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Insider



What will 2020 bring?

Welcome to our annual Leaders in Technology edition, where once again we have invited a wide range of ICT experts to give us their prognostications for the year ahead for the government technology space. It's interesting to see what sorts of predictions they have made for 2020, and how government and the wider ICT industry will need to respond to trends and concerns.

Some of those trends and concerns are old friends, of course. Take security for example. The need to protect ICT systems from both internal and external threats is only increasing, partly due to the ever-widening attack surface, partly because of the continued expansion of government digital services, partly due to the increasing expertise and capability of threat actors, and also partly because of the public's growing concerns about privacy and accountability. For most security problems, there are perfectly acceptable solutions and protocols to prevent intrusion and data loss and theft — the problem becomes one of enforcing universal adherence to those protocols. It only takes one tiny slip on the part of a staff member, or a delay in patching an exploitable vulnerability, and your ICT system is toast.

The rise of the IoT is only making things harder. The IoT will be a huge boon for all three tiers of government, promising to produce a flood of data that will help them optimise and prioritise services, both internally and public-facing. But of course, the proliferation of IoT sensors will dramatically increase the attack surface and give malicious actors new ways in which to penetrate systems — especially as those systems will include many parts of the nation's critical infrastructure. At the 2019 Home Affairs Industry Summit in Melbourne in November, the federal government released a draft code of practice for securing IoT devices. This is a good first step, but no doubt securing the IoT will be an ongoing battle.

There are similar and related concerns with the arrival of 5G, a technology which will facilitate much of the IoT. Everyone is familiar with the concerns raised regarding the involvement of certain countries' suppliers in 5G networks both here and abroad — there's no need to go into detail about that here. But really, it doesn't much matter where the technology comes from... like the IoT, 5G promises to bring revolutionary benefits, but also it will provide new angles from which the baddies will be able to attack.

These examples simply reinforce the adage that, the more things change, the more they stay the same.

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PUTTING PEOPLE FIRST

Jonathan Nally

HUMAN-CENTRED DESIGN IS CHANGING THE WAY GOVERNMENT INTERACTS WITH THE PUBLIC, LEADING TO BETTER OUTCOMES AND MORE TRANSPARENCY.



Governments have been on the digital experience journey now for the past 20-plus years, and much of what has been achieved is now taken for granted. The ability to interact digitally with government has become invaluable to all of us, and it takes many forms and shapes depending on who you are, where you are and what your needs are.

Looking back not too many years, you could whack an online data entry form on the front of a government process and call it e-government. But that's no longer good enough, says Dean Lacheca, Research Director at Gartner. Automating simple existing processes is not going to really produce great leaps forward — there would be some short-term returns but not really long-term benefits.

"We've been on this theme of saying, 'Do I have a good website, can I do online data entry, do I have a mobile app?' They were almost like the benchmarks," said Lacheca. "And that sort of simple version of the world has almost disappeared from government now."

Instead, there's a higher expectation about what digital government means to government itself, and to the populace it serves.

PUTTING CITIZENS FIRST

At one point there was a plan to imitate gov.uk, where Australia would have a gov.au and everything would go through one mobile site. "What human-centred design has really started saying is actually we've got different types of customers, with different types of need," said Lacheca. For example, social services will need to engage

with citizens in a different way to those people who need to deal with the prison system.

Human-centred design is about making public-sector IT citizen-centric and not having government in the middle of the circle all of the time. In the past (and still now, in many cases), government has had a tendency to put itself at the centre and arrange all other stakeholders around itself. According to Lacheca, there's an acknowledgement that that should not be the case anymore, whether that is at the federal, state or local level.

"When I look at every strategy that we have an opportunity to review with government, being more citizen-centric is the standard line. Not all are doing it well, but they do understand that that's what they have to do," he said.

Lacheca says that what we're seeing is a sense of systematic maturity, of recognising that digital is not separate — it's not something tacked on the side. The commitment to being more human-centred is influencing everything government does, including the technology it uses and how it is deployed.

"There's certainly a recognition that if they can better engage the citizens, they're going to get better outcomes. And that's going to help drive some efficiencies," he said.

While there will continue to be conversations about being more citizen-centric — with continuing pressure from taxpayers to reduce the cost to serve — there are still policies that will need to be enforced, and there is still governance and legislation that needs to be maintained. So how can government accommodate this to produce the best outcomes for the

citizen? "In some instances it's actually saying, 'Well, maybe we're not the best people to deliver this service, we just need to create a way that it can be delivered through other agencies or third parties' and create a more connected sort of approach," Lacheca said.

"You really need to have empathy, which is where human-centred design comes in," he said. "If you really understand where the citizen is coming from, then you understand how you can help to deliver the government objective."

CHALLENGES

It would be fair to say that there is an impression in the IT world that the private sector takes action to avoid security, privacy and ethical problems in order to avoid punishment or loss, whereas the public sector is seen to have a more pure purpose and a devotion to acting ethically for its own sake.

"Generally, in our discussions with our clients, that's 100% the case," agreed Lacheca. "I'm sure there are examples in government where there has been a lack of ethics, but certainly in our dealings with government CIOs, ethics is at the absolute heart of the way they think. In this era of open data, shared data and AI, they want to make sure they do the right thing from the get go."

"It would be a perfect world if all data could be shared with all people, but then you obviously have the 'robo-debt' fear across the community ... that someone's going to do the wrong thing with it," he said. "So there's more maturity and understanding that as we use government data, we need to be transparent on what we've got and how we're going to use it."

Government departments and agencies also still struggle with limited funding, and they are dealing with a mountain of legacy technology in their systems. “That is probably the bigger inhibitor to their rapid progress than anything else,” said Lacheca.

Government is also struggling to compete for staff with skills in emerging fields, such as AI and human-centred design. “You’re competing with the private sector and with consulting organisations,” Lacheca added, so building those sort of capabilities is a challenge for government.

GOOD EXAMPLES

There are many examples of government achieving remarkable results that are really benefiting the community. “We see some great work in education departments in the way they’re delivering remote teaching capabilities out to children in remote areas. NSW Education is doing some great work there; Queensland’s doing great work there,” Lacheca said.

Transport is another area where governments have become innovators and leaders, says Lacheca. “Transport areas generally have really been charging ahead because they have such a close-knit tie to customers,” he said. “They run the biggest customer service centres, they have the longest queues, they see the biggest impact when they can do something digitally rather than have the people come in and queue up for those services. So they are constantly looking for progress in this space.”

“Service NSW is a great example of that transaction engagement with government ... they’ve got a good vision for where they’re going to go,” he said. “DHS at a national level ... have got a great program around redesigning their customer experience. They’re very much at the forefront of that human-

“I think the ethical use of data is a challenge for government that’s going to continue... and it’s going to establish the benchmarks of what’s accepted in society.” — Dean Lacheca, Gartner

centred design, understanding their customers.

“The NSW DAC is a great example of shared use of data,” said Lacheca. “And the platform approach that the DTA is doing is a great example where we’re getting common, re-usable platforms out that governments can incorporate ... to really cut through that next level.”

Lacheca says there are some great examples of AI use across government in Australia. “There are quite a few examples in Australia here that are thought-leading in a global sense,” he said.

“WA Police have done some great things in recent times around the use of AI in their investigation management, and some really thought-leading stuff in terms of how they’re improving data quality, data use,” he added.

PLATFORMS

In addition to human-centred design, another vital current concept is that of the ‘platform’ and how governments can get more use out of shared platforms.

“Look at the DTA and their approach of creating common platforms that can be re-used by multiple government organisations so that they don’t have to keep reinventing the wheel. That sort of thinking really starts to show a maturity in government that wasn’t always there,” said Lacheca.

In the past, agencies and departments did not want to be seen

to be copying what their counterpart agencies in other governments were doing. There was almost an implied competition.

But now “they’re trying to get on the same page”, said Lacheca. “They’re all trying to share and learn from each other.

“Landgate in WA have done some great work around establishing a platform that supports the whole industry in which they work ... the whole land transfer title industry,” he said. “They’ve gone on to create an innovation platform based on their datasets as well.”

WHAT’S NEXT?

“I think the ethical use of data is a challenge for government that’s going to continue ... and it’s going to establish the benchmarks of what’s accepted in society,” he said. “There’s a journey to go still, but that acknowledgement early on means that as they progress forward, privacy and ethics is built into the way that they think.”

According to Lacheca, government use of AI is going to become so ubiquitous as to be almost boring. There will be almost endless examples of governments using “natural language processing, image analytics, just to tweak the experience ... make a better search experience, make better use of their data, make better indexation of the content”, he said.

“Small uses of AI are going to really start to improve the quality of the service, the personalisation of the service,” he said.

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OVIC publishes revised data security standards

The Office of the Victorian Information Commissioner (OVIC) has published the second iteration of the Victorian Protective Data Security Standards (VPDSS) in the Government Gazette.

The publication of the new simplified version of the standards, which brings them into full effect, follows the approval of the new version by Special Minister of State Gavin Jennings last month.

The VPDSS 2.0 establish 12 high-level mandatory requirements to protect public sector information across all security areas including governance, information, personnel, ICT and physical security.

The standards have been designed to take into account the policy and operational responsibilities of the Victorian Government, and focus on the security of public sector information.

The VPDSS are consistent with national and international standards, but have still been tailored to the Victorian Government environment.

Agencies with protective data security obligations under part 4 of Victoria's *Privacy and Data Protection Act 2014* must now adhere to the updated standards.

They will also be required to submit a high-level protective security data plan that takes into account the new standards to the OVIC by the end of August next year.

Contracted service providers with direct and indirect access to Victorian Government information must also comply with the standards.

The information security component of the standards governs protection of information across the information life cycle from when it is created to when it is disposed or destroyed. The ICT security component meanwhile covers securing communications and technology systems processing or storing information.

ACT Health CIO recognised for leadership

ACT Health Chief Information Officer Peter O'Halloran has won the 'GS1 Provider Recognition Award' for his leadership in digital data management over the past decade.

The international awards are organised by the GS1 Global Healthcare Provider Advisory Council, which comprises experts on global healthcare data standards, according to GS1 Australia.

GS1 Australia's Industry Manager Healthcare, Catherine Koetz, said O'Halloran's comprehension of the benefits of global data standards has been outstanding and noticed worldwide.

"In addition, Peter's leadership and commitment to driving improvements within the Australian healthcare system have been transformative," Koetz said.

During his time at the National Blood Authority, O'Halloran used GS1 standards to develop an identification and traceability program for fresh and manufactured blood products — ensuring supply chain security and patient safety, GS1 said. Currently, he is leading ACT Health's 10-year digital transformation.

O'Halloran said he's humbled by the award.

"It's really great to be acknowledged for your work generally, but to be recognised internationally just takes it to a level I certainly didn't expect," he said.

"What is really pleasing about this opportunity is that I get to share my expertise and knowledge with more people worldwide as we all work to improve health systems around the world.

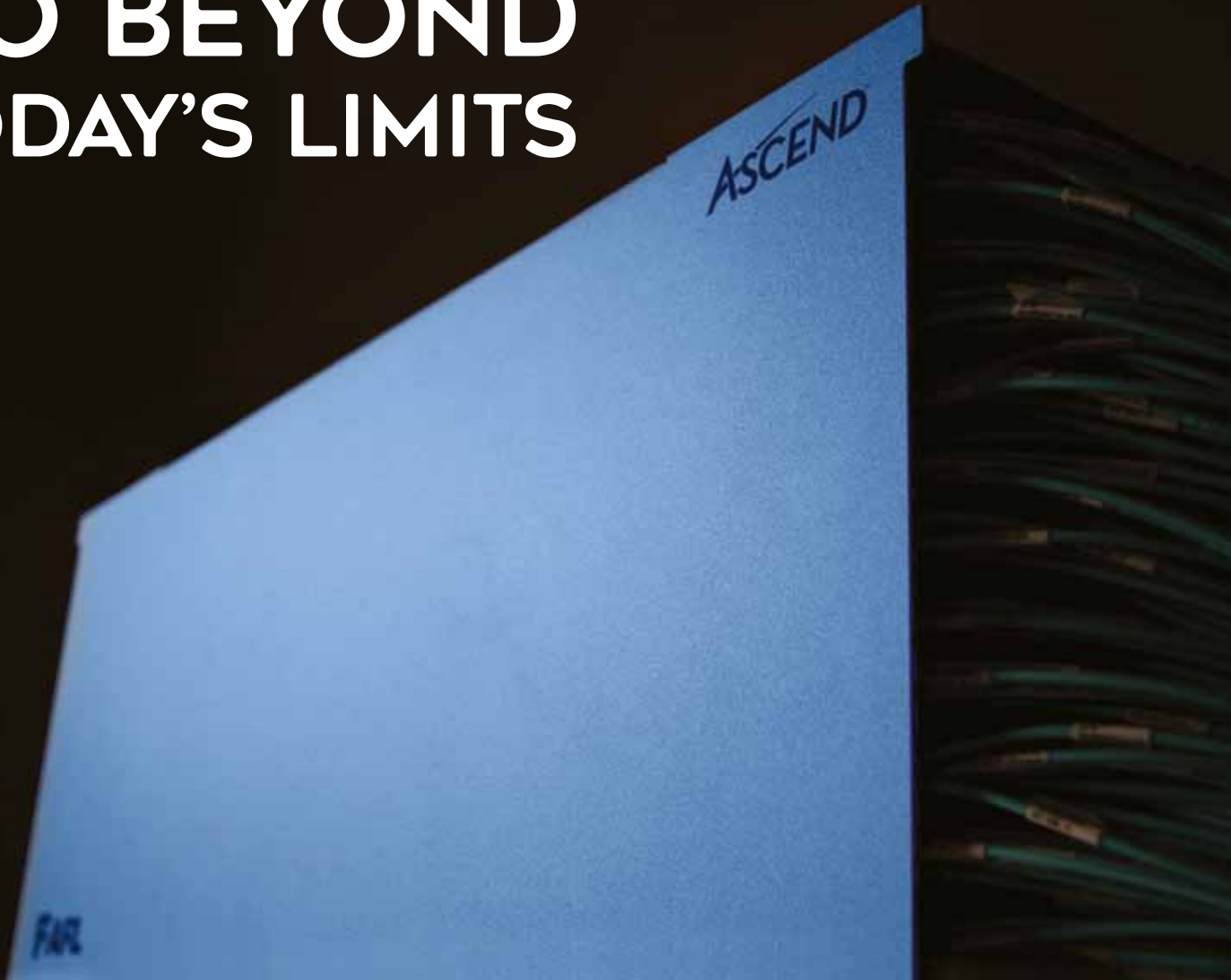
"Digital technology knows no barriers and so global awards such as these don't just recognise an individual, they also work well to promote the incredible work that is being done by many amazing people globally."

ACT Health Director-General Michael De'Ath said the organisation was fortunate to have such a highly qualified and high-achieving digital expert at ACT Health and at the helm of their digital journey.

"This international recognition is absolutely well deserved because every day we are benefiting from Peter's expertise in the digital space, which means our broader ACT community is also getting the benefits," De'Ath said.



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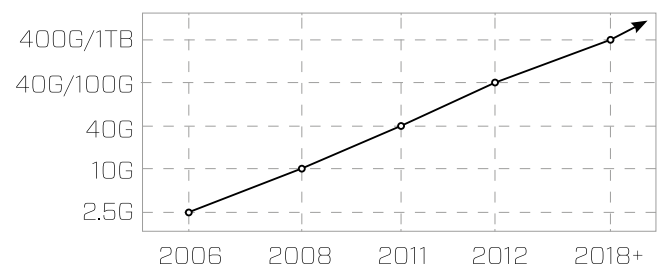
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COUNCILS CALL ON CANBERRA FOR CYBER SUPPORT

Dylan Bushell-Embling



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COUNCILS WANT CANBERRA'S HELP TO ADOPT A FIVE-POINT PLAN TO IMPROVE THEIR CYBERSECURITY POSTURE.

Local Government Professionals Australia has appealed for federal government assistance in tackling cyber threats at the local government level. In a submission to the government's 2020 Cyber Security Strategy consultation, the peak body representing the local government sector has identified five ways the government could support local government in improving its security posture.

The first of these involves developing a minimum set of standards and compliance certifications for local government, or extending existing federal standards to local government.

The peak body is also calling for an increase in government-provided incentives and training encouraging the recruitment of skilled IT workers in the cybersecurity field, particularly in regional and remote areas.

The third recommendation involves providing resources and training assistance to improve cyber awareness training for local government employees, while the fourth calls for improvement in the ability to find relevant material on the Australian Cyber Security Centre's resource site.

Finally, Local Government Professionals Australia is recommending that the government assist in identifying and classifying Australian critical infrastructure, and then developing management plans

to increase the understanding of risk to this infrastructure.

"As the managers of critical infrastructure and the frontline service delivery outlet for most Australians, local government is in a unique position to protect public assets, but is also a growing target," Local Government Professionals Australia CEO Clare Sullivan said.

According to the body's President Mark Crawley, local government is the least resourced public service entity to tackle cybersecurity threats.

"Local government budgets are under increasing pressure here with reduced revenue-raising capacity coupled with ageing infrastructure, increasing community expectations and cost shifting from other levels of government," he said.

Meanwhile, joint research from the organisation and JLT found that cybersecurity is now considered by local government professionals to be the second most prominent risk facing local governments — up from eighth last year.

The leading concern is the emergence of cyber attacks, the research found, with 22% of respondents identifying this as their top cyber risk.

Other issues include an inability for council IT infrastructure to keep up with the pace of cyber risk changes and concerns over the risk of data fraud.

"As councils rely increasingly on internet connectivity to carry out business

operations, they are more vulnerable to cyber risks," the report states.

"Network intrusion, hacking, phishing, cyber extortion and social engineering are just some of the ways that today's organisations can have their information assets compromised."

The growing risk profile is encouraging councils to invest in the mitigation of cyber risks.

Various local government-level initiatives are also being adopted to help councils better manage their cyber risks. The report gives the example of South Australia's Local Government Risk Services (LGRS) having introduced a cyber vulnerability and risk profiling service aimed at giving councils a holistic approach to understanding and managing their cyber risk profile.

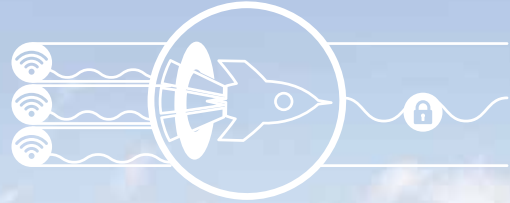
To date, LGRS has identified a range of common issues, including a lack of robust business continuity and disaster recovery processes and mobile device management capabilities.

But the research also found that despite nominating cyber incidents and IT infrastructure as the second-highest overall risk, only 18% of respondents consider cyber threats to be contributing to concerns over business continuity and community disruption.

By contrast, the risk of an unplanned IT or telecommunications outage was considered to be the second-highest business continuity and community disruption concern after the threat posed by environmental catastrophes such as bushfires and floods.



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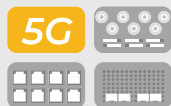


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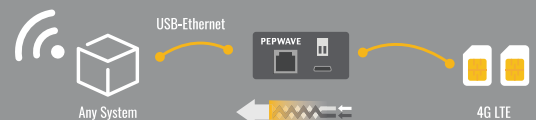
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CHIEF TECHNOLOGY OFFICER, FRONTIER SOFTWARE

LEADERS IN TECHNOLOGY 2020

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

Once upon a time, the humble browser was only used for serving up HTML documents or swathes of information. These days, more and more applications are available online, including development environments. For coders, this supports a 'develop anywhere' mentality and creates great opportunities for sourcing and employing coding resources. Businesses will exploit the reduced costs of much lower-spec machines for in-house coders. Browser-based solutions will also extend the life of machines as hardware upgrades will be less frequent.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

The IoT has always presented increased attack vectors which need to be minimised and properly segregated from core business. An increasing and emerging threat comes from the rollout of 5G networks. 5G offers high bandwidth and incredibly low latency which will encourage an increase in the number of IoT devices accessing enterprise networks. If you were exercising caution prior to 5G, you will need to redouble your efforts now. AI can assist here by helping to reduce the time between intrusion detection and its subsequent containment.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

There was once a time when payroll and HCM solutions were designed as transactional tools. They operated as electronic forms and filing cabinets with the ability to extract raw data in a reporting format. Over time they evolved to become sources of truth that provided business insights to inform strategic planning. Now, HR is starting to consider the entire HR offering as an experience and is looking for ways to incorporate many best-of-breed platforms into a single, intuitive user or team-centric offering that is device agnostic. This presents significant challenge and opportunity to vendors in this space.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

The short term offers exciting opportunities for robotic automation. Automation will operate at the user interface level and will result in faster processing and lower levels of error than manual processing. It will also enable deeper integration with other business processes. RPA robots can complete many tasks once done by humans. They can log into applications, access files, copy and paste data, fill in forms etc and can do so continuously. In a global market, this offers opportunities for 24/7 operations. Costs savings can also be invested in re-skilling employees whose roles are affected by automation.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

The creation of agreed standards for employees and company data would enable portability for clients, enabling them to switch vendors easily. Using blockchain as a method to store and protect employee data would aid this process. In the event that an individual changes employers, having agreed data standards would streamline the process. By providing a security token to their blockchain entry, new employers could quickly access important employee data, such as Tax File Numbers, banking details and super fund membership data. The flow-on effect for applications such as onboarding would be less time spent on administration and more on cultural and team indoctrination.



Darren Hnatiw has spent over 20 years exploiting the latest technologies to provide competitive advantage. He is known for creating highly motivated, dynamic IT engineering teams. Darren's experience within multimillion-dollar corporations extends to the definition of strategic objectives, alignment of technology stacks and the outsourcing of global development activities.



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LEADERS
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2020

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

I believe the primary game changer will be how government agencies execute on innovation.

Agencies today are thinking more about how to balance automation with human factors. This includes looking for easier ways to identify individuals. Here, a digital identity enabled by blockchain verification across multiple devices and channels will be a game changer.

It's my view that autonomous case management-as-a-service will continue to gain importance as the nuanced context of complex security policies requiring more granular security and identity policies becomes a greater focus. Citizen transactions will become more transparent via full service history logs — supported by automated live agents using natural voice conversations — and auto-routed to human experts.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

The greatest disruption will be meeting citizens' expectations in the digital age. Government agencies tell us that to transform quickly, they must deliver instantaneous, individualised service and advice to their employees and citizens. The service must be 100% accurate and explain the interaction in a way that is easily understood. Wide engagement, human-centred design and innovation-led approaches are needed to meet expectations and deliver value to citizens and employees. The information and communications technology (ICT) innovations most conducive to supporting such visions are artificial intelligence (AI)-driven interactions and automated case management.

Autonomous, connected, operational data, enabled by AI and machine learning, will drive operational and program efficiencies with real-time reporting via visual balanced scorecards.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Oracle's second generation cloud is integrated across applications, platforms, our autonomous database and infrastructure and does the heavy lifting so that our customers don't have to.

Autonomous is the defining technology of the second generation cloud and marks a new generation in tech. Last year Oracle delivered its AI and machine learning-enabled autonomous

database with self-driving, self-securing and self-repairing core attributes. We continue to be a market leader, connecting data and AI with more applications, features and functions than other enterprise resource planning, human capital management and customer experience platforms. As we continue to innovate, we're most excited about what Oracle Cloud is helping our public sector customers and partners accomplish.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

In 2020, I see governments becoming the platform for ecosystem innovation across citizens, regulators and service providers, in order to deliver citizen-centric outcomes. I'd like to see governments make more use of technologies that make work and life more human. To me, that's a move from 'tech-led' to 'human-led, tech-enabled' solutions based on the experiences and outcomes that individuals value most.

Connected mobile web will make it easier for citizens, employees and supply chain partners to discover relevant real-time information, allowing them to engage in more transparent and timely transactions with agencies. That means securing connected data and systems across trusted ecosystems with a source of single identity per individual and with policies managing data access — blockchain identity verification is a possibility.

Automated case management-as-a-service enabled by AI, integrated systems and connected data provides intelligent management of cases based on multilayered policies, thus providing predictive analysis with recommendations. Expert case workers are freed up to focus on more complex tasks with AI agents to support the everyday.



Oracle Experience Director APAC Sharon Don has over 20 years' experience in ventures, technology, product, media, marketing, operations, user experience and digital change. Her expertise in tackling complex problems, visualisation and execution helped her lead projects at Telstra Enterprise and Government, Optus and Vodafone Global.



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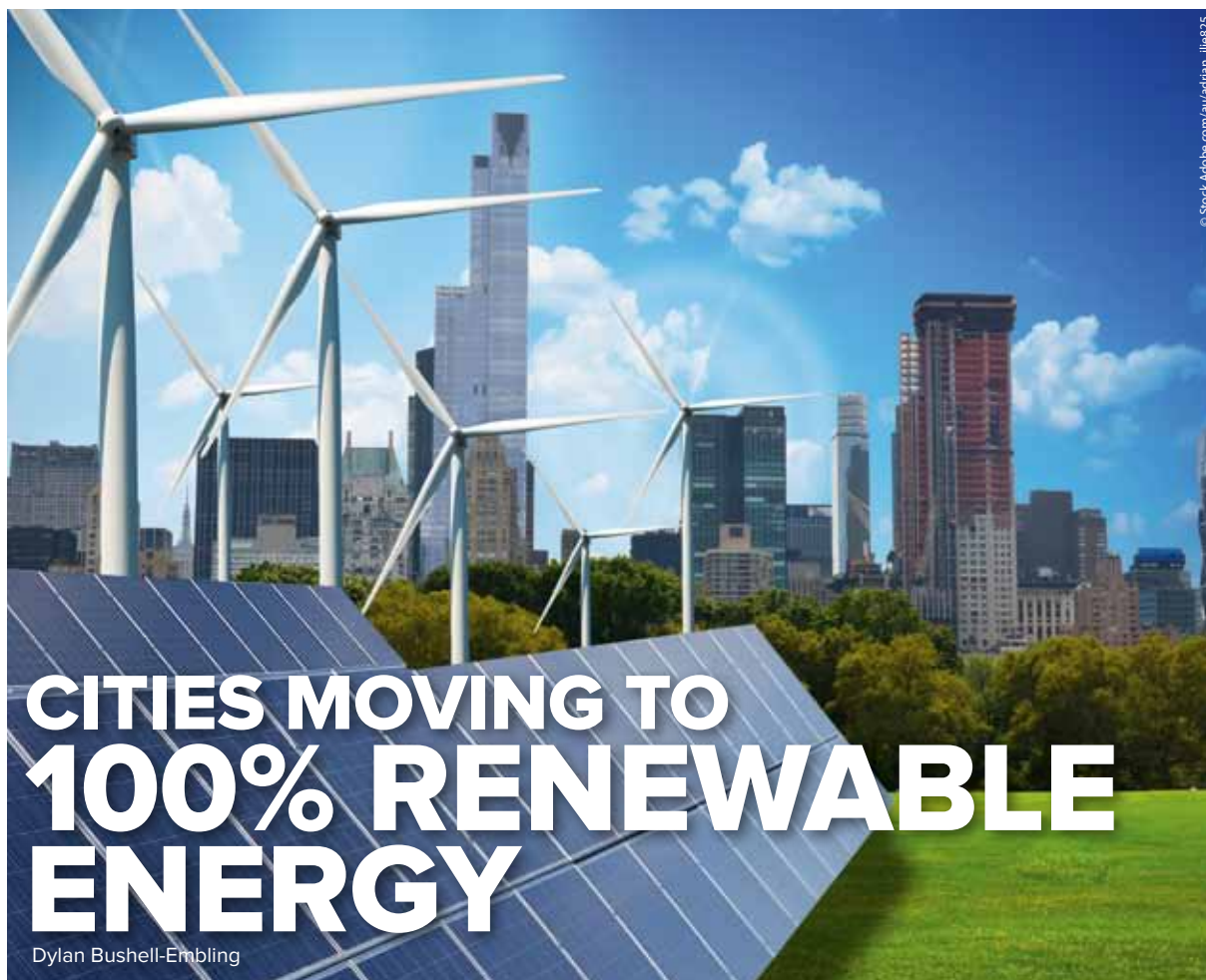
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SYDNEY AND NEWCASTLE PLAN TO SWITCH TO 100% RENEWABLE ENERGY FOR THEIR COUNCIL OPERATIONS FROM NEXT YEAR.

New South Wales' two largest cities have both committed to moving to 100% renewable energy to power their council-run infrastructure.

The City of Sydney has announced a major new agreement with energy company Flow Power to ensure the city's operations are fully powered by renewable energy from 1 July next year.

According to the company's recently published commitment, 100% renewable energy will power larger city-owned sites like pools and libraries and offset the carbon emissions from the city's small sites.

The council's power needs will be sourced from a combination of 75% wind generation and 25% solar.

The wind power needs will be provided by the Sapphire Wind Farm in northern NSW and the Bomen Solar Farm in the state's south-west. The solar needs will be purchased from a not-for-profit, community-owned solar scheme on the south-east NSW coast.

According to the council, the new agreement will cut emissions by around 20,000 tons per year — equivalent to the power consumption of 8000 households — and achieve savings of up to \$500,000 per year over the next 10 years.

But NSW's second-largest city, Newcastle, will beat Sydney to the punch. The city council has arranged to become the first in the state to switch to 100% renewable energy for its power needs.

As with Sydney, the council has signed a 10-year power purchase agreement with Flow Power to source electricity from the Sapphire Wind Farm.

From 1 January, the city will purchase enough renewable energy to meet 100% of its operational energy requirements. The agreement will also save local ratepayers a combined \$1.8 million over the 10-year term, according to Lord Mayor Nuatali Nelmes. >>

“Our power-purchase agreement means enough clean energy will be put into the grid to power every sportsground floodlight, local library, park BBQ and any other facility council operates,” she said.

“Drawing all our energy needs from renewables is a significant achievement for the City and our mission to make our operations more sustainable and cost-effective.”

The council currently generates around half a megawatt from solar energy from panels on the roofs of 10 of its facilities, and will soon be generating five megawatts from a solar farm at its landfill site west of the city, the Lord Mayor said.

“Any excess electricity that we sell back into the grid during the day will fetch a better price than the power we will be purchasing late at night for street lighting, so that’s why the Sapphire Wind Farm is a good fit for us.”

The Sapphire Wind Farm was developed by Newcastle-based CWP Renewables, and generates enough energy to power around 115,000 homes per year. CWP Renewables is building a portfolio of wind and solar plants across Australia capable of generating 1300 megawatts of power.

Australia’s Climate Council has welcomed the council’s announcement, with the council’s Power Partnership Director David Craven stating that Newcastle had emerged as a leader in Australia’s renewable energy transformation.

“I’d like to congratulate Newcastle for leading the charge on renewables, becoming the first local government in the state to make the switch to 100% renewable energy,” he said.

“Newcastle’s willingness to invest in big, effective projects and innovative solutions, such as its newly signed power-purchase agreement, have seen it streak ahead in Australia’s local government renewables race.”

“This is a huge achievement in consolidating the ACT’s reputation as Australia’s renewable energy capital.” — Shane Rattenbury, ACT Minister for Climate Change and Sustainability

CITY-WIDE RENEWABLE ENERGY

The ACT Government has, meanwhile, gone a step further, and made the final arrangements required to switch to 100% renewable electricity for the entire city of Canberra from next year.

The territory government has entered into a contract with the Hornsdale Wind Farm for its stage 3 farm in South Australia.

The 109-megawatt wind farm will generate enough renewable electricity to power the equivalent of around 58,000 homes in the ACT every year over the next 20 years.

It is the last of 10 of the ACT Government’s agreements with large-scale renewable energy generators spread across Australia required for the company to meet its target of maintaining 100% renewable electricity from 2020.

The agreements have been made under the territory’s *Electricity Feed-in (Large-scale Renewable Energy Generation) Act 2011*, which allows the territory to purchase renewable energy to be fed into the national grid to account for the state’s electricity consumption.

The ACT selected its providers using a renewable energy reverse action.

“This is a huge achievement in consolidating the ACT’s reputation as Australia’s renewable energy capital and is a significant milestone in achieving our ultimate goal of zero net emissions by 2045,” ACT Minister for Climate Change and Sustainability Shane Rattenbury said.

“Reaching this feat has proven that climate change action is both achievable

and affordable. Our four renewable electricity auctions have also helped bring in more than \$500 million worth of investment into the ACT region and help make us a centre for high-skilled renewable sector jobs.”

The state government last month released its Climate Change Strategy and Canberra’s Living Infrastructure Plan, which outline the government’s strategy for adapting to rising temperatures and increasing Canberra’s sustainability.

But despite its status as an early leader in Australia’s adoption of renewable energy, the South Australian Government has not set any concrete renewable energy targets as part of its recent request for proposals (RFP) for the supply of 100% of the state’s electricity needs.

The RFP does stipulate that any proposals be able to contribute to “the SA Government’s commitments of making electricity cleaner, more affordable, reliable and secure for all South Australians”, but does not have any percentage targets.

“The Marshall Government’s priority is a contract that delivers lower cost electricity whilst improving competition in the South Australian energy market and reducing pollution,” Minister for Energy and Mining Dan van Holst Pellekaan said.

“The state government’s electricity contract represents an opportunity to deliver more affordable, reliable and cleaner electricity in South Australia whilst securing the successful bidder’s long-term future in this state.”

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KEY SPEAKERS



Hon Stuart Robert MP
Minister for Government Service



Peter Woolcott AO
Australian Public Service Commissioner



Emma Stace
Chief Digital Officer,
Department of Education UK



Julie Leese
Chief Digital Officer, Digital Services and Transformation Office, Transport Canada



Shannon Sartin
Executive Director of Digital Service, Health and Human Services Department USA



Paul James
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ENABLING DIVERSITY OF THOUGHT IN THE WORKPLACE

Andy Hurt, Managing Director, ANZ, Poly

COMMUNICATION AND COLLABORATION TECHNOLOGY CAN HELP ESTABLISH A WORKING ENVIRONMENT THAT CATERS FOR THE DIVERSE NEEDS OF THE WORKFORCE.

The benefits of diversity of thought have been well and truly documented. A report by Boston Consulting Group found that organisations with more diverse management teams have 19% higher revenues due to innovation. But to effectively harness the collective power of many different individuals and their unique ways of thinking, leaders need to get better at empowering each person in the workforce to be able to work in a way that enables them to perform at their best.

One way of illustrating just how diverse our workforces are now is to compare the needs of introverts versus extroverts. It has been estimated that extroverts make up 50–74% of the population and introverts make up 16–50%. Bestselling author and TED Talk speaker Susan Cain has famously investigated the differences between introverts and extroverts, and how leaders can support both personality types to perform at their peak. She argues that each type functions at their best when at their optimal level of stimulation.

When asked to select the optimal volume on their headsets as they performed a specific task, extroverts chose a noise level of 72 decibels, while the introverts selected only 55

decibels. When working at the volume they had selected for themselves, the two personality types were equally as stimulated and performed the tasks equally as well. The opposite became true, however, when they were asked to work at the noise level selected by their counterparts. Introverts were overstimulated by the loud noise and extroverts were understimulated, almost bored, by the quiet conditions — the performance of both groups suffered as a result.

Considering that noise level is just one of many differences between the way introverts and extroverts prefer to work, it's easy to understand how leaders are at a loss about how to accommodate two such contradicting personalities and sets of needs.

Another key factor for leaders to consider is the growing need for collaboration to foster creativity and innovation — the original driving force for the open plan office. Indeed, our research showed that 81% of workers across Australia and New Zealand believe working in an open plan environment is important to their productivity.

So the battle between open plan and closed door is not one that either side can truly win. For me, the answer

lies in a clever combination of the two. Offering flexible working options can form part of the solution. To foster maximum productivity, however, employers need to ensure that those who work remotely are still given the same level of access to the tools and technology that they would have in the office. This way, those who need solitude in order to focus can easily achieve such, but when collaboration is needed, for things like brainstorming and meetings, audio and video conferencing technology can also closely mimic face-to-face interaction and engagement.

Headsets are the most popular means of drowning out workplace distraction for 51% of ANZ workers and can serve as another means for personalisation. High-quality headsets will tune out chaos with active noise-cancelling technology, but at the same time noise-blocking microphone technology will mean that the person can be heard clearly on conference calls.

Ultimately, as leaders we want to get the best performance from our people. We all work in different ways and have different productivity drivers. It's clear that communication and collaboration technology can play a role in helping to establish a working environment that can cater for the different needs of today's workforce.



“

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CO-CEOS, SINGULARITYU

LEADERS
IN TECHNOLOGY

2020

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

Lisa: Networks and sensors. We currently only have about 50% of the world's population on the internet. As the rest of the world comes online, we will have the capacity to know anything, anytime, anywhere. We will also have an additional three billion minds and new ideas online.

We will have more sensors collecting data than in any other time in history. The impact of this alone will be phenomenal. I am working with a business tracking invasive species for farmers; Marine Future's Lab, our first Australian Global Impact Challenge winner, is counting all of the fish in the ocean; and our most recent winner, RipeTime, is using sensors to monitor the entire cold storage process for fresh produce so as to reduce the 50% food wastage from transportation.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

Lisa: The future of work is a big one, with concerns over job security and disruptions across all industries. As organisations have more access to technology it is important that we always keep the human front of mind. There will always be work. It's a matter of mindset, unlearning and relearning new skills.

We have a huge opportunity in Australia as we have always been very innovative by nature. Just recently I did a webinar with Dr David Bray and he mentioned that our biggest opportunity for impact on climate change is to innovate new solutions that can be adopted in the countries with populations over one billion people.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Christina: Ideas are great; everyone has them. At SingularityU Australia, we specialise in actualising Moonshot ideation. We program unique workshops, produce educational summits and facilitate corporate

keynotes to assist businesses and corporations transition into an era of perfect knowledge.

Our first objective is to eliminate the fear of disruptive technologies. Change has always been constant, it's just that now it's happening faster, exponentially, and the technologies are more sophisticated. Through our programs, we navigate the conversations to convert fear to opportunity. We convert ideation to product or service and we realise the possibilities when technologies converge.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

Christina: SingularityU Australia is a positive impact driver. We are leading with Moonshot Thinking so organisations are ahead of the change curve.

Currently there are over three billion device users across the globe and over 14 billion devices. There are another three billion people and 50 billion devices coming online over the next few years. Imagine what opportunities additional brains and the continuing convergence of technologies will create. Devices and smart sensors in wearables, insideables, trackables and flushables are being used to monitor health (diabetes, fitness, diet, sleep) and already impact lives.

Imagine a world where education is accessible to all. The potential for improving lives across our planet is happening now. At SingularityU Australia, we are at the forefront of change, conducting the new wave.



Lisa Andrews (left) spends her days researching and exploring the world's greatest challenges and ways that we can all make a difference using exponential technologies. Christina Gerakiteys (right) develops and facilitates innovation programs for corporates and educational institutions.



Battling fraud and compliance issues in the public sector

The right technology solution can help ensure your organisation meets the highest levels of fiscal responsibility.

Image: Getty Images/darenhe

If you are in a public institution, you bear a unique responsibility when it comes to employee travel, expense, and invoicing. We know that in state and local government, transparency and accountability are paramount. With access to public funds comes a greater sense of obligation and a higher level of fiscal responsibility. Officials in the public sector are challenged to fulfil that critical responsibility since they are often saddled with manual processes and siloed data. These outdated methods get in the way of travel, expense, and invoice risk and compliance management. Innovative technology solutions, like those offered by SAP® Concur®, give public sector a way to tame this potentially hazardous situation. A modern travel, expense, and invoice platform should

provide simplified tools and automation workflows so employees can accurately and efficiently keep track of their expenses. It helps them stay in compliance with relevant rules and regulations. At the same time, these systems offer administrators breathing room, giving granular insight into all spending activities, along with the means to assert an appropriate level of control.

Fragmented landscape

Take a look around at your travel, expense, and invoice management situation. In many institutions and agencies, you'll see a fragmented landscape. Is there siloed data? Even within a single organisation, spend information may flow to a variety of repositories and may be stored in any number of systems. This makes it hard for finance leaders to get a single,

cohesive view of information — and this lack of transparency in turn invites error and impedes responsible oversight. At the same time, spending itself is becoming increasingly decentralised. Are your employees empowered to make more and more spending decisions on their own? This kind of spending may take place outside of approved systems, leading to potentially problematic inconsistencies. “Unless your teams across the finance organisation are totally in sync, there is a strong likelihood mistakes will be made and costs will increase, with the potential for negative consequences,” explains Ralph Colunga, SAP Concur Thought Leadership, Travel and Expense Technology Solutions. Other factors may also undermine effective travel, expense, and invoice management. Public organisations may be saddled with

manually-intensive reporting processes. These are inherently opaque and, with a lack of integration between systems, it can be almost impossible to track spending effectively, to manage regulatory compliance, or to enforce basic policies.

Cumbersome legacy systems compound the problem. They're costly to maintain, update, and may not be robust enough to meet the complex reporting requirements necessary to ensure integrity within a government agency or academic institution. As a result, these systems may introduce opportunities for honest mistakes or fraud.

The ever-changing nature of regulatory and data security requirements necessitates complex policies with regular updates. Siloed data, legacy systems, and a lack of automation make it hard to implement these required adjustments, thus introducing additional risk of regulatory noncompliance. All these factors pile up: 31 percent of managers say they lack adequate visibility into expenses and expense projections, while 30 percent of employees say entering expenses is time-consuming, error-prone, and reimbursement takes too long.¹ Even as public sector entities contend with these challenges, they simultaneously must manage travel, expense, and invoice processing with an exceptionally high level of diligence. We all understand that errors and misuse around taxpayer money are unacceptable, and a lack of compliance with regulatory and data security requirements can have profound negative consequences. A 2018 report on occupational fraud concluded that "internal control weaknesses were responsible for nearly half of frauds."

For government and public administration, the median loss in cases of fraud was \$125,000.² "When agencies are publicly funded, their audits are made public too. When there are issues of noncompliance, you are going to see those in the headlines. You'll see it in the news," says Sam Van De Laarschot, Senior Product Marketing Manager at SAP Concur. No one in the public trust wants to draw negative media attention or risk tarnishing their reputation because of perceived fiscal laxity. In short: The stakes are too high to get this wrong.

A new vision

In the era of employee-initiated spend, managers must still capture spending across all channels. You need a platform that will centralise all types of spending happening across categories; consistently apply sourcing best practices; apply policies to 'invisible' or 'maverick' spending; and catch noncompliant spend through intelligent machine-learning features.

Manual systems lead to mistakes and the opportunity for fraud, while automation and innovation can help set things right. "For example, at one of my previous companies, we had a situation where in a month's time, an employee's mileage expense entry equated to circumnavigating the globe 10 times. The expense entry wouldn't have been detected without sufficient technology and audit oversight to allow us to piece it all together," says Greg Tennyson, Head of Global Corporate Services at VSP Global, a vision care health insurance company.

"It's about transparency and it's about automating discovery. With SAP Concur we can see exactly: You get descriptive words and exception reports for review, rather than having to look for a needle in a haystack."

Seamless ... and smarter

Effective travel, expense, and invoice management starts with streamlined connections between the accounting system and your vendor network. By facilitating smooth data sharing, SAP Concur makes it easier for employees to align with reporting rules, bolstering compliance, while simultaneously reducing the likelihood of error.

"When the process is cumbersome for the employee, they either give up or they make a misstep. Fundamentally, technology has to make it easy for the individual to do their job," says Tennyson. In this sense, SAP Concur fulfils a key front-end requirement for travel and expense reporting: It makes things simple for the employee.

On the back end, meanwhile, machine learning and artificial intelligence (AI) combine to support detection and auditing. Where a human auditor can only see so much, AI can dig deeper, faster. With the knowledge of millions of anonymised expense reports, as well as public web-based information, SAP Concur can rapidly and accurately assess factors too numerous and subtle to be spotted using manual means. In this way, SAP Concur can find and flag potential anomalies to help you generate higher compliance rates and free staff for more high-value activities.

Public sector organisations and academic institutions looking to leverage a higher degree of automation and implement a more transparent reporting system will want to take certain steps to prepare for the transition. Employees hold travel and expense as deeply personal experiences, and so modernisation in this area will require not just a technological shift, but also a cultural one.

You need a scalable solution that can grow with your institution or organisation, simplify back office processes, eliminate waste, and adapt to the ever-changing regulatory environment. By automating and integrating travel, expense, and invoice processing, you gain a single source of centralised data and the tools to eliminate costly mistakes, audit expenses efficiently, and put payment controls in place to improve tax and regulatory compliance.

¹ Forrester Consulting, The Journey to Better Travel, Expense, and Invoice Management: A Spotlight on IT, May 2018

² Report to the Nations, 2018 Global Study on Occupational Fraud and Abuse



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MURRAY DICKSON

**DIRECTOR OF SALES, ENTERPRISE,
SOUTH PACIFIC, COMMScope**

LEADERS
IN TECHNOLOGY
2020

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

2020 will be about meaningful innovations. In an increasingly connected world, next-generation networks will demand new levels of reach and response, universal connectivity and ultra-fast data speeds. We see innovations set on two priorities: efficiency and simplicity. New solutions to address the needs of cable operators as they modernise networks. Particularly, with the advent of IoT, we see innovations in fibre connectivity and network convergence as a key game changer for digital transformation and the fostering of connected cities.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

Keeping pace with the advancements, our team is committed to building cutting-edge solutions to innovate and implement smarter and more effective security. For example, for one of our clients, we leveraged IoT to introduce an integrated solution where customers can control door locks through controller software and improve the security of their facilities.

The team at CommScope leverages the latest Wi-Fi technologies and networks to build solutions that power the present and the future. CommScope is committed to building out an ecosystem through connectivity to support this digital evolution and take advantage of all emerging technologies.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

The biggest growth opportunity will be creating future-ready infrastructure and software solutions. In April, CommScope became an end-to-end networking innovator together with ARRIS and Ruckus to accelerate a vision to shape networks of the future. Our competences and capabilities together are to grow through greater technology, solutions, employee talent and with greater access to new and growing markets.

On a more granular level, as we innovate technologies for the future, we see growth opportunities in working in providing the infrastructures to enable universal connectivity. Currently, we are putting our focus on pushing for a fibre evolution and network convergence. Fibre-optic cable is ideally suited to accommodate the future we envision, ie, a future with endless connectivity.

WILL 2020 SEE THE SMART CITY CONCEPT MOVE FROM RHETORIC TO IMPLEMENTATION?

The concept of the smart city can only work with ubiquitous broadband telecommunications. At CommScope, we are positive that the right technologies and networks are available to make the smart city a reality. With the right infrastructures in place, it is very possible to build a smart city in 2020. The earlier the foundation of fibre-based converged network is developed, the sooner we will see a smart city come to fruition.

To make this work, those leading technology development in the public sector must implement smart city infrastructures into their digital strategy and get creative with funding. This involves partnering with service providers, network operators, utility companies and other organisations to co-fund projects.



Murray Dickson is the Director of Sales Enterprise (South Pacific) for CommScope and is responsible for the company's business growth across the region. With over 20 years of experience, Murray has intimate knowledge of communications infrastructure and leads a team of 30 with strategic focus on end users, consultants, and channel and installation partners.

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RAY BRADBERRY

CEO, NCB GROUP



WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

While much has been written about the use of social media platforms as a means of marketing and driving sales with customers through two-way interactions, I think the next wave will be the use of social media internally to better align organisations around their corporate objectives. A challenge for all business has always been the concern that an organisation is not always aligned around the same desired business outcomes. I see successful organisations using social platforms driven from the top and bottom, both to ensure alignment and to allow communication both ways.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

Digital transformation seems to be the topic of conversation across many of our customers; however, what is meant by digital transformation is different in many cases. This variation is driven by the fact that digital transformation is mainly being driven by the customer's customer. The expectations of customers, whether they are in a B2B or B2C relationship, is based on a belief that the customer will have access to content relevant to their needs anytime and on a device of their choosing. Digital transformation requires enterprises to rethink how they interact with their customer base. The resulting challenge is that much of the data required to revise business processes to suit is not in one system.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

As our customers grapple with their desire to embrace digital transformation, the major work will be around identifying data sources and transforming that data in many cases into formats that can be consumed and presented by the right technologies to power their digital strategies. Customers have an expectation that digital systems will deliver what they want, when they want it on their platform

of choice. This need to redesign systems to meet the expected instant gratification will drive demand for business process redesign and the resulting technology changes.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

From the regulators I would like to see some common sense prevail into paring back the amount of red tape involved in doing business in a global economy. Customers are no longer local, and the effort required to understand the ramifications of doing business across borders and even different states places great demands particularly on small business. From the industry, I'd like to see more emphasis on providing technologies that simplify the process of delivering business solutions across disparate platforms, while taking advantage of the wealth of data sitting still in legacy systems and being able to modernise those same systems.



Ray Bradbery is CEO of NCB Group, an indigenous technology solutions company specialising in assisting companies to adopt new ways of doing business through business process redesign, assistance with analysis and transformation of data, technology identification and support for the cultural change necessary to adopt new ways of doing business in a digital market.

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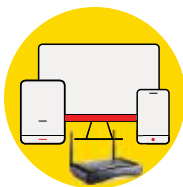
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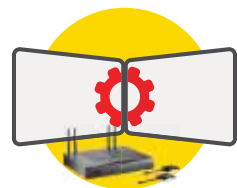


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WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

Unified communications (UC) and collaboration technologies that allow spaces to be multipurpose. We are seeing an increasing need for allocation of smaller spaces and single devices like touch monitors to be used with the addition of industry-standard PC hardware. Whether it be a meeting space or a classroom, these smart software-based technologies will lead the way for changing the way AV is installed, maintained and utilised.

Education has prompted a need for this, and because of the interaction required by students in remote places, it is becoming increasingly popular to huddle into a smaller space to deliver content to remote locations via the internet.

Managed services is where we see the AV space moving in the not too distant future, managing hosted AV spaces for installations involving less and less hardware as technology develops.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

The development of 5G technology to smooth out the bandwidth constrictions of the past is one of the most exciting points made by our customers. More bandwidth on the fly means the demands of UC applications and technologies that operate on the internet are streamlined even while utilising current hardware technologies. The UC space is even changing the way buildings and therefore meeting and office spaces are designed, and even the way people come to work.

Technology that we are all concerned about is the threat of attack on these open standards platforms. This introduces hesitation to use these technologies and also the spaces which we design and install equipment into. Education, and keeping up to speed with the IT and networking security factors in maintaining and integrating this equipment together with this hosted software, becomes paramount.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Software-based applications in the AV space with product as a service. Many AV companies have adopted this into a successful business model; however, the switch they have made from capital-based sales to OPEX-based sales is difficult and many still strive to achieve this after years of trying.

I suppose the biggest cause of the need for UC technology to become more sophisticated is that it will eventually (sooner rather than later) be a question of telecommuting to work rather than commuting to work. The advent of technology that assists in solving a large part of the world's congestion, and therefore environmental considerations, is where we see huge opportunity in 2020.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

More industry standards and fewer proprietary implementations in all aspects of the UC and audio-visual space. Although this is asking a lot, software vendors and very powerful PC hardware is making it possible for a lot of innovators to start designing great products that take the place of a rack full of equipment.



Simon Fourie has been involved in various aspects of running a distribution firm in the AV space for over 25 years. Network-centric application and a passion for open standards in the audio-visual space defines Simon, who currently owns and manages the technical department of Audio Visual Distributors in Australia.



Digitising public sector service delivery

Cloud and mobile-first platforms will give citizens routine access to the very best systems and technology, in an era when they demand nothing less.

There was a time when a telex machine was a bold innovation. A telex network could send a message anywhere in the world, and it only took about 15 minutes per page. But the hardware was slow and clunky, so most telex machines required multiple modifications before working to the user's standard. When fax machines came along and functioned to a user's expectations without the need for modifications, telexes landed in the nearest tech museum, and users embraced the prospect of a mod-free future.

The telex story has become a mainstay tech parable — think of how the iPhone reimagined mobility; how digital cameras stole a mature

market away from Kodak; or how on-demand video took down Blockbuster. The common denominator was a process of digital transformation that was unimaginable until it happened, grew with lightning speed once it started, and shattered existing business models — building massive new opportunities at every step along the way.

Work experiences for the next generation

With today's mobile-first mentality, and the shift from on-premises to cloud computing, that transformative moment has now come to public sector services. And it's just in time: more than ever, today's public sector managers are looking to recruit and retain the next

generation of talent while simultaneously streamlining government operations.

To draw in the next generation of executives, managers, and front-line staff, public sector workplaces will have to match the fast, user-friendly technologies that millennials take for granted in their personal devices, and have come to expect in the workplace. They'll expect intuitive user interfaces; fast, efficient collaboration between functions and job sites; seamless interfaces across desktop and mobile devices; business intelligence systems that learn on the job and deliver the context-driven information users need, before they know they need it.

Just as the smartphone reimagined the mobility market, it has already begun to influence public



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sector services in similar ways. Now ubiquitous, smartphones have encouraged online-only experiences, shortened attention spans, and forged new engagement models. Today's mobile-enabled, 'skip-the-queue' millennial is a common constituent for many cities. Intuitive, mobile-friendly feedback loops are now a basic obligation, and cities need to offer them an unprecedented mix of channels: email, website, Facebook, Twitter, Instagram — customer service has become a very public two-way process. Delivery via all these channels has become an expectation, and anything less is considered antiquated. Councils face an insistent need to transform. But the next-generation government is a progressive concept upon inception, an obvious

transformation once complete, and only achievable with next-generation technology.

Propelling 21st century government

To meet the demands of tomorrow's community, public sector organisations need a level of system reliability that is most easily assured through cloud-based systems that deliver timely software and security updates. Even more than the shift from telex to fax, cloud computing makes local modifications a thing of the past, saving scarce program funds for better uses and allowing on-premises IT teams to concentrate on more specialised, mission-driven projects.

There are some aspects of public sector service that never change. Streamlining operations and doing more with less are current themes across all levels of government and industry, but they're entirely familiar for anyone who's ever had a seat behind a government desk.

Streamlining government operations

The good news is that streamlining systems becomes much easier in the cloud. And nowhere will those enhanced cloud capabilities be more impactful than in front-line service delivery, where tech-savvy citizens are already asking more of their government. From routine call centre operations to emergency services, citizens expect the public sector to deliver timely, efficient, informed, courteous service. To deliver on that promise, front-line personnel need the support of IT systems that will help them get the job done. It's hard to imagine an area where front-line delivery will be more crucial than the public sector, where digital transformation will play a key role in helping organisations meet the needs and expectations of an aging and growing population. Their software will need to provide accessibility and wide-ranging functionality to serve citizens of all ages and technological capabilities.

The main game: Generating new value in disruptive environments

No organisation is recognised or remembered for the services they have, but for the services they deliver in times of need. The key for organisations in disruptive environments is to identify the most intelligent services that can

be sustainably deployed to meet constituent expectations. To succeed, these organisations will have to make rapid investment decisions that will drive new service delivery in areas of little or no prior knowledge.

Investment decisions in cloud computing, big data, artificial intelligence, automation, distributed ledger technology, and the Internet of Things will feed digital transformation and smart city developments, providing efficiencies within organisations and aiding customer journeys.

Conduct better business

Compared to telex, fax or even an early mobile phone, today's IT systems offer speed and capabilities that would have been unimaginable just a few years ago. But they're still a stepping stone to even better, faster service delivery, and that's where cloud computing earns its keep. Every public sector organisation will make the transition to the cloud in its own time, and in its own way.

But digitally transformed governments can do much more than save time and money. They can pave a way to customer-centric service turnaround, and drive innovations that empower individuals, teams, and departments to make a difference.

Once it's fully implemented, cloud computing and mobile-first platforms will give citizens routine access to the very best systems and technology, in an era when they demand nothing less.

Partnering with Infor

Infor is built for Australian and New Zealand Councils. Developed for the cloud and mobile-empowered, we put the user experience first, leveraging data science and emerging technology with a focus on integrating into existing systems.

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JULIAN CRITCHLOW

**GENERAL MANAGER,
EXTREME NETWORKS ANZ**

**LEADERS
IN TECHNOLOGY
2020**

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

IoT devices have now reached a critical mass worldwide, and we are starting to see their widespread adoption here in Australia. While the devices themselves are transforming the way organisations operate, it's the data they generate and the way that data is being used, particularly using AI to drive automation, that's going to be the real game changer in 2020.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

With the rise of IoT, the number of connected devices and the sheer amount of data being generated has made it increasingly difficult for organisations to manage and protect their corporate networks manually. Malicious agents are taking advantage of the broader attack surface and exploiting vulnerabilities in edge devices to gain access to corporate systems and data. As a business, Extreme Networks has developed the concept of the Autonomous Enterprise, building AI and machine learning capabilities into our solutions to automate a lot of the network and security configuration, management, detection and protection, as well as supporting IT decision-makers with predictive analytics, alerts and reporting.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

There are definitely concerns around an escalating cybersecurity arms race. We're moving into an era of machine-to-machine cyber attacks, so it's critical that organisations continue to build an automated network and also their analytics capabilities to stay one step ahead. We are still seeing a lot of serious breaches using known vulnerabilities, simply because routine network maintenance and upgrade processes are not effective enough. That shouldn't be happening today.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Extreme Networks is focusing its research and development investments squarely on software, AI and machine learning, and building out its cloud network management capabilities. Through the cloud, we can provide incredible scale and processing capabilities, and aggregate the data we are

receiving from networks globally to feed into our AI, ML and analytics engines. All of this creates very powerful, automated network and security management tools for our end-user organisations.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

We still need to get a lot better around the management, use and protection of data. There's an exponential amount of data being created, stored and used every day. Society is centred around digital government services strategies, open banking and other commercial data sharing programs, social media, digital surveillance and other sensor-generated data — so the challenge for regulators and the technology industry is how to ensure privacy and protect critical personal and financial information, but still deliver on the promise of digital transformation to improve lives and the way businesses operate.

WILL 2020 SEE THE SMART CITY CONCEPT MOVE FROM RHETORIC TO IMPLEMENTATION?

We are definitely seeing the smart city vision being realised. Globally and locally, Extreme Networks is providing the high-performance and secure interconnecting infrastructure required to enable smart city initiatives to be rolled out. This is leading to digital transformation projects including resident safety and crime prevention, traffic flow management and public transport optimisation. The big issue, however, with so many projects underway from a lot of different solution providers, is establishing interoperability standards to ensure systems can work together and data can be shared.



Julian Critchlow is responsible for Extreme Networks' business and strategic direction in ANZ. In a 20-year career with the company in Australia and the UK, Julian has extensive experience in technical, consulting, sales and channel management roles. He holds a degree in Business Administration from the University of Keele (UK).

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MICHAEL WARNOCK

COUNTRY MANAGER ANZ, SECUREAUTH

LEADERS
IN TECHNOLOGY
2020

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

At the top of nearly every agency's agenda is providing enhanced services via a digital business transformation program. Nearly every agency is looking at ways to use technology to improve interactions with its constituents — driving engagement and enhancing self-service delivery. Success of these initiatives means more meaningful customer relationships. Successfully implementing 'frictionless' customer identity management is an essential building block in any digital business transformation.

Detecting fraud, protecting high-risk/high-value accounts and safeguarding customer identities in today's threat landscape requires more than simple authentication. I see a need for authentication processes to adopt adaptive authentication risk checks. These risk checks will analyse multiple factors of each authentication request to determine the legitimacy of every login attempt.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

I see the adoption and the possibilities for operational improvement that can result from AI will only continue to expand in 2020. However, I also see that we will get smarter about how we use AI and what the best use case looks like. The sophistication and scale of cyber attacks are increasing at a faster rate, outpacing existing defensive measures. But, we can't simply throw an AI algorithm at every problem; there are times when humans still need to be part of the correlation and decision-making process. It will be those who identify the right use case that will derive the most value in the year ahead.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

I am hearing a lot about the desire for users to go password-less and remove unnecessary barriers to the way they choose to authenticate when accessing online applications

and services. It is imperative that you create a 'frictionless' experience when users are authenticating. I see biometrics combined with multiple risk checks of device, location, IP address and behaviour achieving better protection than any password or 2FA method alone, and enhancing the user experience.

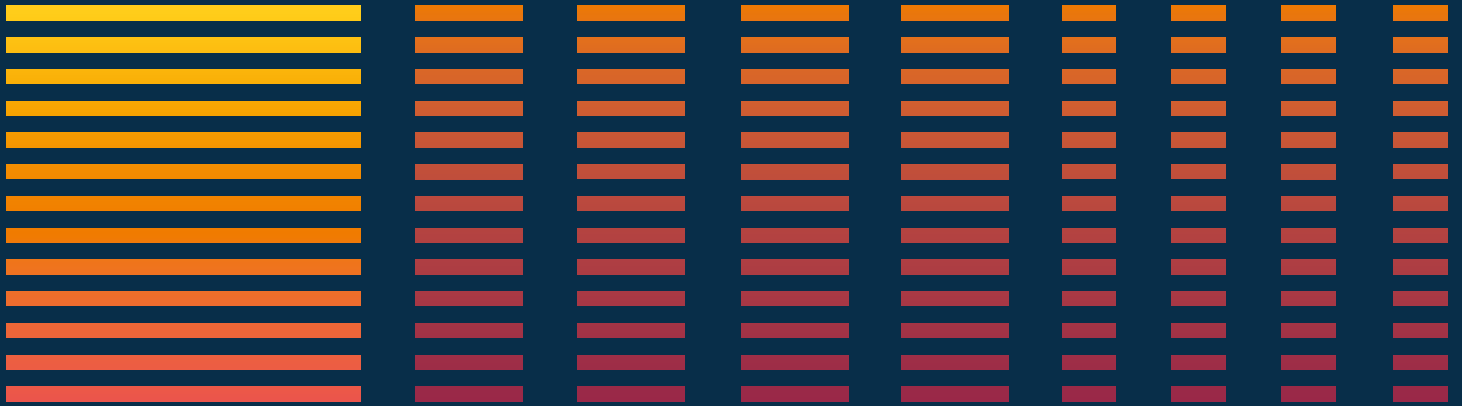
WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

We are certainly hearing from the market, there is a need for a new way of approaching Identity Security. Given the need to defend today but prepare for tomorrow, many companies we see are grappling with how they manage identity across on-premise and cloud-based environment. Given our platform operates across on-premise, hybrid and cloud, we are confident we can accelerate our growth by protecting customers' cloud transformation journeys.

For 2020, our focus remains to be one of the most innovative companies in security, and to continue to lead the evolution of identity security into a next-generation technology. We will continue to empower customers digitising their business, safeguarding workforce and consumer identities, and protecting the business and assets while providing the most seamless user experience possible.



As SecureAuth's Country Manager ANZ, Michael Warnock's role is to lead the company's regional operations. His focus is the continued growth of SecureAuth as a leading cybersecurity company, concentrating on the business-critical area of Identity Security.



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* Source: IDC, Worldwide Artificial Intelligence Software Platforms Market Shares 2018; June 2019, IDC#US45262419.
IDC, Worldwide Advanced and Predictive Analytics Software Market Shares 2018, July 2019, IDC#US45366918.



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RAY GREENWOOD

**DOMAIN LEAD, AI AND MACHINE LEARNING,
SAS AUSTRALIA & NEW ZEALAND**

**LEADERS
IN TECHNOLOGY
2020**

WHICH TECHNOLOGIES OR INNOVATIONS DO YOU THINK WILL BE GAME CHANGERS IN 2020?

As we move through 2020, I believe innovations that allow organisations to successfully transition more AI-driven experiments from development to everyday reality will be the game changer. Organisations will need technology and adaptive environments to scale projects into production-grade processes to help them make a step change in how they serve their customers.

Organisations will be leveraging existing analytics techniques such as natural language understanding/processing and computer vision, deployed in a ModelOps framework, to put these AI capabilities front and centre in their customer engagements. Projects that best transition AI into day-to-day operations will make the highest impact and guide future investment within those organisations, as success breeds success.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS SAYING THEY ARE MOST WORRIED OR ENTHUSIASTIC ABOUT?

ICT innovations that revolutionise customer experience are a big disruptor in the market where customers and citizens today expect personalised interactions and citizen-centric service offerings. Government organisations are enthusiastic about the innovative technology available today, leveraging data and AI to better inform them of their customers' circumstances, yet at the same time worried about their social responsibility to deliver the right service promptly to meet their customers' expected personalised treatments. Getting this wrong could have major social, security and health impacts.

We are working with many organisations to gain insights from their customers' data and to intelligently guide their current and future interactions. A pragmatic approach is to focus their AI efforts on automating some of their high-frequency, low-risk decision-making processes to validate that their new capabilities perform as expected in the real world.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

The biggest opportunities for SAS to help our customers is in helping them generate tangible returns from their investment

in AI and data science, be it in open source technology or SAS. These are areas where we have seen a lot of investment in skills and capabilities but may not yet be delivering ongoing benefit operationally.

We believe the short-term focus for many customers is going to be on improving the rate at which experiments are deployed into production. SAS is ideally positioned to help customers bridge that last-mile gap and subsequently monitor their AI assets in production to ensure they always perform optimally.

WHAT'S ON YOUR TECH WISH LIST FROM INDUSTRY, REGULATORS AND INNOVATORS IN 2020?

In order to fully realise the potential offered by AI there will need to be collaboration between industry and regulators in areas such as providing easy-to-digest guidelines, and pragmatic next steps on the ethical use of AI to ensure that it can be adopted consistently in a way that benefits both customers and organisations.

I would like to see open debate on a number of these topics with a view to reaching consensus on what behaviours are required of practitioners to ensure that the market operates efficiently and with transparency. Without this engagement we risk delaying the adoption of AI as organisations struggle to ensure they are compliant in their practices, as they seek to innovate using the most modern techniques in a way which should ultimately benefit their customers.



Ray Greenwood has spent two decades in the world of advanced analytics as both a user and a vendor of analytics platforms in industries such as financial services, retail, government and telecommunications. He has found that if there is one consistent theme, it is that there is always business value to be found in innovation driven by analytics.



Security Infrastructure: Building a strong foundation for cyber security

2018 was a big year for public sector cyber security investment in Australia and New Zealand. The New Zealand Government allocated \$7.6 million to implement a new Cyber Security Strategy with a commitment to fostering cooperation between government and the private sector, and Governments across Australia also worked toward an integrated approach. At state level government, New South Wales dedicated \$20 million and implemented a new state-wide Cyber Security Policy. Queensland revised its information security policy for greater consistency, and appointed a defence expert to advise on strengthening its approach to cyber security. Meanwhile, Victoria has dedicated more than \$17 million to fund a new cybersecurity strategy in response to attacks on its IT systems. These are only a few highlights previously reported by *GovTech Review*, and are indications that the digital services and responsibilities of modern governments and councils demand cybersecurity by default.

Over the course of 2019, digital transformation in the public sector has been advancing on many levels. Nearly two-thirds of Councils were expected to upgrade enterprise applications or procure entirely new solutions to progress their cloud journey this year. Governments in Australia and around the world are adopting AI surveillance at a more rapid rate than expected. The Asia-Pacific region is reportedly leading the world in IoT spending and the Australian Government has made huge investments in its Smart Cities and Suburbs program. The evolution of cyber security risks, intensified by technology change and the increasing connectivity of things (machines, cars, electronics, medical tools, appliances, cameras and other physical security mechanisms etc.) demands a strategic approach to cyber security management through all layers of government and its agencies, departments and services. It must be supported at the physical security layer and it must be built into security infrastructure solutions.

New Best Practice in Security Infrastructure:

1. Cybersecurity by default

Constant vigilance is a shared responsibility for end users and technology partners. Security infrastructure should be constantly connected, supported by automated updates and the regular deployment of regular third party penetration tests to stay ahead of threats. A modern security management strategy means that hardware and software updates are integrated including, for example, validated Windows, security management platform and security equipment firmware updates managed in a unified platform. Leading solutions employ machine-learning based antiviruses to protect systems online and offline. **Identifying and closing vulnerabilities** should be quick and easy, with user-friendly tools that reduce complexity. It should be easy to verify update status and apply custom configurations and policies. Look for a solution that runs risk assessments to identify potential vulnerabilities.

Enforcement of a standardised level of protection reduces risk significantly. For example, allowing temporary passwords like “Password123” is ill-advised, as too many never get updated. Opt for built-in, forced selection of custom, secure passwords.

2. Fully hardened, out of the box

Hardening an operating system or technology solution means making it as secure as possible against as many threats as possible, eliminating as many risks as possible.

Organisations can limit exposure to cybersecurity threats with solutions and systems that are preconfigured by trusted partners with cybersecurity and security expertise and a reputation for high performance and enterprise-level capabilities.

3. Standardised deployment

Government agencies and councils striving for consistency can opt for technology solutions that offer repeatable installation and maintenance processes to drive efficiency and predictability. Streamline deployment and maintenance and drive down total cost of ownership with the ability to rapidly configure network, computer, anti-virus and security settings.

4. Integration that yields high performance

Technology vendors combining efforts to ensure ease of integration and deployment are making the lives of system integrators and end users easier. Ideally this integration is designed to improve not only system security and hardening, but also capabilities and performance to add business value.

Genetec integrates with Dell Technologies and Intel to deliver next-generation security infrastructure

Genetec is known for its range of ready-to-deploy security infrastructure solutions, called Genetec™ Streamvault™. These optimised and pre-configured appliances are delivered with the operating system, databases, and applications pre-installed and set the bar in terms of security infrastructure best practices. Systems integrators and end users rely on cybersecurity expertise from Genetec and deploy fully hardened systems, with automated updates based on regular testing and vigilance against threats built into the solution.

For the next generation of turnkey security infrastructure solutions, released in 2019, Genetec forged integrations with key technologies to deliver against the mounting performance requirements of organisations and government agencies.

Deep integration with Dell EMC Technologies

The video surveillance market is seeing significant growth worldwide with a rapid increase in the number of multimegapixel and 4k cameras deployed, driven by the switch from analogue to digital, the move from proprietary to open technologies and the resulting drop in prices. In Australia, an annual industry report identified that security product trends for 2019 included cyber security, CCTV monitoring and smart cameras, biometrics and facial recognition. These technologies demand high performance software and advanced processing power, and come with ever-increasing storage requirements.

Understanding that systems integrators were deploying security software solutions from Genetec on Dell Technologies platforms to harness their processing power and storage capacities, Genetec decided to deeply integrate its software with Dell Technologies prior to deployment. The engineering team from Dell Technologies Surveillance Validation Labs provided testing and validation of the surveillance solution as well as necessary integration support.

Not only did this reduce risks associated with virtualisation, platform benchmarking, sizing, network security, physical security, and big data analysis, it also increased the performance of its unified video surveillance and access control solution on Dell Technologies platforms.

Testing shows that next generation Genetec Streamvault OEM-Ready XL servers offer 225% of the performance of off-the-shelf hardware options. Video throughput has been increased to up to 1,760 megabits per second.

An analytics boost from Intel

Reference: Intel® Vision Products use Deep Learning to Transform the Surveillance Landscape.

Businesses, organisations and government agencies are looking to leverage intelligent vision capabilities, such as deep learning, to solve their security, safety, and operational challenges. The need to extract useful vision-based insights is becoming more critical. The use of Intel® Vision Products and toolkits for advanced deep learning are bringing Genetec Streamvault solutions to new levels of intelligence. The Intel Distribution of Open Visual Inference and Neural Network Optimisation (OpenVINO™) toolkit helps Genetec overcome machine learning environmental challenges to improve accuracy for customers. The resulting enhanced algorithms are available as part of Streamvault application bundles, helping end-users improve vision analytics and uncover more valuable insights. For example, customers in the transportation sector can utilise the toolkit, which allows Genetec to run deep learning algorithms on existing Intel hardware, helping customers better understand vehicle movement, reduce congestion and improve traffic flow.

What is in Streamvault?

The Genetec Streamvault solutions available in Australia and New Zealand are preconfigured appliances that include CylancePROTECT®, machine learning-based antivirus protection, out-of-the-box. The underlying hardware in each one is a Dell EMC OEM PowerEdge 14th generation server. OEM-Ready XL servers have an extended lifecycle and provide advanced notification when server components eventually need to be refreshed. The Intel line of powerful processors are at the core of every appliance, boosting the performance and efficiency of Genetec infrastructure solutions.

For more information, please visit www.genetec.com/solutions and select Streamvault™ turnkey security infrastructure solutions.

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AI IMPROVES ROAD SAFETY IN WESTERN AUSTRALIA

Lee Ann Dietz, Global Government Industry Practice Director, SAS



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WESTERN AUSTRALIA'S ROAD SAFETY COMMISSION IS REDUCING CRASHES BY USING AI TO IDENTIFY WHERE TO PLACE RED-LIGHT SPEED CAMERAS.

As early as the 12th century, some form of the phrase “All roads lead to Rome” was in common parlance. In the 1390s, the English poet Chaucer (author of *The Canterbury Tales*) wrote “right as diverse pathes leden the folk the righte way to Rome”, in *A Treatise on the Astrolabe*. Used today, it means that different paths can lead to the same goal.

In the world of artificial intelligence, the same could be said today: there are many techniques that can support decision-making from rule-based systems to artificial neural networks, to fuzzy models and swarm intelligence.

Public sector agency leaders are often confused by the multitude of approaches, and even more bewildered by how to apply those approaches to their day-to-day problems. There is a common belief among leaders that only large or complex problems require AI. In fact, while AI can and does tackle big, hairy problems, it can also be used for problems that simply require a lot of time and human effort.

Public sector agency leaders need to evaluate what problems they want to solve, or what decisions they are making regularly that they would like to make

faster or more cost-effectively. One Australian agency is using AI to make decisions that could be the difference between life and death.

The Western Australia Road Safety Commission (RSC) needs to provide statistical evidence that ensures public funds are well spent. Its key initiative, the WA State Government's 2008–20 roads safety strategy, Towards Zero (rsc.wa.gov.au/About/Role-of-the-Commission/Towards-Zero-Strategy), aims to improve road safety and reduce fatalities and serious injuries.

As with most developed countries, crashes at intersections make up almost 50% of all road accidents. The commission's data and intelligence team needed to identify where to place red-light speed cameras, which is a proven and effective way to stop these intersection crashes.

Before the use of machine learning algorithms, the team manually ranked road intersections using killed or seriously injured (KSI) statistics, poring over historical crash data in Microsoft Excel. Some data they analysed (eg, vehicle information) was held by other agencies.

Using SAS, the commission was able to rapidly prototype a machine learning model to produce a probability of KSI

crashes, assessing intersections by risk, not by crashes. As a result, the complete analytics lifecycle for a project — from data engineering to data visualisation — has dropped from 100 to just 20 hours. Although just in the early stages, a test scenario using the machine learning method estimated a 25% reduction in crashes compared to the previous method.

In this case, as in many other examples of using AI in the public sector, the advantage of speed-to-decision coupled with increases in safety has transformed the commission's efforts in promoting road safety.

A critical element of RSC's success is the emphasis it placed on developing a self-sufficient platform. It brought the advanced analytics in-house and now relies on its own analysts, rather than hiring consultants or academics to produce reports and models. In addition, enabling the team to serve up various coding languages using SAS has lowered the threshold to the successful use of AI.

Even though its roads do not lead to Rome, Western Australia has shown that its roads can be safer by combining the automated accuracy of artificial intelligence with the nuanced judgement of human intelligence.



BRITAIN BUILDS A BETA SANDBOX

Dylan Bushell-Embling

TEN PROJECTS HAVE BEEN SELECTED TO TAKE PART IN A PROGRAM TO LEVERAGE GOVERNMENT-HELD DATA.

The UK's Information Commissioner's Office (ICO) is developing a data protection Sandbox aimed at helping companies and government bodies develop products with data protection built in at the outset.

The ICO has now selected the first 10 projects that will participate in the beta phase of the ICO Sandbox, which will run until September 2020.

The 10 projects were selected from a pool of 64 applications, based on criteria including how innovative and

viable they are, and their potential for delivering benefits for UK residents.

They cover initiatives in crime prevention, health technology, housing, road traffic management, student welfare and tackling bias in AI.

Participants will be able to draw on the ICO's advice on data protection as they develop and test their innovations, while ensuring that appropriate technical measures and safeguards are in place.

Participants in the program will be able to verify that their projects meet the requirements of local data

protection and privacy legislation, as well as the EU's General Data Protection Regulation (GDPR), which the UK is still currently bound by despite its decision to leave the Union.

The next stage of the beta program will involve the 10 initial participants developing detailed plans for their projects. Once accepted, the ICO will survey participants before tailoring a bespoke Sandbox plan for each organisation.

This bespoke plan will stipulate how closely the ICO will monitor the project based on the level of risk involved, as

well as agreements for the provision of advice and consultation by the ICO to the participating organisations.

Participants will be issued a statement of “comfort from enforcement” stating that any inadvertent contravention of data protection regulation resulting directly from product or service development during participation in the Sandbox will not immediately lead to regulatory action.

While this is not a get out of jail free card and participants will still be required to report any breach within 72 hours in line with GDPR requirements, the ICO said it “will be very unlikely to undertake enforcement action” if participants are meeting the terms of their Sandbox agreement.

UK Information Commissioner Elizabeth Denham said the ICO Sandbox initiative reflects the Office’s belief that privacy and innovation are not mutually exclusive.

“The ICO supports innovation in technology and exciting new uses of data, while ensuring that people’s privacy and legal rights are protected. The Sandbox will help companies and public bodies deliver new products and services of real benefit to the public, with assurance that they have tackled built-in data protection at the outset,” she said.

“Engaging with businesses and innovators in the Sandbox is also a valuable exercise in horizon scanning — the ICO can identify new developments in technology and innovation and the potential opportunities and challenges they may provide.”

Because some projects within the Sandbox are expected to



involve cutting-edge technologies, the ICO expects to potentially be able to use information collected from the program to uncover more fundamental questions related to data protection in various industries, and potentially to develop codes of conduct or identify areas where future regulatory reform may be required.

The EU GDPR requires organisations to ensure that personal data is processed lawfully, fairly and in a transparent manner in relation to individuals. The data can only be collected and used for specified, explicit and legitimate purposes, and companies are restricted to only

collecting data that is necessary in relation to the purposes for which they are processed.

Data must also be accurate and kept up to date where necessary, and can only be kept in a form that can be used to identify data subjects for as long as necessary.

Finally, data must be “processed using appropriate technical or organisational measures in a manner that ensures appropriate security of the personal data”.

10 PROJECTS IN BETA PHASE

Three of the initial projects centre on data protection and privacy issues



“The Sandbox will help companies and public bodies deliver new products and services of real benefit to the public.” – Elizabeth Denham, UKIC

surrounding the use of biometric technology such as facial recognition.

Software company Onfido’s project will involve ways to identify and tackle algorithmic bias in machine learning models used for remote biometric-based identity verification. Onfido is developing technology to automate background checks for company employees and job applicants.

TrustElevate will likewise use the Sandbox to help develop improvements to its platform for providing secure authentication and authorisation for under-16s, including verified parental consent and age checking of a child, with the goal of making the internet a safer environment for children.

Heathrow Airport’s participation will focus on its Passenger Journey

program, which aims to use facial recognition technology to streamline the check-in, baggage handling and boarding process.

Two projects focus on the ethical use of data to improve law enforcement and public safety.

Tonic Analytics will use the platform to support development of its Galileo program, which aims to ethically use data analytics technology to improve road safety while preventing and detecting crime. The program is jointly sponsored by the National Police Chiefs’ Council and Highways England.

Meanwhile, London’s newly established Violence Reduction Unit will explore how to use health, social and crime data to better prevent and reduce crime while maintaining data privacy.

The beta stage programs also include two health-related projects, including one from NHS Digital to design a central mechanism for collecting and managing patient consents for the sharing of their healthcare data for medical research, clinical trials and other secondary-use purposes.

Pharmaceutical giant Novartis is meanwhile exploring the use of voice-enabled solutions aimed at improving patient care while addressing data privacy challenges.

The remaining projects accepted for the beta phase are a project from UK non-profit Jisc aimed at using student activity data to improve the provision of support services, and an initiative from the Ministry of Housing Communities and Local Government and Blackpool Council aimed at using analytics to better understand the private housing sector in Blackpool.



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JAMIE HUMPHREY

MANAGING DIRECTOR ANZ, NUTANIX

LEADERS IN TECHNOLOGY

2020

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

Many businesses and government organisations we speak to in Australia and New Zealand are concerned about the increasingly competitive landscape and digital disruption. The pace at which this can happen is quickening all the time, so we very much see our role as bringing the right IT infrastructure, cloud environment and simplicity to our customers to enable them to quickly deploy applications and new digital services, maintain and exceed competitive advantage, and even disrupt from within.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Changing attitudes and understanding of cloud technology in Australia are a huge opportunity for us. While many businesses are still either dependent on outdated IT infrastructure or too heavily on the public cloud, there is a sizeable shift towards smarter, private and enterprise cloud deployment as businesses see the value in gaining cloud efficiency and benefits 'on their own terms'.

We also recently launched a new vertical practice focused on natural resources. Technology is a key driver to modernise and drive forward Australia's \$26 billion natural resources sector, and our platform can enable the right insights, visibility and automation for mining and minerals companies to harness the value of innovation and the Industrial Internet of Things (IIoT).

Our federal government business is also going from strength to strength and many of the most important national agencies and workloads, including Treasury, are running on our enterprise cloud software.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

We need to see digital innovation led by organisational and business needs, not the technology. There are so many solutions available that can supposedly crack the code on unlocking value from data and drive businesses into the 21st century, but few that can live up to it.

There is a great drive both locally and internationally to regulate and drive innovation in technology. It's vital that

industry, regulators and innovators in Australia recognise the direction trends such as cloud and edge computing are going and modernise their IT environments before they try to deploy new and exploratory applications and digital services.

It's a question of whether we're building our future on a house of sand — Apple didn't build the iPhone leveraging the technology available to it at the time; it built a brand-new platform from which we can now all reap the benefits.

WILL 2020 SEE THE SMART CITY CONCEPT MOVE FROM RHETORIC TO IMPLEMENTATION?

Smart cities are still very much in their infancy or hype phase in the A/NZ region, but there are exciting trials and initiatives happening countrywide, which is positive to see. It is important Australia maintains its position as a global technology leader and drives smart cities forward, but again the importance of the underlying infrastructure can't be understated.

Smart cities will involve real-time processing of data on a scale we haven't yet seen. Our current legacy infrastructure will only hold back and negatively impact the ambitious smart city and IoT dreams we have as a society. Let's get smart on cloud first and develop the right foundations to enable smart cities to thrive.



Jamie Humphrey is driving Nutanix's A/NZ expansion working collaboratively with customers, partners and his team to help business communities maximise the benefits of their enterprise IT environments. He has more than 30 years' industry experience including leadership roles in DataCore, Dell EMC, the Queensland Government and Federal Department of Defence.

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– Brendan Lavelle, Liverpool City Council

KENNY LITTLE

DIRECTOR, ALEMBA ASIA PACIFIC

LEADERS IN TECHNOLOGY 2020

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

Industry analysts such as McKinsey suggest that organisations looking to deliver, support and manage digital services need to focus on internal customers — their employees — as well as external ones, to achieve the best business outcomes. Therefore, innovations in technologies that improve the customer and employee self-service experience and are underpinned by automation, AI and analytics all have the potential to positively impact service support and delivery in 2020 and beyond.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

AI-enabled capabilities such as chatbots, AIOps, virtual agents, AI-assisted knowledge management and decision support are beginning to change the ways in which IT service desks operate. Alemba is continuing to investigate and adopt AI technologies such as predictive intelligence and trend identification into our software to keep pace with the changing service landscape.

Information security will continue to grow and have an increasing impact on ITSM. The ongoing focus, legal and cultural, on the value and importance of personal information is steadily increasing the complexity of processes that need to be implemented and adhered to within organisations. ITSM has a key role to play in achieving this state.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

Many of our customers worry about providing services that keep pace with changing customer expectations in a digital age. They are concerned that they must invest in large-scale process automation in order to provide the 'Amazon experience' customers have come to expect. While this is a significant challenge, we believe that there is also an opportunity to approach process automation in an iterative,

step-by-step way. We encourage our customers to look closely at their services, identify candidates for automation and then automate, with a 'rinse and repeat' approach. This way they can show business value step by step and continue to get sponsorship for future initiatives.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

In many instances, organisations lack the process maturity level, executive sponsorship, budget and right-fit technology sets to deliver online services to their internal and external customers. Alemba aims to provide our customers with a proven, cost-effective platform that will enable them to take solid strides towards delivering online services with supporting digital processes. We believe that digitisation does not happen overnight, but if the foundations are put in place properly and there is an internal drive for continuous improvement, then there's a lot of value to be gained along the digital journey.

We have seen a big growth opportunity with Alemba software helping local and federal government organisations take meaningful steps towards digitisation. By offering a well-costed, deeply functional service platform, we are helping government organisations achieve best overall value at each step of the way to digital maturity.



Kenny Little has worked in the IT industry for more than 20 years, specialising in IT service management, cloud and IT business management. He is passionate about helping customers adapt services to the new pace of digital business and embrace opportunities that disruptive technologies bring.

CASE MANAGEMENT IS A COMPLEX ENDEAVOUR THAT NEEDS SOPHISTICATED SOLUTIONS ABLE TO HANDLE THE INTRICACIES OF REAL-WORLD SITUATIONS.

PROTECTING THE VULNERABLE

Jonathan Nally

Case management is one of the most important functions a government department or agency can undertake.

Unfortunately, it can also be one of the trickiest, full of intricacies and pitfalls, particularly if the solution being used does not have the flexibility and know-how to handle all the complexities inherent in the field.

Case management is not the same as servicing requests and answering queries. "It's not a problem where you accidentally disconnect someone's mobile phone by mistake — it has actual consequences," said Graeme Turner, Federal Government CX Lead for Oracle.

And those consequences can be dire. There have been situations in Australia where, for instance, a foster child has been killed by a foster parent, due to an inability to connect the dots within the case management system. And there was a scenario in South Australia where a case worker was distributing pornographic images of the children they were managing.

This shows the complexity of the system, where even case workers can themselves can be the subjects of cases. According to Turner, a good case management system looks at roles, not just identities. He gives the example of a person informing police they suspect their next-door neighbour is dealing in drugs. In this instance, the suspected

drug dealer becomes a person involved in the case, but so too does the informant. Everyone involved needs to be assigned a role within the case, so that information and dealings can remain separated or brought together as the circumstances dictate.

But instituting a case management system can be hard work, and Turner said he is "frustrated" by continuing problems in this field. In particular, he's concerned that some vendors of software solutions are portraying their systems as capable of meeting all the complex expectations of a full case management system, yet delivering something far less than appropriate.

"It's something I'm passionate about," Turner said. "It's not about software



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or cost efficiency or ROI. It's not about increasing shareholder value or customer satisfaction — it's actually about protecting vulnerable people.”

COMPLEX REQUIREMENTS

According to Turner, case management falls into two broad categories — compliance style, such as people overstaying their visas or not paying their tax; and care style, such as child welfare, humanitarian aid, refugee relief and so on. “Pretty much all agencies do some form of case management, and some of them such as Home Affairs do both,” Turner said.

Doing both kinds of case management is often a necessity, as quite often a person can fit into more than one

category. For instance, someone from overseas might be wanting to stay in Australia — an immigration matter — but they might also be a potential terrorism threat — a security matter.

For this reason it is important that different departments and agencies have means of cross-talking to account for these situations. According to Turner, this capability does exist “but it is a little bit simplistic at the moment”.

As an example, according to Turner many states have historically kept their domestic violence, child welfare and foster care case managements systems completely separate from each other... primarily because those systems didn't have sophisticated security models built in. “What that means is they can't make those links between the child that's in a foster home and when there's a domestic violence situation in that same home,” he said.

“That's probably where more modern systems have a lot more flexibility... around what they can do security wise. So you can control ‘You only have access to certain types of information’ and ‘I have access to certain types’ and ‘Our boss has access to more,’” he said.

“Historically that was extremely difficult to do in some of the older applications, whereas now... software applications are getting much better at being able to filter the information but still allow things to be related together.”

Many federal government departments have long used case management software supplied by Siebel (since acquired by Oracle), as for a long time it was the only software that could handle the concept of one person being involved in multiple cases and having multiple roles within those cases.

THE RIGHT SOLUTION

Case management solutions now exist in as-a-service forms, but “There's a little bit of fear, historically, with your subscription-type solutions around where is the data going to be kept, who has access to that data and those kind of things,” Turner said.

“Especially because historically the SaaS providers have all had their data centres outside of Australia, and the federal government is pretty strict on that.”

He adds that government departments have already made multimillion-dollar investments in their on-premise solutions, and so they sometimes adopt an ‘If it isn't broken, don't fix it’ attitude when it comes to moving to solutions supplied by managed service providers.

Added to this is the issue of privacy and the rise of mandatory data breach reporting legislation and GDPR. What effect has this had on governments' approaches to case management? “It's made them more aware and it's made them a little bit more risk averse,” Turner said. “If they've got these nice, big on-premise systems sitting there, they're not at risk of those kinds of data breaches” that might come from outside solutions.

STAYING AHEAD

The need for case management is not confined to health and welfare; Turner said it extends to other areas as well, such as financial services and telecommunications, which can range in complexity from the simple to the intricate. “Stuff like ‘My mobile phone has stopped working’ is pretty simple, but when you get into those ombudsman-type cases then they can become a lot more complex,” he said.

Private enterprise is often seen to be streets ahead of the public sector when it comes to many areas of IT, so is that the case with case management too? “I'd probably argue no, because of the type of things the government needs to do around national security and borders and things like that,” Turner said. The kinds of issues that government departments and agencies have to deal with make it essential that the public sector be on top of its game.

“There's a little bit more public exposure when they get things wrong, so I'd almost say the government is a little bit ahead,” Turner said.

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**LEADERS
IN TECHNOLOGY
2020**

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

The data centre and industrial sectors are changing rapidly to address and adopt the benefits and threats these changes bring. At Schneider Electric we have created an architecture, EcoStruxure, which enables our customers and partners to use these building blocks to help achieve their IoT and digital vision, whilst also maintaining high standards in cybersecurity and data security.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

Our customers are telling us that most of their innovation and disruption is a by-product of their digital transformation plan. 'Digital everywhere' continues to be at the core of all business vision, but it is also the cause of concern. On the back of this our customers are seeing hybrid IT architecture as a key priority as it is the core enabler of their digital ambitions. Knowing where to build or buy data centre or cloud capacity requires a clear vision for the future.

The speed we are all moving at raises another customer challenge; that is, moving their change and people culture as rapidly as their technology change. Today's world is one where technology is able to deliver outcomes that seemed impossible only a few years ago. However, companies can only move as fast as their people culture allows, so a disconnection of digital planning with human change planning sees most companies fail.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

The ICT Industry has thrived in times of convergence and the biggest growth areas for APC by Schneider Electric and the wider Schneider Electric business are around IoT and also the convergence of the digital economy with the 'power economy'. In the next couple of years the ICT industry will account for a quarter of the world's electricity consumption... and its growing. Any organisation not considering a power strategy with their digital strategy needs to go back to the drawing board.

As digital continues to accelerate, the experience and expertise the market requires from Schneider and our

partner ecosystem is growing with it, particularly in the IoT space. We can provide the technology that powers the data centre ecosystem and most importantly, through our EcoStruxure architecture, we can provide platforms for our customers to build out their power *and* digital strategy.

WHAT'S ON YOUR TECH WISH LIST FOR 2020?

There are two things on my wish list for 2020 and beyond — the acceleration of our sustainability and climate change ambitions through tech adoption, and the support for tech start-ups in our industry. Sustainability and climate change ambitions need to accelerate. Our regulators need to be clearer in supporting this acceleration. In a time where accelerated digital adoption has a direct connection to power consumption, we need to move faster in addressing this significant issue. We now have the tech to save 30% to 50% energy consumption within the building and industrial environment, which will go a long way to solving this equation.

As a proud Australian, any industry or regulatory benefit that can be provided to our local entrepreneurs and start-ups to help them grow rapidly needs to be accelerated. In the Pacific Zone, we are the earliest adopters of tech in the world and we need to do a better job in supporting our start-up community. When I look at the investment made in the US start-up sector, it is no wonder that most successful start-up tech is coming from North America. We must strive to do better.



Joe Craparotta is a 25-plus-year IT veteran who has held senior executive positions across the IT, Industry and Energy Business Units within Schneider Electric. His current role leading the IT Division sees him heavily involved in the data centre segment. Joe also leads the Strategic Segment teams in the Pacific responsible for innovation and sustainability across a range of industrial sectors.

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REGIONAL DIRECTOR, ANZ, DATTO

LEADERS IN TECHNOLOGY 2020

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

There has been a significant increase in the number of network-connected devices. This is creating additional levels of complexity for IT departments, as well as for managed services providers (MSPs), because there are now many more avenues to infiltrate a network for those with malicious intentions. There is a real need to lock down IoT-enabled devices on the network so that there are no weak points to exploit. IoT devices also take up considerable additional bandwidth on the network, so we are seeing an increased need for network performance monitoring and management technologies. These identify peaks, troughs and trends in the network and help to optimise network performance.

WHICH INNOVATIONS OR DISRUPTIONS ARE YOUR CUSTOMERS MOST CONCERNED ABOUT IN THE YEAR AHEAD?

Security is still the number one concern. There is also a much larger regulatory framework around the industry today, particularly with public sector contracts. There is a lot more complexity than there ever has been, given the level of risk associated with new and emerging technologies, such as IoT-connected devices. We are also seeing a lot more IT departments working more closely with outsourced IT companies, such as MSPs, because they recognise that the new security risks associated with their business require specialist attention, whether it's networking security or infrastructure security.

At the same time, we are seeing some of our partners playing a greater role in helping organisations dissect all this new data that is being produced on behalf of their customers. This is where business intelligence comes into play, as it can turn this data into actionable insights and information that can really progress an organisation and get IT working strategically with the business.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Our business continuity disaster recovery solution is still growing at a significant rate. I believe that we are also

going to see a huge uplift in cloud backup and cloud data protection solutions in 2020. The other solution that we're already seeing substantial growth in, is our infrastructure and network management and monitoring platform. This is down to the growing need for all aspects of IT on a network to be monitored and managed, and done in a way that automates the whole process.

Our core focus is providing enterprise-grade technology at an SMB price point, and providing enhanced levels of automation so it takes fewer clicks to complete tasks. This allows IT departments to focus on more strategic aspects of their business, so it is a very important component of any IT infrastructure management strategy.

WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

AI and machine learning, tied to a focus around automation, are going to be real game changers, closely followed by network monitoring and optimisation technology, and business intelligence technology.

Understanding and making most effective use of the vast amounts of information that organisations will generate — and having the ability to automate this process to focus on key growth areas — are going to top the list of priorities for IT decision makers in the coming year.



James Bergl is Regional Director, Australia and New Zealand, at Datto. Datto offers business continuity and disaster recovery, networking, business management, and file backup and sync solutions, and has created a one-of-a-kind ecosystem of partners that provide Datto solutions to businesses across the globe.

TOP 10 TECH TRENDS FOR 2020

Jonathan Nally

GARTNER HAS IDENTIFIED THE SOLUTIONS AND TECHNOLOGIES ON WHICH GOVERNMENT CIOs SHOULD FOCUS IN 2020.



Gartner has released research identifying what it says are the top 10 government technology trends for 2019–20 that have the potential to optimise or transform public services. The research company said that government CIOs should make sure these trends are included in their strategic plans for the next 12 to 18 months.

The trends take into account pressing global social issues, such as social instability, ongoing austerity, ageing populations, a rise in populism and the need to support sustainability goals.

“Now more than ever, technology priorities must be established in the context of business trends such as digital equity, ethics and privacy, widening generational chasms and the need for institutional agility,” said Rick Howard, research vice president at Gartner.

“Any government service delivered at scale is underpinned by a host of technologies. If the success of these business projects is compromised by poor implementation of technology, then the political objectives are compromised, too,” Howard added.

1. Adaptive security. An adaptive security approach requires treating risk, trust and security as a continuous and adaptive process that anticipates and defends against evolving threats. It also acknowledges there is no one perfect solution and that security needs to be continuously adaptive.

2. Citizen digital identity. Gartner said digital identity is “critical for inclusion and access to government services”, yet many governments have been slow to adopt it. It said CIOs must provide digital identities that take into account security imperatives as well as citizen expectations.

3. Multichannel engagement. Gartner said successful governments will be ones that “meet citizens on their own terms and via their preferred channels”, such as in person, by phone, mobile devices, smart speakers, chatbots and augmented reality. A 2018 survey shows that more than 50% of government website traffic already comes from mobile devices.

4. Agile by design. CIOs must embrace principles and practices used to develop agile systems and solutions that influence both current and target outcomes.

5. Digital product management. The 2019 Gartner CIO Survey showed that more than two-thirds of government CIOs already have, or plan to implement, digital product management, which involves “developing, delivering, monitoring, refining and retiring ‘products’ or offerings for business users or citizens”.

6. Anything as a service. Gartner’s CIO Survey found that 39% of government bodies plan to spend the largest portion of new or extra funding on cloud services.

7. Shared services 2.0. Driving efficiencies through traditional centralisation or sharing of services often brings poor results. Shared services 2.0 “shifts the focus from cost savings to delivering high-value business capabilities

such as enterprise-wide security, identity management, platforms or business analytics”.

8. Digitally empowered workforce. Gartner said a digitally enabled work environment is linked to employee satisfaction, retention and engagement, but that governments are lagging behind other sectors.

9. Analytics everywhere. Gartner said providing “analytics everywhere” will move agencies from “the dashboard reporting of lagging indicators” to “autonomous processes that help people make better decisions in real time”.

10. Augmented intelligence. Gartner said that CIOs should reframe AI as “augmented intelligence”, which it calls “a human-centred partnership model of people and artificial intelligence working together to enhance cognitive performance”.

According to Gartner, these trends are not a reflection of “what government CIOs are spending most of their time or budget on today”, and their relative importance will vary according to local, regional and national contexts.

“Public sector leaders expect government CIOs to find ways technology can reduce costs, create efficiencies and improve outcomes for citizens and businesses,” Howard said. “They also expect CIOs to consider the social, technological, economic, environmental and political trends that impact the constituents they serve.”

PHIL DAWSON

MANAGING DIRECTOR, AUCLOUD



WHICH TECHNOLOGIES DO YOU THINK WILL BE GAME CHANGERS IN 2020?

It might seem a little strange, biased even, but for me 2020 will be the year of cloud services. While perhaps a little odd suggesting that a group of technologies that have been growing for over 10 years are game-changing this far down the track, we have reached a tipping point with cloud (IaaS, PaaS, SaaS) adoption. For a range of reasons, not least of which is cost and agility, 2020 will see cloud services become the default implementation option for a range of activities, including across government. This will be much to the consternation of vendors and distributors of compute and storage, but the reality is that the substantial benefits of moving to cloud are now being understood... and realised.

HOW ARE AI, IOT AND CYBER THREATS CHANGING YOUR INDUSTRY SECTOR?

Despite the collective alignment of analysts, media and vendors around technology-driven 'silver bullets' such as AI and IoT, these are still both relatively nascent. However, anyone with any kind of internet-connected device (i.e. everyone) understands the extent to which cyber threats are increasing, as well as how potentially damaging these threats can be to individuals and organisations.

Adoption of world-leading cyber threat monitoring technologies integrated into core processes and operated by some of Australia's best security cleared personnel is core to the IaaS services that we provide to our government and critical national infrastructure customers. Sanctity of data, including the protection of metadata and the monitoring data that sits with customer data, is now the priority as people share and trade their information online. People are starting to 'get' just how valuable their data is and they want certainty that it is protected. Anticipating this and building the infrastructure services that meet the security expectations of our customers is our top priority.

WHAT WILL BE THE BIGGEST GROWTH OPPORTUNITIES FOR YOUR COMPANY IN 2020?

Migration of legacy systems and deployment of new digital native applications to IaaS based on PaaS/SaaS models is where we will see our most material growth next year. Why?

Because there is a bank of successful reference cases, business growth and expertise in this area (amplified through North American ICT marketing dollars). Within government, the successes apparent from the likes of Service NSW and early indication of cohesion between DTA and key agencies within federal government suggests that the growing talent pool of application developers may have the opportunity to unleash their micro-service, containerised, automation and orchestration capabilities to effect rapid change on a massive and nation-scale basis.

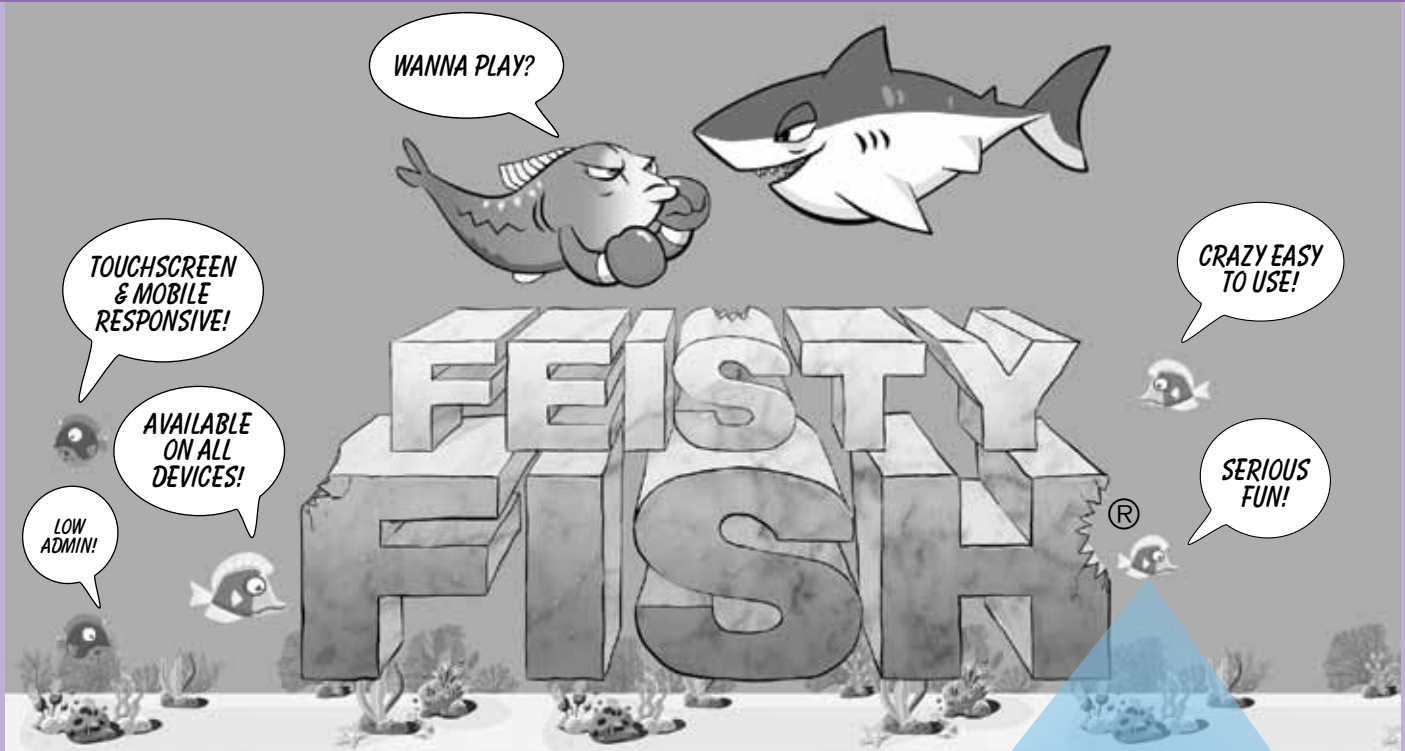
WHAT'S ON YOUR TECH WISH LIST FOR 2020?

At the parochial level of delivering IaaS to government, I would like to see government address two of the easier barriers to cloud adoption; namely, procurement and security. The former is about creating a genuine marketplace for commodity-based cloud services (similar to what has been achieved through Service NSW) and the latter, security, about providing clarity on what best practice could/should look like and how to manage risks around data in a joint responsibility landscape. Perhaps the bigger and more challenging issue, however, is the need to establish tangible parameters around the use of AI in a world of potential bias and liability where the stakes involve dealing in citizen data privacy and consent. My advice — don't wait for certain North American technology companies to solve this one for you in a way that makes you feel comfortable.



Prior to co-founding AUCloud, Phil Dawson was co-founding CEO of UKCloud, the market leading provider of IaaS to the UK Government and the fastest growing technology company in the UK. He also founded MDS Technologies, another of the UK's fastest growing technology companies, as well as several other technology and mobile start-ups.

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Idea/Team Lead:
Rosanna Hawkins
Ambassador of Awesome I love to be creative

Team Name and Members (if applicable):
The Crazy Team in the Finance Department

Comments:

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