, hospital, market segments. To help the market segments of hospitality, airlines and SMEs to survive. And to save the banking and insurance market segments. The continuing approach of Automation Anywhere is to look after the well-being of its customers, well-being of its staff, and well-being of its customer's customers.

In a detailed presentation, Partha Banerjee, Group IT Manager, Safeer Group, stated that the changes that have taken place due to the pandemic are not big, they are seismic. The seismic changes reshaping consumer industries have accelerated and will have lasting impact on the way people shop and what they buy.

Shopping experience can get improved if retailers integrated their online and in-store offerings more effectively. The improvement would be an estimated 34% better in-store shopping experience if they could access real-time personalised offers on their mobiles, or could see in-store screens showing a wider range of products.

Investing in a well synchronised on-line platform for a better shopping experience for the customer would be one of the key capex influencers. Online businesses typically show losses in the beginning as shipping, packaging and marketing expenses eat into their margins. Therefore, price points and margins are the key factors for ensuring a successful online business model.

The global pandemic has led to a third of consumers experiencing some sort of lockdown, and significant supply and demand volatility.

Customers are now buying more at a time rather than buying frequently. A large part of the population has already resorted to on-line ordering and e-commerce. Even small shops are going online and accepting orders through social media like WhatsApp.

Food and consumer companies are struggling to keep up with demand from panic buying, but non-essential stores are closing either voluntarily or due to containment measures which have disrupted supply chains, production, and consumption. Digital channels are backing up, as spiking demand tests existing capabilities.

With more people working remotely emotional intelligence, self-regulation and self-awareness are considered prized attributes of the employees. Workplaces are getting adapted to suit variable work patterns and variable schedules. Retail companies have started to invest on the orientation of their work force that can be given the option to work from home.

n the closing keynote, Dr Jassim Haji, President Artificial Intelligence Society Bahrain, emphasised that artificial intelligence is not being leveraged sufficiently to assist the first responders in controlling the pandemic. Machine learning can be used to evaluate and optimise strategies for social distancing between communities, cities, and countries to control the spread of epidemics, detecting pattern, forecasting and predicting.

Artificial intelligence can pinpoint patterns in an ocean of data and make predictions. Hence artificial intelligence can identify drug prospects to test on humans within months. Artificial intelligence can also speed up vaccine development, using large quantities of accurate training data.

Artificial intelligence can also be used to identify commonalities within localised outbreaks of the virus, or with micro-scale adverse health events that are out of the ordinary. Artificial intelligence does not just predict that a disaster will happen but forecasts where it will have the most impact, which systems are likely to fail, and what communities are in most danger.

Today, nearly all social media platforms rely on machine learning algorithms for advertising. Artificial intelligence functionality could be of great assistance during disasters, helping both ordinary people and first responders keep up to date and remain organised. Artificial intelligence could be used to scrape information from millions of social media posts and clue rescue workers into reaching the hardest hit areas and people in most need.

he websummit also included a panel discussion with five top executives across multiple regions. The theme of the panel discussion was about, life during and after the pandemic. The participating executives included Praful Thummar, Vice President of IT Jazeera Airways; Ashith P, CIO Regulus Capital; Anil Menon, General Manager of IT Innovation, Tata Starbucks; Randall Choh, Group IT Director, Park Hotel Group; and Vineet Kakkar, Unit Head of Governance, Sharjah e-Government.

The five executives were invited to share their experiences across the impact of the pandemic in their market segments; the types of business partnerships that have been put in place to maintain the momentum of business during the pandemic; and examples of how agile applications and technologies have been rebuilt to reposition business in the market place. As a disclaimer, the participants of the panel shared their comments reflecting their personal opinion and not necessarily the position of their organisation.

KEY TAKEAWAYS

Stress and anxiety levels had gone up around the global population, and this must be recognised.
DR KHALID SAEED,
REGIONAL ADVISOR, MENTAL HEALTH SUBSTANCE ABUSE UNIT, WHO.

Human resource policies will change and workers will be measured on output and not on input
AJAY RATHI, DIRECTOR OF IT,
DUBAI HEALTHCARE CITY AUTHORITY.

Globally the adoption of public cloud has met with some limitations
MOHAMMED ABULHOUF,
REGIONAL SALES DIRECTOR, SAUDI ARABIA, NUTANIX MIDDLE EAST.

Launched on 20 May the survey will continue June-July, with results in August-September
MANOJ SAXENA,
CHAIRMAN, ROSETTANET SINGAPORE.

The pandemic is driving transformation of business, where access is more important than ownership
ANIL BHANDARI,
CHIEF MENTOR, ARCON.

Transformation in education is being driven by tech giants, edtech vendors, school groups
KRISHNAN GOPI,
CHIEF DISRUPTION OFFICER, GEMS EDUCATION.

CIOs will need to revisit the documents they prepared three to four months ago
VENKATESH MAHADEVAN,
CIO, DUBAI INVESTMENTS.

Attackers need to find only one way to get in, organisation has to protect all doors.
DR ERDAL OZKAYA,
REGIONAL HEAD OF INFORMATION SECURITY, STANDARD CHARTERED BANK.

Those with business continuity practices in place have been tested to the hilt
SUMEET PATHAK,
DIGITAL WORKFORCE EVANGELIST, AUTOMATION ANYWHERE.

Emotional intelligence, self-regulation, self-awareness considered prized attributes of employees
PARTHA BANERJEE,
GROUP IT MANAGER, SAFEER GROUP.

AI can speed up vaccine development, using large quantities of accurate training data
DR JASSIM HAJI,
PRESIDENT ARTIFICIAL INTELLIGENCE SOCIETY BAHRAIN.

DHONOR HEALTHTECH

USING BLOCKCHAIN IN THE PROCESS OF ORGAN TRANSPLANT

This blockchain solution enables the recording of patient genome, improves matching of organs, verifies organs, and optimises the transplant process.

WASSIM MERHEBY, CEO and Co-Founder, Dhonor Healthtech.

KEY TAKEAWAYS

- Blockchain will allow UAE to lead in the fight to eradicate organ trafficking and to provide remote healthcare.
- Other aspects that have progressed via blockchain include storage of medical records and optimisation of transplant procedures.
- Blockchain improves safety infrastructure by assisting authorities in the prevention of harmful trafficking.

Dhonor Healthtech utilises blockchain in a number of its medical technology solutions that are focused on and revolve around the patient.

One aspect is the role in the creation of the UAE Hayat blockchain-based organ donation programme, where the application featuring cloud registries, is linked to the national donation programme and cross references registered patients with the donors to show compatibility between them.

Dhonor Healthtech has worked with the UAE Ministry of Health and Prevention to ensure that this blockchain solution, enhanced with artificial intelligence enables the correct recording of patient DNA, improves matching of organs with patients, verifies the organs and optimises the transplant process.

All the organs donated are verified using DNA swabs and the UAE hospitals carrying out organ transplant procedures can then use the blockchain to verify that the DNA of the organ they have matches the DNA information of the donor that has already been uploaded onto the blockchain.

The use of blockchain along with the NFC tags applied on bags enables the patients to track the medications across the last mile of the supply chain and helps verify that the products were not tampered with in transit and are safe to use.

Using blockchain and artificial intelligence, Ministry of Health and Prevention, will be able to provide a safer and optimised procedure for organ transplants. Blockchain and artificial intelligence will also allow the UAE to lead by example in the fight to eradicate organ trafficking and to provide remote healthcare to all in light of the COVID-19 pandemic.

The real-world applications and impacts of blockchain are very tangible in the healthcare industry in UAE. One aspect of healthcare that has progressed massively due to the implementation of blockchain is the authentication of in-date, untampered and safe to use medication.

All transactions are confirmed and verified by algorithms before they are connected to the blockchain. Once the information has been digitally authenticated, signed and stored, the authenticity is sealed and can be viewed.

Some of the other aspects that have progressed via blockchain include the secure storage of patient's medical records and the optimisation of end-to-end organ transplant procedures.

Blockchain used for the Hayat programme improves safety infrastructure by assisting government authorities and health care specialists in the prevention of harmful trafficking practices while also redirecting health workers towards appropriate DNA matched donors and patients.

Some challenges that can be faced while implementing a blockchain solution in health supply chains include the assessment of viability of integration into existing networks, user acceptance and other general challenges of implementing a very complex technology.

Lastly, as blockchain based solutions are relatively new there exists a knowledge gap in the sector which results in an increase in technical barriers. For successful and widespread implementation of blockchain solutions in the healthcare industry a strong infrastructure, good interconnectivity and field experts are necessary. ■

BUILDING PRIVATE NETWORK OF TRADERS USING BLOCKCHAIN

Distichain brings together a world of traders, trade finance, logistics providers, insurance providers, into a homogeneous flow to support global trade.

HAISAM JAMAL,
CEO and Co-Founder,
Distichain.

KEY TAKEAWAYS

- Through Distichain, the traders become part of a private permissioned Hyperledger blockchain to trade their goods globally.
- There are no anonymous or pseudonymous users within the Distichain network.
- Distichain ensures data integrity within all stakeholders by separating different stakeholders in different blockchain channels.
- Distichain biggest challenge in applying its use case is creating the ecosystem community to deliver the end-to-end commerce.
- Distichain has a trade execution engine which tracks transactions done by stakeholders to complete the sale offer.

Distichain leverages blockchain technology to bring together a network of traders, trade finance, logistics providers and insurance providers to trade securely. It provides autonomous trade contracts across trust-less parties to initiate paperless trade to fashion a scalable global trade platform.

Through Distichain, the traders become part of a private permissioned Hyperledger blockchain to trade their goods globally. Distichain's Hyperledger blockchain supports large transactions and dynamic plug-in consensus and customisable data governance. Distichain's blockchain network also comes with a strong identity management. It controls who can join the network, and their identity are validated via a stringent KYC KYB process with the organisational identity management system.

There are no anonymous or pseudonymous users within the Distichain network. Organisations in this peer-network would typically use a membership service provider for issuing and validating certificates and for user authentication. This enforces a strict privacy requirement. Data integrity is further made sure by separating the service providers in different channels and isolating them from the trader's channels. This ensures secure, role-based access anytime from anywhere.

Distichain has a unique trade execution engine which tracks all the transactions done by different stakeholders to complete the sale offer. These transaction data are recorded into the blockchain by smart contracts which can only be invoked by Distichain.

Thus, Distichain ensures the data integrity within all the stakeholder by separating different stakeholders in different blockchain channels. In addition, there is no POW algorithm and crypto mining in Distichain, which allow a high scalability and fast transactions and limits significant overhead.

Distichain digitises trader's end-to-end trade operation and secures trade with IPUs. It also facilitates real-time data sharing and negotiation, removes dependence on physical document, and helps to create an immutable, auditable record of transactions for all counterparties in Blockchain. This unique advantages of Blockchain helps to scale cross-border transactions and update the antiquated processes whilst cutting out non value adding middle men.

Distichain biggest challenge in applying its use case is creating the ecosystem community to deliver the end-to-end commerce. Distichain brings together a fragmented world of service providers into a homogeneous flow to support global trade and inclusion. Great solutions in trade finance, supply chain, KYC, and other fields are emerging as part of the 4th Industrial Revolution, Distichain vies to bring these to SMEs globally via its intuitive user interface thus breaking down barriers of the past. ◼

YOTTACHAIN

PROTECTING YOUR STORAGE DATA WITH BLOCKCHAIN

Zero Knowledge Technology is a privacy solution on public blockchain that ensures YottaChain will never have access to files, nor encryption keys.

PEKKA KELKKA, Project Leader, YottaChain.

KEY TAKEAWAYS

- Zero-knowledge is alternatively known as private end-to-end encryption.
- Encryption is performed on a user's local device before the files are transferred to cloud infrastructure.
- A user can securely share their data files by inviting users with a private link to either view or safely edit the shared files.

YottaChain is at the forefront of blockchain data storage development to provide the security and privacy technology backed safeguards for the storage of different types of data, via a cloud-based, decentralised blockchain model. The patented technology provides the most secure and affordable data storage solution. The platform is the only decentralised blockchain data storage platform to feature both the deduplication and high-level encryption Zero Knowledge Encryption of data.

The Zero Knowledge Technology is a market privacy solution on the public blockchain that ensures YottaChain will never have access to their users' files, nor their encryption keys. Zero-knowledge is alternatively known as private end-to-end encryption, this means that only the user can read their data files through Proofs-of-Ownership.

Encryption is performed on a user's local device before the files are transferred to the cloud infrastructure. This provides two-factor authentication to protect the data. After the upload, the platform's algorithm segments the encrypted data into several blocks and distributes them across the platform's nodes. These nodes audit the network continuously, ensuring the right storage capacity, data integrity and availability.

On the platform, a user can securely share their data files by inviting users with a private link to either view or safely edit the shared files. In line with prevailing global privacy and data security practices, the cloud storage services will help users clear space on hard drives or local storage networks - servers by moving the data to be stored and hosted on cloud infrastructure, ensuring availability of data. This also protects users against hardware malfunctions, cyber-attacks or data breaches.

YottaChain is a pioneering decentralised data storage platform that offers both deduplication and high-level encryption Zero Knowledge Encryption of data. Decentralised cloud storage allows the user to store data on multiple nodes that are independent and autonomous, across multiple locations.

Deduplication, deleting repeated data reduces the storage requirements, associated costs and amount of data to be transferred over the network, resulting in faster and more efficient data protection. The Zero Knowledge Encryption technology provides the most secure data protection to users. The technology encrypts the data prior to uploading onto the cloud infrastructure and provides two-factor authentication.

The era for centralised data storage solutions is over, it is a known fact that centralised data storages are now vulnerable to hacking as seen in Yahoo 3 billion. Yottachain's Decentralised Data Storage solution and their patented technology has a clear competitive edge over any other data storage solution in the market.

It is time for un-hackable decentralised data storages such as YottaChain to become the norm of data storage solutions. Decentralised storage systems, offer optimum security and efficiency for users, making it almost impossible to hack and allows users to secure their data and participate in digital activities with utmost effectiveness. ■

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BUILDING TRANSFORMED ENTERPRISES AT THE EDGE

The edge of the network is closest to the digital customer, consolidating analytics in real time, while intelligently orchestrating with the core.

BY: ARUN SHANKAR

Recent global surveys of IT organisations, during this period of pandemic driven changes, have two resounding messages. One, IT decision makers are accelerating their digital transformation projects, looking to keep in touch effectively with both internal and external customers. Second, never before has there been such an overwhelming external pressure on technology, in this case from the pandemic, to manage and deliver for the organisation.

Even under regular conditions of operation, that is before the pandemic, managing digital transformation for an organisation has been challenging. Not falling into a an open and shut case approach, for both the vendor and its global ecosystem of partners. For technology vendors, the traditional touch points for selling an information technology solution has always been the Chief Information Officer, CIO. But a digital transformation project, part of an organisation's ongoing adoption journey, is not a pure play technology project.

Explains Jacob Chacko, Regional Business Head, Middle East, Saudi and South Africa at HPE Aruba. "There was a time when we used to go and talk to the CIOs. We also realised over a period of time that it was very important to speak to business owners as well. Eventually, we realised that the moment you start driving the discussion with business owners and try to show them a business outcome they can get to, the discussion actually went in a completely different direction. It was more conducive where they accepted ideas, and they were able to go along with the journey."

CIO AND CXO

As a vendor Aruba, brings across experiences from other parts of the world, showing how consumer behavior is changing, how business processes can be aligned, and how regulations are helping organisations along this journey. While CIOs have always been the first touch point, increasingly for digital transformation it is making sense to bring business into this discussion.

"More and more as we keep speaking to customers, and especially in Middle East, we are realising that is the way they would ideally want to do it. When it is driven by business, the outcomes are clearly seen," supports Chacko.

The role of technology vendors is to build innovative solutions for organisations. Business heads on the other hand are best placed to assess the types of profitable and meaningful outcomes that can be generated from technology solutions. Continues Chacko, "Gone are those days when networking vendors used to sell switches – everybody sells a

JACOB CHACKO,
Regional Business Head, Middle East,
Saudi and South Africa at HPE Aruba.

RAM RAMACHANDRAN,
Senior Vice President and Head,
Middle East and Africa, Tech Mahindra.

ARUBA AND EDGE TRANSFORMATION

As a networking technology vendor and Wi-Fi based solution company, Aruba came into existence in 2002. "Over the years, it has been quite a remarkable journey that we have undertaken. From a Wi-Fi perspective, we touch people's lives. And when people see you are in a business which is touching people's lives, that is where it makes an impact," explains Chacko. The value of the network from Aruba, is not just in connecting users and devices, but using a vast body of data in new ways for automation, insights, and personalised experiences. Aruba is innovating the edge datacentre with full-stack solutions including networking, security, compute, and storage. With this, data created at the edge stays at the edge, driving real time automation and actionable insights. The goal is to deliver a platform for customers to innovate and build amazing experiences coupled with amazing simplicity.

For Aruba, the edge experience is a key part of delivering business value during digital transformation to its customers, and further driving the edge economy. By meeting the pain points of customers and using the edge experience, Aruba has also been able to build up multiple use case scenarios.

switch today. Business has to define what are the outcomes they desire, and then try to see what technology fits into it. What technology infrastructure is actually going to help them deliver in terms of driving the business more positively? And that is the crucial differentiating factor."

According to Ram Ramachandran, Senior Vice President and Head, Middle East and Africa, Tech Mahindra, a global system integrator that works with Aruba, one of the key success factors in the digital transformation journey, is whether an organisation is following an inside-out approach or an outside-in approach, during its adoption journey.

In the first approach, an organisation embraces digital transformation as a fixed project with defined milestones and objectives. The customer resides outside the organisation, and the project is generated from within. Ramachandran spells out the checklist on the tips of his fingers for what he defines as an inside-out approach. "You are so concerned about your organisation that everything is concentric around it; the business case itself emerges from within the organisation; you are very concerned about cost control within this; and your customer experience seems to be okay."

On the other hand, the outside-in approach relies on an understanding of the external environment in which the organisation exists, and the changing nature of the customer's demands.

Ramachandran again spells out his check-list for what he defines as an outside-in approach. "How have I done the analysis of my ecosystem; how is the industry changing; is there a new way of doing a particular process; am I open to hearing multiple vendors with their ideas and thoughts; am I ready to converge upon what is best for me. All this is laid out in the beginning," he elaborates.

KEY TAKEAWAYS

- Another part of the Lego puzzle is to understand that putting the pieces together is not a one-time exercise but is a continuous exercise.
- End customers need to work over a period of time to streamline their business processes to get the business outcomes they deserve.
- With this, data created at the edge stays at the edge, driving real time automation and actionable insights.
- The best approach for business transformation is a top-down approach.
- In some very technology led innovations, we probably are also going to see how a bottom-up approach for a digital journey is going to emerge.

So, if a CXO is continuously talking about the main objective being lowest vendor cost and also becoming digitally enabled, the chances of failure are likely to increase. "It might succeed in meeting some technical objectives set out, but is it the true digital journey that they embark on? I do not think so," says Ramachandran.

THREE POINTERS

Ramachandran reflects and continues, that in his opinion, there are at least three other pointers that can get flagged, and can make a difference between success and failure of a digital transformation journey. The first flag is where did the project originate from? Was it from the top and is it aligned with the leadership's vision of the business? Does it have the right level of expectation? "It might have not been expressed in technology terms, but as long as there is clarity of vision from the top, it will succeed," he says from experience. On the flip side, "If it is not there, it will fail," he adds.

The second and third flags are around the technology and implementation during the digital transformation journey. Is the organisation choosing the right digital partner and the right technology? Is the organisation ready to experiment and take the first steps?

Says Ramachandran, "You can always make out. The organisations that succeed are constantly trying out new things, because digital is a lot about acceptance of failure along the journey. And not many organisations are ready for it." However, for most organisations, digital transformation projects can get stereotyped into something like – it is a single project and I definitely need an outcome.

Continues Ramachandran, commenting from his experience in global system integration, "Wherever our engagements have been successful, the digital initiative has always been top-down led. The most successful of the use cases, and the most successful of innovative technology adoption has always stemmed from the CXO office, not necessarily from the CIOs office. Technology or digital will always be an enabler to business."

PARTNER AND VENDOR LEVERAGE
The customer experience journey

TECH MAHINDRA LEADING WITH DIGITAL

Tech Mahindra, a global systems integrator that works with Aruba, delivers connected experiences for the connected world and believes digital is about business transformation. As an organisation with revenue of $5 billion, operations in 90 countries, and 120,000+ customers, everything in Tech Mahindra is centered around digital.

"Earlier, our belief used to be to lead with domain and back it up with technology. While understanding of the business domain is still critical, in the last couple of years, we have seen it needs to be backed up with digital," says Ramachandran.

The global systems integrator is transforming customer businesses across their products and services, business models, and business processes, leading to new revenue opportunities, enhanced customer experience, operational efficiency, reduced risk, and a better society.

"The best approach for business transformation is top-down. But in some use cases and some very technology led innovations, we probably are also going to see how a bottom-up approach for a digital journey is going to emerge. And the best would be where you can have a very nice confluence of both, top-down and bottom-up," says Ramachandran.

> THE BEST WOULD BE WHERE YOU CAN HAVE A NICE CONFLUENCE OF BOTH, TOP-DOWN AND BOTTOM-UP APPROACH.

is redefining digital since the fundamental look into the customer has become a part of technology. Everything else gets centered around that. The joint go to market between vendor Aruba and global systems integration partner Tech Mahindra can help correct some of the classical errors that are made early in the game.

End customers still separate the process of business value mapping and technology provisioning from each other. However, the solution lies in understanding that both processes are part of a single, complex jigsaw piece, indicates Ramachandran.

"That has been a very classic approach and whether it is the right approach or the wrong approach is debatable. But for most of the organisations that have tended to isolate them in two buckets, the outcome has not been as desired," he stresses.

Including technology in the development of a digital strategy and identification of the right technology solution are increasingly becoming a single exercise. By jointly including vendor Aruba and global system integrator partner Tech Mahindra, early in the planning and layout of the digital transformation journey, end customers can avoid losing out. "In most cases it is not an isolated, single technology implementation project, but a system integration journey," adds Ramachandran.

PARTS OF THE LEGO PUZZLE

The digital transformation journey is like a Lego puzzle, where vendor Aruba and global systems integration partner Tech Mahindra are part of the building blocks. Most organisations do not have the skill levels to complete the Lego puzzle on their own. That is why, both technology vendors and channel partners play a key role in completing the Lego puzzle.

"We are being the technology enablers and bringing the ecosystem together to ensure that things work. There are a lot of components that come in to make the journey complete. Eventually, you need ecosystem partners to come in and fill the Lego pieces. Aruba plays a role by getting all these ecosystem partners together to build the whole solution," details Chacko.

Another part of the Lego puzzle is to understand that putting the pieces together is not a one-time exercise but is a continuous exercise. End customers need to work over a period of time to streamline their business processes to get the business outcomes they deserve.

For Aruba, therefore one of the most critical success factors is to have the right set of channel partners with domain and business expertise. "You can build fantastic solutions, but you need a strong partner ecosystem to drive that into the markets and the geographies that we work in," reflects Chacko.

Nabil Khalil, Executive Vice-President of R&M Middle East, Turkey and Africa.

Mark Ackerman, Regional Director, Middle East and Africa, ServiceNow.

Avtar Jalif, Partner, Head of Transport and Logistics, KPMG Lower Gulf.

Moustafa Elbanhawi, CEO, DHL Global Forwarding, Arabian Cluster.

Raj Sabhlok, President, ManageEngine.

PANDEMIC AND TECHNOLOGY DRIVING
AIRPORT TRANSFORMATION

Under the onslaught of digital technologies and the pandemic driven contraction in travelers, airports are being transformed for tomorrow.

CABLING NETWORKS FOUNDATION FOR AIRPORT MODERNISATION

Kilometres of optical fibre and copper cabling with redundant pathways and alternate networks are part of an airport's modernization programme.

NABIL KHALIL,
Executive Vice-President of R&M Middle East, Turkey and Africa.

Airports faced two main challenges prior to the Covid-19 outbreak. Airports were looking at how they could support growing traveller capacity and how to modernise their operations. In 2018, for example, the top 20 busiest airports in the world experienced an average passenger growth rate of 5.2%. This growth brough with it challenges around how to boost profits and control costs, how to comply with the latest regulations, how to operate more sustainably and how to enhance safety.

As an example of how expansion to support added passenger capacity required investment, consider Muscat International Airport, which is an R&M customer. The new terminal, a state-of-the-art facility with 28 contact gates, has been designed to handle a flow of 12 million annual passengers, with a net floor area of 340,000 sqm.

Closely related to the need to support growing passenger capacity, airports have also had to modernise their infrastructures with the aim of streamlining operations, increasing passenger comfort, enhancing security and create new revenue streams. Such modernisation is a costly undertaking. Consider Lviv International Airport in Western Ukraine, also an R&M customer.

It was built between 1923 and 1928 and now, its passenger traffic is expected to exceed 3.7 million by the end of this year. As a result, the airport had to undertake a massive $200 million reconstruction project, the completion of which took around two years.

While the request for quotation is important and serves as a guideline, R&M goes much further in having discussions with the airport authority, the project owner, technical authority and other stakeholders. The many hours put in at this phase give a better understanding of the challenges, objectives, and timelines, which technical experts then translate into comprehensive cabling solutions.

The complexity of airport cabling projects is the result of a combination of factors, namely the expanse of cabling, data centre connectivity, Power over Ethernet, redundancy and availability.

Airports are characterised by very large areas being covered by IT infrastructure. This necessitates the use of fibre at a large scale. In the data centre, given the scale of these projects and the volumes

KEY TAKEAWAYS

- Complexity of airports is the result of expanse of cabling, data centre connectivity, Power over Ethernet, redundancy, availability.
- Airports are characterised by very large areas being covered by IT infrastructure.
- There is need for world-class cabling management and automated infrastructure management.
- PoE is essential for connecting CCTV cameras, sensors, access control systems and more.
- Without high-density fibre and PoE, highly modernised airports simply would not be possible.
- With airports being 24x7 operations, redundancy is another critical factor.

of copper and fibre cabling being utilised, there is need for world-class cabling management and automated infrastructure management.

Looking beyond the data centre, PoE is essential for connecting the myriad of devices such as CCTV cameras, sensors, access control systems and more. Without high-density fibre and PoE, these highly modernised airports simply would not be possible.

With airports being 24x7 operations, redundancy is another critical factor. Redundancy must be built not only into the data centre and fibre cabling, but also into the entire network design such that there is no single point of failure. Addressing this is as a design intensive process involves several teams as there are also the elements of compliance, and post-implementation maintenance.

Within terminals, airports typically have a fibre to copper ratio of 70:30,

with fibre being utilised for wide scale high-bandwidth connectivity and copper for the connectivity of endpoint devices such as computing terminals, cameras, and sensors. This ratio shifts outside terminal buildings as the fibre density scales vastly to connect the multiple service building that support the main terminal. These fibre networks are designed with high levels of redundancy and even multiple network paths.

The foremost priority for airports in the post-COVID world will be gaining back passenger confidence by ensuring their safety. For this, airports will have to invest in technologies that accurately screen for infected passengers, streamline operations and enable social distancing to be maintained, and enable more cost-effective operations.

For obvious reasons, regulations for IT systems will be very strict as the safety and reliability of the operation of the whole airport depends on the quality of the IT infrastructure. With the increased utilisation and dependence on IT systems in modern air travel, a high-performance cabling network is the critical platform for airport's entire internal and external telecommunications plus other operational applications and services.

This high-performance cabling network is fundamental to connecting and supporting the key airport systems including its ICT infrastructure for security, police and customs.

Technology can be increasingly leveraged for contactless services – for example in the UAE, smart gates have greatly reduced the human to human interaction through the immigration process. Eye scanners and other equipment can reliably identify people without need for contact.

Cabling infrastructure typically features 20-year refresh cycles. For a 24-hours business such as an airport, the highest reliability is essential as any downtime can significantly impact operations and passengers. ◾

TRANSFORMING AIRPORT EXPERIENCE WITH SINGLE SYSTEM RECORD

By integrating with cloud and on-premises applications and building a single layer of data, ServiceNow can transform passenger and employee experience.

MARK ACKERMAN,
Regional Director, Middle East and Africa, ServiceNow.

Service Now has been working in the airport space for some time. Often what we find is legacy IT service management solutions. Some of the airlines in the MENA region have up to 10+ implementations of a help-desk solutions across their organisation. What we have done is immediately go in and reduce that duplication from an IT service management perspective, creating a normalised environment.

This has really come from having a single system of record. What we found with a lot of customers is having multiple records of data, and they are not able to normalise data and actually understand what they spend. And in most instances, it is kind of the backbone of cost reduction. The most aggressive roll out within an airline has been five weeks, to the maximum of about six or seven months, versus a typical 18 to 24 months projects.

In the Covid world, organisations are now working from home and they need to work in a lot more agile manner. They have a lot of collaboration tools like Slack, Teams, and Zoom. This is helping people to communicate very much in the way we are now. But what is also happening is data is getting even more distributed.

Using ServiceNow in these organisations, we are actually able to move workflows across disparate systems. We have actually seen an acceleration in this space over the last two months to the point where we are seeing a lot more companies come on board and come to us and say, help us reduce the spending.

Airports are not using ServiceNow as a deep system of record. But what the customers are working with us on is looking at how do we improve the customer experience within the airport, the passenger experience and starting to look at creating a simple way to engage with the airports when they have problems.

And that can take various forms. What we found is linking the mobile solutions into the platform and starting to drive case management. And as part of that single work-flow across the airport, what we are doing is we are linking in information that comes out of various systems. And in case management, the field service management is helping to drive customer support across the airport.

Airports want to drive down the wait time. Any negative experience needs to be recorded and managed as a case with service level agreements, so that they can at any point be able

> ## WHAT IT DOES DO FOR THE END USER IS CREATES A SINGLE EXPERIENCE AND SEAMLESS DIGITAL WORKFLOW.

to trace that experience.

ServiceNow is that horizontal layer that makes sure all of those core systems perform at operating at the highest level. What drives the complexity here is the broad scope of services that airports provide. It is a complex business and heterogeneous environments in terms of services that they provide.

There is high complexity to maintain and to operate all of those services. ServiceNow provides the simplification to enable people to be more efficient and provide that level of service that passengers are looking for.

The complexity of an airport is not just related to how many systems

there are or how complex is the network. When you are talking about an organisation as complex or heterogeneous as an airport, usually there is a huge organisational change required to make all of your policies streamlined.

So, it is not just about technology, it is also about how you re-engineer your policies and you reorganise your teams, rescale and upskill your teams so that they follow the transformation that you are doing at the technology layer.

ServiceNow is more of a horizontal layer. There is a lot of data that is being collected and a lot of data points, and at which point we have to insert ourselves. ServiceNow is being selected to serve over solutions. If we talk about a hybrid cloud strategy within an organisation, where they will have on-premises solutions, legacy implementation, and some cloud stack deployments or cloud-based services.

What ServiceNow can be for an organisation is that overarching layer to create a marketplace, whether it is for a passenger consumer, or IT consumer or business consumer. They can actually go to a certain marketplace portal, which is presented by ServiceNow and then pick from a service catalog based on entitlements, based on persona and so on.

ServiceNow will integrate from different clouds and orchestrate the different services from those different clouds. It will assist with things like metering, consolidation, consumption, policies against those cloud-based services. And then ultimately, manage the lifecycle to change the configuration management tied into it. What it does do for the end user, is it creates a single experience, and creates a seamless digital workflow across all their disparate systems. ∎

KEY TAKEAWAYS

- Airports are not using ServiceNow as a deep system of record.
- Airports want to drive down the wait time.
- ServiceNow is built to simplify complexity.
- Any negative experience needs to be recorded and managed as a case with service level agreements.
- ServiceNow is that horizontal layer that makes sure all of those core systems perform are operating at the highest level.
- What drives the complexity here is the broad scope of services that airports provide.
- It is a complex business and heterogeneous environments in terms of services that airports provide.

KPMG

DIGITAL CHECK-IN, DIGITAL HEALTH SCAN, DIGITAL PASSPORTS

Once air travel resumes expect to see innovation along the passenger travel chain reducing personal contact, increasing automated detections and alerts.

AVTAR JALIF,
Partner, Head of Transport and
Logistics, KPMG Lower Gulf.

For some years, airlines have expanded their fleets in anticipation of an ever-burgeoning demand for travel. The sector was subject to sustained global pressures, including a relatively weak economic environment resulting from trade tensions – including those between the US and China, as well as Brexit.

These pressures were compounded by insecurities, due to fluctuating oil prices and geopolitical issues – factors which tend to impact the aviation sector more than others.

Airlines and airports around the world, including the UAE, are amongst some of the hardest hit due to travel bans and restrictions resulting from the coronavirus pandemic. With international traffic generally being restricted to repatriation flights and cargo, most aircraft around the world are grounded and airport halls are nearly empty.

With wafer-thin margins at the best of times, airlines and airports around the world are fighting for survival during the current crisis and liquidity is under tremendous stress. This reflects the substantial costs continuing to be incurred for staff, large terminals and aircraft ownership and lease costs, whilst revenues are minimal.

The International Air Traffic Association estimates that industry passenger revenues could be $242 billion, 44% below 2019 figures. In the wake of this crisis, the aviation sector has been seeking to contain costs and increase liquidity.

Even with the relaxation of travel restrictions in the coming weeks and months, these pressures will continue. Propensity to travel may be subdued due to economic and safety concerns, capacity at airports and on aircraft will be constrained due to social distancing and other safety requirements and local authorities are likely to regulate flights between countries subject to the state of local infection rates.

Technology is likely to play an even greater role to help airlines and airports emerge from the crisis, which is likely to accelerate the adoption of automation and artificial intelligence at airports and on aircraft.

In the near future, passengers can expect increased touchless check-in and security processing, enhanced biotechnology to screen for symptoms, command centers at airports to maintain social distancing using heat maps and even the use of digital passports to certify passengers' health.

Once travel restrictions are eased to pre-Covid-19 levels, adoption of technology at airports, in aircrafts and across the supply chain will continue at a rapid rate, as the industry seeks to become safer and lean. Airports will look to increasingly use artificial intelligence in order to reduce human interactions for security and customs clearances. This may include biometric facial recognition technology, virtual or augmented reality and automated baggage processing.

Ultimately this will benefit consumers. Technology will help airlines to reduce cost and decrease ticket prices and improve customer experience at airports and on the aircraft. ◼

DHL GLOBAL FORWARDING

PANDEMIC ACCELERATING AUTOMATION OF AIR LOGISTICS

The ongoing pandemic has disrupted global supply chains but the industry is adopting AI and automation to sustain and improve efficiencies.

MOUSTAFA ELBANHAWI,
CEO, DHL Global Forwarding,
Arabian Cluster

In 2019, air cargo performance was impacted by slowing GDP growth in manufacturing economies and trade tensions that dampened global trade. Softer business and consumer confidence, along with falling export orders, also contributed to air freight struggles.

IATA described 2019 as the worst year for the air cargo business since the Global Financial Crisis in 2009. While trade tensions eased somewhat at the beginning of 2020, the Covid-19 outbreak in January has since added more pressure and has severely disrupted global supply chains.

Despite a challenging market environment, all divisions under The Deutsche Post DHL Group, including

DHL Global Forwarding has recorded positive growth in the first quarter of 2020, with the Group's broad geographic footprint and portfolio of logistics solutions.

There is no doubt that aviation has been one of the worst affected industries. Naturally, airports are also significantly impacted, as they have to bear fixed operating costs despite a drop in passenger numbers.

The fall in passenger traffic has grounded many aircrafts, and thus severely impacts belly capacity. This is posing a challenge to air cargo operators who have to grapple to service demand with limited capacity. On the ground, new logistics arrangements, a result of the need for social distancing, safety and hygiene protocols, are also impacting how operations are carried out, such as trucking and ground handling.

However, air cargo remains at the frontlines of the fight against Covid-19, delivering lifesaving relief materials and medical equipment to the countries that need them. With the gradual resumption of passenger travel, it would be imperative for governments to simplify customs declaration processes and ease off restrictions to aid the recovery of the aviation sector.

The Covid-19 crisis is creating a

challenging situation regarding staffing, especially in cities under lockdown, closing workplaces, or where strict social distancing measures apply. As digitalisation is a core focus in the company, DHL Global Forwarding is ready to manage these challenges including allowing most of our workforce to be working remotely from home.

Employees are able to access and utilise the systems and remote working tools DHL Global Forwarding have in place to keep in touch with our customers to manage their shipping needs.

The logistics sector is being disrupted by technologies such as robotics, automated systems, drones, Big Data and AI. Digitisation has the potential to improve operations for shippers and freight forwarders; even more during unpredictable times such as the ongoing Covid-19 pandemic, which is going to accelerate digital disruption of the industry.

It is against this unpredictable and challenging climate that DHL Global Forwarding is more convinced that the Group's Strategy 2025 to focus on globalisation, e-commerce, digitalisation and sustainability is the right one. DHL Global Forwarding is convinced that digitalisation bears the potential to ease improve the daily business of shippers and freight forwarders simultaneously.

MANAGEENGINE

TRANSFORMING RESPONSES AND ALERTS AT THE AIRPORT

Gaining access to passenger data and escalating for advice and remediation are going to be key transformations in an air travellers journey.

RAJ SABHLOK,
President, ManageEngine.

Most agree that air travel itself will not be the same at least in the near future. With Covid-19 still being a big factor, airports and airlines will continue to impose restrictions. Until there is a better understanding of how to operate in a Covid-19 world, there will be significant investment in safety by airports and airlines.

The use of new screening and tracking technologies is expected to be much more intense. To limit direct contact with passengers, technology will be leveraged more heavily for passenger check-in and security.

We can also anticipate the deployment of thermography technology to identify passengers with elevated body temperatures. In Singapore, the government has already deployed robots in public parks to remind people to social distance. Similarly, robotics will soon be leveraged in airports to limit direct contact.

Ideally, in the medium and long term, there will be rapid testing of technology at airports that can identify or clear travelers of Covid-19 or other contagious diseases. Technology will also be required and used to track passengers' travel history. It will be more important now to track and know a passenger's travel history, determining if they have recently visited a hotspot country or city.

Most importantly, the development and utilisation of technology that limits direct contact and tracking will be imperative. Allowing passengers self-check in, line queuing technology, automatic sanitisation of baggage and passenger compartments. Virus detection and testing technology will have to evolve to spot potential infections before, during and after air travel.

Data processing applications will play a central role in the aviation industry. Information related to passenger travel and health history, real-time virus information by location, travel restrictions and more will need to be captured.

All this data will need to be analysed in real time with the help of analytical and AI tools to allow the aviation industry to provide safe travel. Ultimately, the long-term answer will require a vaccine, treatments or a cure; but until then, technology will be critical for safe travel.

In some sense, the issues and solutions are data dependent. Airports and airlines will need to quickly identify potential issues, example a passenger exhibiting Covid-19 symptoms, and notify the right people quickly and remediate. ManageEngine's ServiceDesk Plus does all this quite effectively.

ServiceDesk Plus is a help desk that is designed to capture incidents, notify the responsible individuals and implement changes to remediate a problem. Additionally, the built-in AI capabilities within ServiceDesk Plus can provide self-service functionality for staff to query a knowledge database or determine how to handle certain situations.

Beyond the help desk, software will be imperative for managing the expanded technology infrastructure required by airports and airlines. There will be more applications, devices and expanded networks deployed by the aviation sector, and all of these technologies will need to be monitored, managed, analysed and secured. ■

IATA

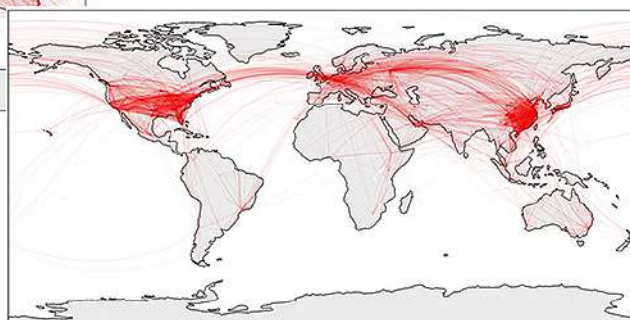# NO REGION HAS BEEN IMMUNE TO AIRCRAFT GROUNDING

With global passenger aircraft utilisation slipping below the 20% mark, IATA has come up with best practices for reopening the sector in a safe way.

Air connectivity continues to be seriously disrupted globally

3 May 2019

IATA Global Media Days 2019 - #IATAMediaDays

1 May 2020

Global air connectivity continues to be seriously disrupted, with no region immune. The number of daily flights worldwide were down 81% at end of Q1, effectively grounding the entire industry, with the exception of some domestic flights in the US and Asia. At the end of May, African flight departures were down 94% and Middle East flight departures were down 88%.

Airlines are continuing to suffer and are battling for survival. Airline revenue losses means GDP and jobs at risk. Main priority is to secure relief for industry through government engagement across the region through direct financial support, loans, loan guarantees, reduction, waiver or deferral of government-imposed taxes and fees. Aviation specific relief measures in Africa and Middle East have not been as strong as in other regions

Almost every challenge in aviation requires a team effort to solve it. Today we face the biggest challenge in commercial aviation's history: Restarting an industry that largely has ceased to operate across borders, while ensuring that it is not a meaningful vector for the spread of COVID-19. Meeting this challenge will mean making significant changes across air travel experience: pre-flight, at the departure airport, onboard, and post-flight.
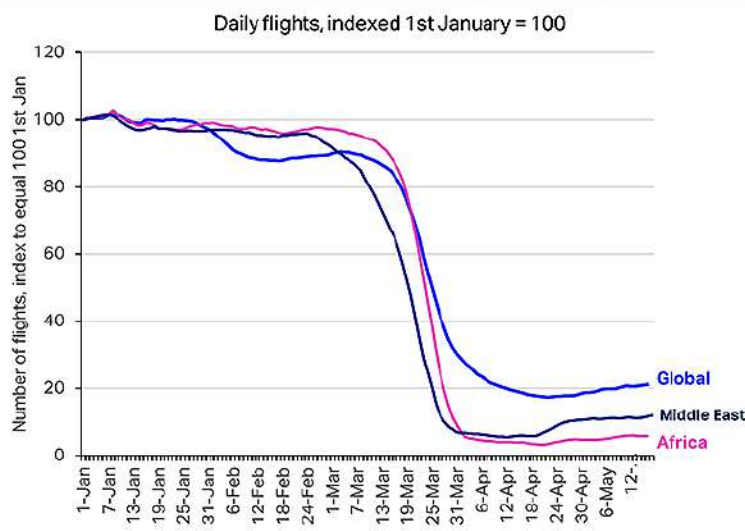
MUHAMMAD ALI ALBAKRI,
Regional Vice President for Africa
and the Middle East, IATA.

*All graphics: International Civil Aviation Organisation*

Africa and the ME flight departures 95% lower at the end of Q1
As of May 17th, flights further reduced by 94% (Afr.) & 88% (ME) relative to January 1st 2020

Daily flights, indexed 1st January = 100

Now airlines are fast running out of cash.
The typical airline had 2 months of cash at the start of this year

Balance Sheet Liquidity
(Cash and Equivalents Coverage of Revenues*)
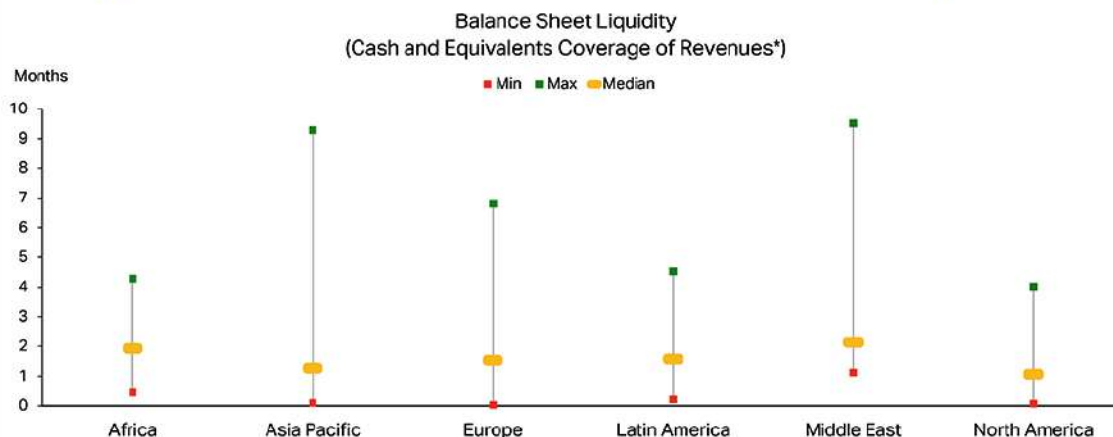
*Latest available 12 months cumulative revenues Africa, Latin America and the Middle East might not be representative due to small sample size.

Source: IATA Economics using the Airline Analyst

It will require governments to assume broad new responsibilities in terms of assessing and identifying traveler health risks, as governments did for security after 9.11. Airlines and airports will need to introduce and adapt processes and procedures to minimise contagion risk in the airport and aircraft environments.

Passengers will need to be empowered to take more control of their travel journey, including responsibly assessing their own level of health risk before a journey.

Because there is no silver bullet solution, IATA recommends a temporary multi-layered approach during the restart for the health and

safety of passengers and crew, and to ensure that air travel is not a vector for COVID -19 transmission.

AT THE AIRPORT
Access to the terminal building should be restricted to airport and airline workers and travelers, with exceptions being made for those

All graphics: International Civil Aviation Organisation

Temporary multi-layered biosecurity approach to protect health & safety, and ensure that air travel is not a vector for the spread of COVID-19

Pre-flight · Check-in · Departure airport · Airport processes · Boarding · Inflight · Arrival airport · Border & Customs · In transit

IATA

Particulate Filtration - Efficiency

Filtration Efficiency vs Particle Size
(media used on Pall Aerospace Cabin Air Filters for Airbus Applications)

1. Direct Interception
2. Inertial Impaction
3. Diffusional Interception

PALL Aerospace

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accompanying passengers with disabilities or unaccompanied minors. Temperature screening by trained government staff at entry points to the terminal building. Physical distancing through all passenger processes, including queue management, use of face coverings for passengers and masks for staff in line with local regulations.

Self-service options for check-in used by passengers as much as possible to reduce contact points and queues. This includes remote check-in; automated bag drops with home printed bag tags and self-boarding. Boarding should be made as efficient as possible with redesigned gate areas, congestion reducing boarding priorities, and hand luggage limitations.
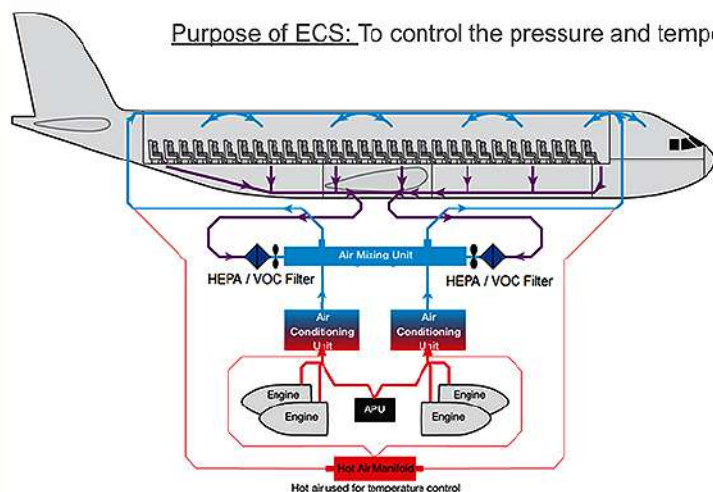
At the arrival airport, IATA foresees several layers of protective measures. Temperature screening by trained government staff if required by authorities, automated procedures for customs and

All graphics: International Civil Aviation Organisation

Typical Aircraft Environmental Control System (ECS)

Purpose of ECS: To control the pressure and temperature in the cabin and cockpit.

HEPA / VOC Filter
Air Mixing Unit
HEPA / VOC Filter
Air Conditioning Unit
Engine
APU
Engine
Hot Air Manifold
Hot air used for temperature control

Fresh Air: Regulated CS 25.831

Minimum 0.28 m³/min per person

Recirculation Air:

Typically 0.19 m³/min per person

- Reduces temperature gradients
- Disperses CO_2
- Increases humidity

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PALL Aerospace

KEY TAKEAWAYS

- IATA does not recommend restricting the use of the middle seat while onboard aircraft.
- Almost every challenge in aviation requires a team effort to solve it.
- IATA recommends a multi-layered approach during the restart for health of passengers, crew.
- Self-service options for check-in used by passengers to reduce contact points and queues.
- With fewer seats to sell, unit costs would rise sharply.

border control including use of mobile applications and biometric technologies, accelerated processing and baggage reclaim to enable social distancing by reducing congestion and queuing, health declarations and robust contact tracing are expected to be undertaken by governments to reduce the risk of imported chains of transmission

MIDDLE SEAT NOT AN OPTION

IATA does not recommend restricting the use of the middle seat to create social distancing while onboard aircraft. Available evidence suggests that, the risk of virus transmission on board aircraft is low even without special measures. There are several plausible reasons why COVID-19, which is spread primarily by respiratory droplets, has not resulted in more on-board transmission, and why air travel is different from other modes of public transport. Passengers face forward with limited face-to-face interactions. Seats provide a barrier to transmission forward or aft in the cabin. Air flow from ceiling to floor further reduces the potential for trans mission

Air flow rates are high and not conducive to droplet spread in the same way as in other indoor environments. High Efficiency Particulate Air filters on modern aircraft clean cabin air to hospital operating theater quality, further assisted by high levels of fresh air circulation. Moreover, even if mandated, keeping the middle seat open will not achieve the

recommended separation for social distancing to be effective. Most authorities recommend 1M-2M while the average seat width is less than 50cm.

Calls for social distancing measures on aircraft would fundamentally shift the economics of aviation by slashing the maximum load factor to 62%. That is well below the average industry breakeven load factor of 77%. With fewer seats to sell, unit costs would rise sharply. Compared to 2019, air fares would need to go up dramatically, between 43% and 54% depending on the region—just to cover costs. For Africa and the Middle East this would be a 43% on average increase.

IATA is reaching out to governments with the roadmap. The mutual recognition of globally agreed measures is critical for the resumption of international travel. This engagement is in support of the COVID-19 Aviation Recovery Task Force of the International Civil Aviation Organisation, which is tasked with developing the global standards needed for the safe re-start of aviation. ■

All graphics: International Civil Aviation Organisation

WHY E-RETAILERS CAN NO LONGER DELAY LEVERAGING AI

The use cases of AI are well established and e-retailers can no longer delay relaunching, writes Ranjith Kaippada from Cloud Box Technologies.

RANJITH KAIPPADA, Director, Cloud Box Technologies.

KEY TAKEAWAYS

- AI will help retailers think and plan more strategically instead of following a reactionary trend.
- When a spike in demand in a particular location is noticed, AI will enable a more effective and rapid distribution mechanism.
- AI will now play a significant role in understanding consumer behavior in the e-commerce sphere.

The COVID-19 pandemic has given way to challenges across industries and has brought some businesses to a standstill. Retailers were not prepared to make the sudden and swift changes for various reasons and had ill-prepared IT environments. Many were not equipped with online and e-commerce platforms which would be the most appropriate way to conduct business during a lockdown. Going forward, artificial intelligence that will play a vital role in many areas within retail.

According to a recent survey by ResearchandMarkets.com, artificial intelligence in the retail market is expected to grow at a CAGR of 35.9% from 2019 to 2025 to reach $15.3 billion by 2025.

The market by itself is divided into software and services. It covers a variety of retail aspects including, supply chain and logistics, predictive maintenance on the manufacturing floor, product design, inventory and in-store management, customer behavior and relationship management, and others. What is evident is that artificial intelligence will help retailers think and plan more strategically instead of following a reactionary trend to meet customer demands.

While artificial intelligence algorithms are put into use to predict fashion trends, be it color or style, retailers can now have a more analytical approach to product design and forecasting. It can be suitably used to ensure that the manufacturing unit is up and running with a minimum downtime by predicting any emerging production faults or abnormalities in machine behavior.

Inventory can be a deterrent for retailers where huge amounts can be trapped in inventory capital. Artificial intelligence helps in controlling this by analytical forecasting and can definitely enable waste reduction.

Another area where artificial intelligence will make strong inroads is with supply chain planning. It is estimated to transform into a more collaborative process that will involve material management and quality control, distribution and transportation.

For instance, when a spike in demand in a particular location is noticed, artificial intelligence capabilities will enable a more effective and rapid distribution mechanism, as well as the transportation teams are able to plan and prepare themselves for the situation more efficiently.

Moving into the consumer realm, artificial intelligence will now play a very significant role in understanding consumer behavior very relevantly at this point in time in the e-commerce sphere to engage and convert users.

It will have a very strong impact on how brands will interact with consumers be it personalisation of the customer experience, retargeting customers, visual search capability, identifying customer leads, chatbots and virtual assistants and advanced customer relationship management.

In a nutshell artificial intelligence brings along operational agility and efficiency while reducing risks through visibility, lowered costs and higher quality products for the retail industry. With changing times, what retailers now need to focus on is a system to undertake some radical restructuring and foresee the possible changes they need to implement while moving into the future. ◼

WORDS, THOUGHTS, MINDSET CAN TRANSFORM YOUR LIFE

Where you are today, AND where you will be tomorrow, are never the same and words, thoughts, mindset help you to reach there, writes Ektaa Sibal.

Ektaa Sibal is India's number one Inner-Self Transformation Specialist, International Meditation Expert, Speaker and a Gifted Energy Healer with inborn intuitive abilities.

In my recent WebSummit with Global CIO Forum, my masterclass on, The Anatomy of Brain and how it works, talked about how our brain functions, processes information and how we can empower our mind to become mighty strong. Through this article, I bring to you some of the insights and key takeaways of my session.

Our brain is the most powerful organ in our body and while being powerful it is also the most complex one. Talking about complexities, our brain is all about huge numbers, as human beings, we process information from our surroundings through our five senses at an average rate of about 4 million bits of information per second. While all this information is absorbed and assimilated unconsciously because if we plan on doing it consciously, it may not be practical and feasible.

We create memories and experiences through the external observations that we do which goes through various filters of our belief system, values, decisions, attitudes, that leads to creating a behavior or an action. So basically, it leads to creating an emotional state such as happiness, sadness, fear or anxiety and subsequently, this result in generating an action such as you may display excitement, you may laugh or cry or become fearful.

I have realised in my experience that when we make any internal change in how we process the information from our surroundings we can see the change happening in our behavior and emotional states as well. This is a part of cyclic change which means that any change in either the emotional state, behavior or our internal representations results in the change of other two.

This implies that we have the ability to see the situation and create a response to it according to how we want it. However, a lot of times I hear from people when they say – I have no choice. I do not agree to it as we always have a choice, a choice to see the situation in a particular way, a choice to react to it through our emotions – a choice towards the behavior we want to display.

The big question is why do we need to empower our mind? And how can we do it?

Our mind works through the thoughts we create, these thoughts become our reality and that reality becomes our destiny. In a nutshell, what you think is what you create and this is no philosophical phrase, it is scientifically proven now that our

> **WHEN WE MAKE INTERNAL CHANGES IN HOW WE PROCESS INFORMATION WE CAN SEE THE CHANGE HAPPENING IN OUR BEHAVIOR.**

> **ENSURE THAT YOUR INTERNAL DIALOGUE WHICH YOU SPEAK TO YOURSELVES IS BASED ON FACTS AND IS POSITIVE.**

thoughts have a great impact on the way we lead our life. Your thoughts construct your personality – which eventually builds your life and is a fundamental reason for the way you are.

Try this and it will be easier for you to understand it– recall your last angry thought and note how it affected your physiology, behavior and action. I agree that not every single thought will bring the change to your personality but if the same instance is repeated again and again then that will bring the necessary change in your personality without you even realising it.

There are three areas that need attention which can bring that change in shaping up your identity, your life and how you see yourself–

Words – that you use for yourself or your situation

Words are that powerful especially when it is used for describing ourselves or our situations. When you use words which belittle or are critical towards you or the situation that you may be facing – you are

building a reality around it as the next thing you do after you describe it with certain negative words is finding all the ways to validate it. This validation is enough to create a reality around those words.

So, watch out for those words which pull you down instead create a reality that strengthens you and makes you strong in every dimension of your life.

Thoughts – internal dialogue that goes on in your mind

The internal dialogue or the internal chatter consciously and sometimes unconsciously has a great influence in our decision making. This internal dialogue is inspired by our past memories, our influences and our judgments which in turn impact the decisions we take.

Ensure that your internal dialogue which you speak to yourselves is based on facts and is positive as that can help you in taking the right decisions in life.

Mindset – belief system that drives your life

Our beliefs are the assumptions that we form as we experience life. Our values and belief system have a strong and deep impact on the quality of our life, our relationships and even work. Sometimes the beliefs we create become an impediment to our happiness and capabilities as they turn out to be deep rooted and get entrenched in our mind.

Be wary of all those irrational and limiting beliefs by reclaiming your consciousness and stopping yourself from identifying with them. Being conscious about questioning the limiting beliefs every time they stem up in your thoughts is one of ways to shift your mindset.

Finally, keep in mind that all those words, thoughts or mindset that got you where you are now– will not necessarily take you to where you want to be in future. As your goals and needs change, your words, your thoughts and mindset should also transform with time. ■

> **INTERNAL DIALOGUE CONSCIOUSLY AND SOMETIMES UNCONSCIOUSLY HAS A GREAT INFLUENCE IN OUR DECISION MAKING.**

IS THE PANDEMIC DRIVING COLLAPSE OF IT HELP DESKS

To avoid IT help desks from being overwhelmed, zero trust, cloud applications and services should be prioritised, writes Kristine Dahl at VMware.

KRISTINE DAHL,
Vice President End User
Computing, EMEA, VMware.

As the first days turn into weeks, and in certain countries months, the initial chaos provoked by the coronavirus pandemic is now, for many organisations, becoming a new normal. Disruption still reigns, yet employers of all sizes are striving for continuity while keeping employees safe and as effective as they can be, from wherever they are able to work, and customers as engaged as possible.

Ultimately the aim has been to get people up and running and operational. Perfection at this stage has not been the objective. But this is where there now has to be a change in focus. Whether new to remote working or with well establish processes, it is worth all businesses using this point in time to look at what they have rolled out and challenge themselves on whether it is truly secure.

While basic cyber hygiene principles are hugely relevant, the fact is that it is easier to monitor employees' security commitment when they are on site, using company-provided devices. With some businesses having resorted to equipping staff with laptops bought from high-street retailers as offices shut, or quickly deploying bring your own device BYOD approaches, that visibility is no longer readily available.

In an ideal world, this would not be an issue, as most enterprises should be operating on a principle of zero trust, whereby nothing on the network or connected to business applications is trusted – so if anything tries to access corporate services, it has to be verified before it can proceed. In order to do this without hampering productivity, employees need to be able to authenticate themselves and their devices quickly.

The fact is, however, that many organisations are not built to implement zero trust, and so fall back to an approach of in-office good, out-of-office bad. But that does not work when everyone is now out of the office. Yet if they use previous approaches to security, that means that everyone is now also bad and will struggle to get anything done. This means they need to look at how they can bring in a zero-trust model.

Businesses also need to rethink

> ## THE AIM HAS BEEN TO GET PEOPLE UP AND RUNNING AND OPERATIONAL, PERFECTION AT THIS STAGE HAS NOT BEEN THE OBJECTIVE.

ENTERPRISES NEED TO PRIORITISE, JUST AS THEY DID IN THE EARLY STAGES BY FOCUSING ON CRITICAL STAFF.

KEY TAKEAWAYS

- Procurement behaviours in both commercial and government organisation have radically changed.
- Where, once a bid to use cloud might have required layers of decision-making, now organisations are adapting.
- Today's new norm are still fluid, but it should be about being prepared.

how they manage traffic on their networks. With decentralised devices now trying to connect simultaneously to the same applications, corporate networks that are not built for remote working are going to struggle. Certain applications and functions could be overloaded – stories are emerging of IT helpdesks being overwhelmed as office employees, used to coming in, switching on their device and immediately having access to a suite of tools and applications, are now faced with being their own IT support.

With limited technical knowledge, they are using their employer's helpdesks for often basic needs, diverting staff from mission critical work to answer questions on why their home broadband is not working. To stop this overwhelming resource, enterprises need to prioritise, just as they did in the early stages by focusing on critical staff and their application.

As companies are rapidly scaling up how they service and support a fully remote workforce, they are adding more compute, and turning to cloud environments to support, even temporarily. This is where the possibilities of the cloud are can provide support, by being able to deliver infrastructure, compute, applications, networking and security to where's it needed, as required.

With cloud, prioritising means that the right applications and data can be deployed into relevant

environments quickly, harnessing the scale and burst of resource that businesses need now. It also means that they are not locked in – if the situation changes in a few months' time, they can adapt their requirements accordingly without being tied to major infrastructure investments.

Additionally, with the need for speed and scale, procurement behaviours in both commercial and government organisation have radically changed – with a certain easing on policy. Where once a bid to use services such as cloud in a business might have required several layers of decision-making, now organisations are adapting how they acquire new infrastructure quickly.

For instance, where once certain types of data had to be kept in certain national locations, now there is an increasing understanding that they will allow certain data or apps to be in a data centre in another country. Organisations know that to continue working, they need to be willing to adjust in order to get the resource they need. In short, they need to be constantly reprioritising.

Today's new norm is still fluid. But it should be about being prepared, whether that is ensuring security for today's remote workforce, being able to mobilise rapidly should a second outbreak occur, and there will always be the time businesses need to get back to normal. Enterprises need to provide stability – for their customers, for their employees, and for their own ability to operate.

That means putting in place the foundation, or platform, from which to operate in a secure, flexible and decisive manner. More is going to change in the coming months, but decisions made now can ensure that whatever lies ahead, enterprises are equipped to mitigate the impact on their organisation. ◾

HOW TO UPSCALE FROM AUDIO TO VIDEO CONFERENCING

Video conferencing is more impactful than an audio track, but needs preparation of resources and technology, explains Adam Preset at Gartner.

ADAM PRESET,
Senior Director Analyst,
Gartner.

Live video is the state of the art for executive leaders who want a more engaging and interactive way than audio conferencing to communicate widely and hear feedback from far-flung teams in virtual meetings. In today's geographically dispersed workplace, leaders no longer present to employees in the same room at the same time for town halls, all hands and all-company meetings.

Yet these large-scale events are essential for executive leaders to share their vision and strategy, address urgent issues and celebrate wins. The solution? Live video.

Companies vary widely in their ability to produce and use high-quality, live video assets in their communications. There is a spectrum of engagement. On one end, you have leaders and teams eager to deliver quality live video events and workers who are able to join and interact in real time. On the other, you have traditional organisations that are still using massive audio conference bridges to keep people informed at scale.

Most organisations are in the middle: they would like to do more with live video, but they feel ill-equipped to meet audience expectations for engaging content, anywhere consumption and quality production. To bridge the gap between desire and execution of large video-based meetings, focus on three key areas.

PREPARING MEETING CONTENT

Large-scale events offer a rare opportunity to send a clear message, but only if leaders carefully hone the content for optimum engagement. On-screen leaders should prepare and practice their talk track so that it sounds polished, but not wooden. Leverage the same presentation techniques that keep in-person audiences engaged, like planned pauses, vocal emphasis and physical gestures. Use images, audio and video clips to complement and illustrate the ideas.

This sounds like a lot of work — and it is. Leaders might be tempted to go instead with voice narration over slide-share images, but the more static approach feels less personal and will promote less engagement. Leaders should continue to participate on chat, through crowdsourcing and via social channels to hear what people care about.

> ON-SCREEN LEADERS SHOULD PREPARE AND PRACTICE THEIR TALK TRACK SO THAT IT SOUNDS POLISHED.

> LEVERAGE PRESENTATION TECHNIQUES THAT KEEP IN-PERSON AUDIENCES ENGAGED, LIKE PLANNED PAUSES, VOCAL EMPHASIS, PHYSICAL GESTURES.

KEY TAKEAWAYS

- Use images, audio and video clips to complement the ideas.
- A more static approach feels less personal and will promote less engagement.
- Leaders should continue to participate on chat, through crowdsourcing and via social channels to hear what people care about.
- Longer events may require a moderator to balance contributions, manage time, ensure questions are acknowledged.

Fortunately, well-prepared, live content encourages audience interaction, which ultimately results in content contributions from the audience. Live video meetings can integrate tools to enable questions from the audience, live polls, real-time chat and live comments, all critical sources of audience interaction and content generation. Nor should the interaction end with the close of a live stream.

IDENTIFYING MEETING ENVIRONMENTS

In an ideal world, all team members would be able to attend video-based, all-company meetings at the same time and or with everyone in their local office. That is not always possible in widely dispersed organisations, or in operations that require a portion of the workforce to be on the job during the meeting. As a consequence, live video should be accessible on a range of screen types and through on-demand options to enable people in different work environments and time zones to watch when they are available.

To accommodate this range, organisations should maximise distribution to as many platforms as possible. Options include desktops, mobile screens, conference room screens, and digital sign boards in common areas or break rooms, among others. Also include audio transcripts to ensure access.

The environment also includes the digital environments where employees look for company content. Organisations might push on-demand video content to workstations, or post it to a company website. Other options include posting the video in a messaging application, on social media or in workflow applications.

PROCURING TALENT AND SOLUTIONS

Quality live video events require the right people and the right technology to execute. Simple events may need only an on-camera leader delivering content, whereas longer events with more segments may require a moderator to balance contributions, manage time, and ensure that questions and feedback are acknowledged. Off-camera teams also seed questions, solve off-screen technical problems and provide audience service to ensure the event runs smoothly.

On the technology side, there are two options companies use most often to capture and deliver video for meetings. Meeting software that allows participants to join and watch a live-streamed presentation and enterprise video content management platforms that support live and on-demand delivery for both internal and external audiences. Companies might also post non-confidential videos to sharing platforms like YouTube or Vimeo, or work with a webcasting company when the goal is to deliver a consumer experience.

The right solution might be the simplest. The middle of a crisis or other period when people really need to hear from leaders is not the ideal time to figure out a new technology solution.

If you use a meeting solution for small meetings, check whether it can do large-scale ones as well. If you use a platform for training and marketing videos, see if it can do live video as well as on-demand. If you work with a unified communications vendor, service provider or system integrator already, they might have options to help you communicate at scale. ■

6 TIPS ON HOW TO MANAGE EXPLOSION OF APPLICATIONS

VMware's Ahmed Auda, looks at six important criteria for managing cloud applications including security, developer engagement, tools and management.

AHMED AUDA,
Managing Director, Middle East, Turkey and North Africa, VMware.

Organisation are in the midst of an application explosion. Irrespective of sector or audience, they are being defined by how fast they can deliver modernised apps and services that differentiate their business and enhance the user experience. As such, it is predicted that the number of applications created in the five years ending 2023 will be greater than the amount built in the previous four decades.

To handle all of this, enterprise organisations are seeking cloud strategies that support the applications they need to transform their operational capabilities and deliver against strategic objectives. That means multi-cloud; deploying different and multiple cloud environments to meet the needs of all applications – most IT organisations support a mix of legacy applications while also deploying new cloud-native application architectures.

So, how can CIOs navigate these obstacles, and ensure that businesses are on the front foot to build, run, manage, connect and intrinsically protect any app, on any cloud, on any device?

#1

Completely secure, no matter where an application is deployed, whether public, private or on-premises, it has to be secure and protected, intrinsically. In a world where applications and data exist as much outside the corporate network as they do within it, that means a new approach to security, one where it is intrinsically built in and not bolted on.

Modern-day security requires an investment shift away from trying to prevent breaches at all costs and towards building intrinsic security into everything – the application, the network, essentially everything that connects and carries data.

This is only possible through software. Where actually the focus is not on applications – it is on the policies that govern them. With every part of the application, network and data adhering to the policy, all it takes is one change to ensure everything is compliant and updated – a vast improvement on having to adjust every single application within the estate.

#2

Consistent management of applications, regardless of where they are deployed. To remove the need for specific skills, IT needs to be able to manage applications across different types of cloud, from data center, to public, to the edge. This needs to be agile, efficient and automated to ensure that IT teams can run applications and their environments in a consistent manner.

Having this ability means having the visibility, operations, automation, security and governance to manage and operate their systems and apps, even across multiple cloud environments. It is only in doing so that enterprises can start migrating applications as required to meet business objectives, rather than as capabilities dictate.

#3

Ensure applications are portable from cloud to cloud without

IT IS PREDICTED THE NUMBER OF APPLICATIONS CREATED IN FIVE YEARS ENDING 2023 WILL BE GREATER THAN PREVIOUS FOUR DECADES.

KEY TAKEAWAYS

- Enterprises are seeking cloud strategies that support applications they need to transform operational capabilities.
- Most IT organisations support a mix of legacy applications while also deploying new cloud-native application architectures.
- IT needs to be able to manage applications across different types of cloud.
- Developers need access to tools and environments that are going to help them do their jobs.

refactoring. 25% of respondents highlighted this a challenge to achieving migration goals. However, there are multiple ways to move applications across developer platforms, without costly refactoring – from replatforming to adopting a multi-tier approach, which sees the application split for instance, with a front-end in a public cloud, and the data kept on-premises, to building cloud-native applications from scratch, or deploying a software-as-a-service version. The key to all of these, however, is having consistency across operations and infrastructure.

#4

One set of tools, for one set of environments – dovetailing with consistent management, having one set of tools, on a common platform, to build and manage the entire application portfolio across all environments removes the need for vendor or cloud specific teams, reduces complexity – and provides the necessary visibility required across multiple environments.

#5

Promoting collaboration between developers and operations – Developers need access to the tools and environments that are going to help them do their jobs. Operations teams are looking for a straight way to manage – continual changes are the stuff of operations nightmares. The risk is that if operations and developers cannot collaborate,

then the latter will acquire their resources outside of the enterprise IT structure, leading to potential security risks.

This has always been an issue; however, with applications so critical to business success, getting developers and operations on the same page is now an absolute imperative. Enterprises need to give developers what they need, while still ensuring that operations can manage it all effectively within the confines of corporate governance and regulation.

#6

Empower developers to build and deploy applications to any public cloud – the days of taking six months to build and test an application are gone. Users want experiences rapidly, and the delivery of the applications and services providing those interactions needs to match that pace. To deliver that, developers need a common platform that means they can build applications anywhere and then deploy them in any environments, with the only consideration being how it meets the end objective.

Containers are the future of app development as they both improve IT and developer efficiency, and speed development and deployment to meet business needs. Kubernetes is clearly the preferred platform, delivering the operation of an elastic web server framework for cloud applications.

As they navigate the application explosion, enterprises are aware they need to overcome major challenges if they are to realise the potential benefits of being able to deploy modern applications and deliver enhanced, valuable user experiences. With multiple environments to contend with, they need to be using hybrid cloud in order to have a single, unifying and consistent way in which to operate and manage applications and infrastructure. ■

SCHOOLS NEED ESPORTS, INTELLIGENT NETWORKS, WI-FI 6

For remote classrooms, schools need to improve capabilities in esports, intelligent networks, wi-fi 6, writes Maan Al-Shakarchi at Extreme Networks.

MAAN AL-SHAKARCHI, Regional Director META and South APAC, Extreme Networks.

The beginning of 2020 has been an unprecedented time for the education sector. Schools and universities were among the first institutions to feel the impact of the COVID-19 crisis as governments across the Middle East made the tough decision to suspend classes as a measure to control the spread of the virus.

While the safety and well-being of students is undoubtedly paramount, enabling the ongoing education of students has also justifiably been a top priority. As a result, we have witnessed a rapid roll-out of distance learning initiatives that have used digital technologies as an essential foundation for their success.

While current events have further emphasized the need for educational institutions to utilise digital technologies, the trend towards digitally-oriented classrooms were already in motion long before the coronavirus made these considerations so necessary. In 2015 the global eLearning market was worth $107 billion.

By 2025, however, it is estimated to grow over three-fold to $325 billion. This rapid growth may be due in part to how digital solutions and practices like remote-working and paperless workspaces have enhanced how modern businesses operate, incentivising schools and universities to follow suit.

Given that the average student has extensive day-to-day exposure to smart devices – tablet computers, smartphones, smart TVs and virtual assistants – they are more likely to expect and benefit from a technology-driven learning experience. This is a boon for educational organisations who benefit from catering to a generation of tech-natives whose preference and familiarity with smart technologies make them the perfect candidates to take advantage of digital innovations.

When information-rich media such as videos and interactive tutorials are just a click or swipe away, it is easy to see why pen-and-paper and other traditional learning tools fail to capture the attention of today's young minds. Replicating some of these engaging experiences through the use of new integrated tools and technologies can greatly enhance student experiences, leading to better engagement, interactivity and content assimilation and retention.

Being a tech-native generation, we have seen today's students interact with technology in unprecedented ways. One such example is esports. Just like any other sports club, esports has become a respected extracurricular activity that supports a student's academic pursuits. This is true of all education levels up to university where there are esports umbrella organisations.

1 in 5 schools around the world currently already have an esports program while 71% are considering or might consider adding an esports program in the future. Even in the face of the current pandemic, most of them have been able to continue regular matches, demonstrating that building upon a digital foundation is a good way to ensure continuity in times of crisis.

As drones, chatbots, video collaboration tools, eLearning

INSIGHTS

- Preference and familiarity with smart technologies make tech-natives perfect candidates to take advantage of digital innovations.
- 1 in 5 schools around the world currently already have an esports programme.
- 71% are considering or might consider adding an esports program in the future.
- In the face of the pandemic, most of them have been able to continue regular matches.
- Building upon a digital foundation is a good way to ensure continuity in times of crisis.

platforms, 3D printers and even esports make their way into educational institutions, there is bound to be an increased strain on institutions' existing IT networks. Just as the inclusion of these digital learning assets improves student engagement and learning outcomes, so too does the reliable performance of these devices.

Throttling bandwidth, unreliable connections and poor performance can hinder some of the benefits these solutions provide. As such, it is just as important that the right networking investments are in place to support even the most ambitious digital learning initiatives. Having the most suitable network infrastructure will both ensure optimal performance of existing investments and enable institutions to rapidly embrace new technologies.

For the legacy network infrastructure common to many schools, the bandwidth requirements to host just one smart device per student can throttle performance or lead to unreliable service. When we consider the additional requirements to support future learning tools such as smartboards, 3D printers, chatbots and digital assistants, it is clear that existing wired or wireless networks are not up to the task.

This should encourage educational organisations to look to the latest of networking solutions, such as Wi-Fi 6, that will be able to keep up with this rapidly growing demand.

Security is another prime consideration – within the bounds of its network, an educational institution should be able to safeguard the privacy of its students while maintaining sufficient controls to protect them from distraction or otherwise malicious content. With campus-wide wireless and wired network access being granted, it is also crucial to ensure sensitive information and systems are appropriately siloed.

For example, applications and data meant for staff should be out of bound for students. Here efficient

and effective network segmentation proves to be invaluable. Segmentation is also important for restricting lateral movement in the event that a malicious actor is able to get through a network's defenses.

If skeletal in-house IT teams in education institutions are tasked with ensuring smooth operation and constant availability of vital digital assets, they could find themselves with little time for value-on initiatives, such as implementing new technologies to the network.

Thankfully, proven solutions are already helping organisations minimise the management overheads associated with providing a powerful and robust network and allowing IT teams to spend less time firefighting.

Artificial Intelligence or, more specifically, self-driving networks are one among these. By leveraging AI and machine learning to create a self-driving network, the burden for IT teams is reduced, allowing them to devote their time to high-value initiatives that improve IT services for students. Likewise, self-driving networks are capable of independently monitoring the network environment to automatically optimise performance, increase economies of scale and decrease operating costs.

Self-driving networks also have a hand to play in improving security. By automatically identifying anomalous behavior, threats can be detected quickly, even at scale, and trigger alerts for the security team to take action.

While currently, distance learning technologies are rightfully where institutions are currently focusing their modernisation efforts, it is essential that they keep in mind that the success of all digital transformation initiatives will ultimately be determined by the network. Giving due importance to networks today, will benefit educational institutions as they build the connected classrooms of the future ■

COVID-19 NOW RATED GREATEST TECHNOLOGY PRESSURE

90%
Quickly acquiring or scaling technology capabilities

89%
Expanding bandwidth and network capacity to ensure remote access availability and performance

86%
Surges in help desk requests from staff

84%
Security and robust identity and access management for network / corporate systems (VPN / SSO, RASP)

83%
Security of mission critical applications

Top 5 digital workplace challenges

87%

of technologists admit that remote working provision is a challenge.

In which areas do you think business practice will change in your organization following COVID-19?

| 87%	86%	84%	83%	79%
More focus on risk and disaster planning	Continued use of remote working tools and technologies	More flexible / on demand resourcing	Increased investment in tech that monitors the digital customer experience	More rigorous vendor selection to ensure business continuity

Source: AppDynamics, The Agents of Transformation Report.

COVID-19 NOW RATED GREATEST TECHNOLOGY PRESSURE

What are the major challenges to delivering high quality digital customer experience during the COVID-19 pandemic?
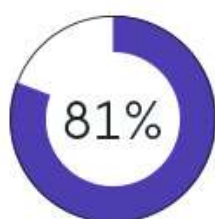
81% Managing spikes in website traffic

80% Providing positive digital customer experience across all channels

80% Lack of unified visibility and insight into performance of technology stack and its impact on customers

79% Managing Mean Time to Resolution (MTTR) with a remote IT department

What do you need from your organization to rise to the challenge of becoming an Agent of Transformation?

92% Visibility and insight into the performance of the technology stack and its impact on customers and the business

90% Clear goals and objectives

89% Real time data at the point of need

88% Autonomy and accountability

87% Freedom to experiment and take risks

Source: AppDynamics, The Agents of Transformation Report.

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Impact Of Indoor Air Quality: Now And In The Post-Covid World

JUNE 15, 2020
Collective Defense - The Next Generation Of Cybersecurity

JUNE 16, 2020
IT Automation Use Cases

JUNE 22, 2020
Workforce Re-Skilling And Transformation

JUNE 24, 2020
Cloud Migration - Much Needed Than Ever

JULY 06, 2020
Respone-ABLE Leadership – Everything You Do Matters!

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