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ARTIFICIAL INTELLIGENCE? GET REAL

What's a platform business? It's one that lets other businesses build their businesses on your platform. If network operators want to move to being platform businesses — vertical use cases, Industry 4.0, all of that — then they need to build their networks as platforms.

That means open APIs that businesses can build to. It also means, for mobile operators, building that edge cloud that extremely local to the service — because what mobile networks will be able to provide what other (i.e. fixed) networks will not be able to is low latency mobility.

This means having control of the network, service and application layers in the business so that cloud performance and service quality can be measured and monitored. In networks that are virtualised, software defined and controlled, with services spun up and down in instants, often in highly localised instances, that assurance must be automated. There's no way that that can happen without the in-built functioning of what we know as Artificial Intelligence.

All of this thinking was described to TMN by one player that has already virtualised active test agents in the network, to provide real time reporting on network performance. Now that company, Accedian, is just one that is thinking about how the next stage of the network — the distributed mobile cloud - can be "instrumented" in a truly cloud native manner.

Accedian's Scott Sumner says that the mobile cloud platform represents the "first time in decades that mobile operators have had the opportunity for a real hike in revenue".

But this platform business will require a change in assurance towards a full micro services monitoring platform. That has to be OpenSource, because operators simply will not be able to control anything that is in the cloud. As an example, anything Google gives you as an API is open sourced by Google — because Google does not want to maintain that. Accedian's call to the community is that there needs to be an OpenSource movement that allows for OS monitoring to come alive in a way that it can instantiate itself. This must go beyond an industry "OSS standard" as it has to be loose because of the potential multitude of use cases. Additionally, orchestration will be location dependent, with monitoring following slice locations. "Every customer will have its own slice and monitoring must be inserted or embedded in that orchestrated slice," Sumner says.

Is the industry in any way ready for this radical view of cloud-network orchestration? Well, there are some signs of movement.

ZTE officially released its Artificial Intelligence (AI) Solution to help operators build next generation highly- ▶

So you wanna be a platform business? You need to automate, and that's just the start.

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intelligent and cost-effective automated AI networks. From platform, services, network and chip aspects, the solutions elaborates on future-oriented AI end-to-end architecture, applications, as well as typical scenarios.

With a unified AI platform, ZTE's AI Solution can provide diversified applications, for cloud service, intelligent network, as well as chip and terminal. Its AI-based cloud service application can provide voice and video services which are based on face recognition, human and vehicle identification, speech recognition and Natural Language Processing (NLP) technologies. And an AI-based intelligent network application, which is based on precision algorithms, can provide intelligent network operation and maintenance, network optimisation and more.

At this stage, operators and vendors are still proactively exploring and seeking more efficient, stable and accurate AI algorithms and solutions to reduce the operational labour costs and effectively improve operating income.

"The introduction of AI provides the SDN/NFV network with vast potential for use in operation and maintenance, resource utilisation and efficiency," ZTE's Wang Rui said.

TL:DR

Network as a Platform business models are going to rely on OpenSource.

"In our practice, the AI correlation algorithm and data cleaning improve the extraction efficiency of root cause analysis (RCA) rules by 70 percent, which greatly reduces the dependence on staff skills."

The ZTE cloud-oriented network management platform, CloudMaster, has a built-in AI engine, realised multi-layer fault correlation, real-time network fault positioning and real-time prediction in the virtual network, to provide a strategy of automatic decision-making.

Another vendor to have made a recent AI-based analytics announcement is Nokia. The company has expanded its Analytics Services offering to draw on Nokia Shannon Intelligence, which integrates augmented intelligence throughout the company's end-to-end portfolio.

The upgrade now includes six new services that draw on AI: Mobility Analysis and Optimisation, Spectral Performance Management, Cell Site Degradation Prediction, Similar Ticket Recognition, VoLTE Audio Gap Analysis and Predictive Video Analytics.

Dennis Lorenzin, head of Network Planning and Optimisation, Global Services, Nokia said, "Our analytics services help to cope with the complexity of today's networks. We can augment human intelligence to improve efficiency and reduce the cost of operations. In addition, we can provide deeper insights to improve quality of experience based on subscriber, device and application usage patterns."

Meanwhile, TEOCO's Dima Alkin, VP of Service Assurance Solutions, says that automated assurance capabilities are maturing, but adds that most telco companies are not yet leveraging the available technology to its full extent, and therefore not
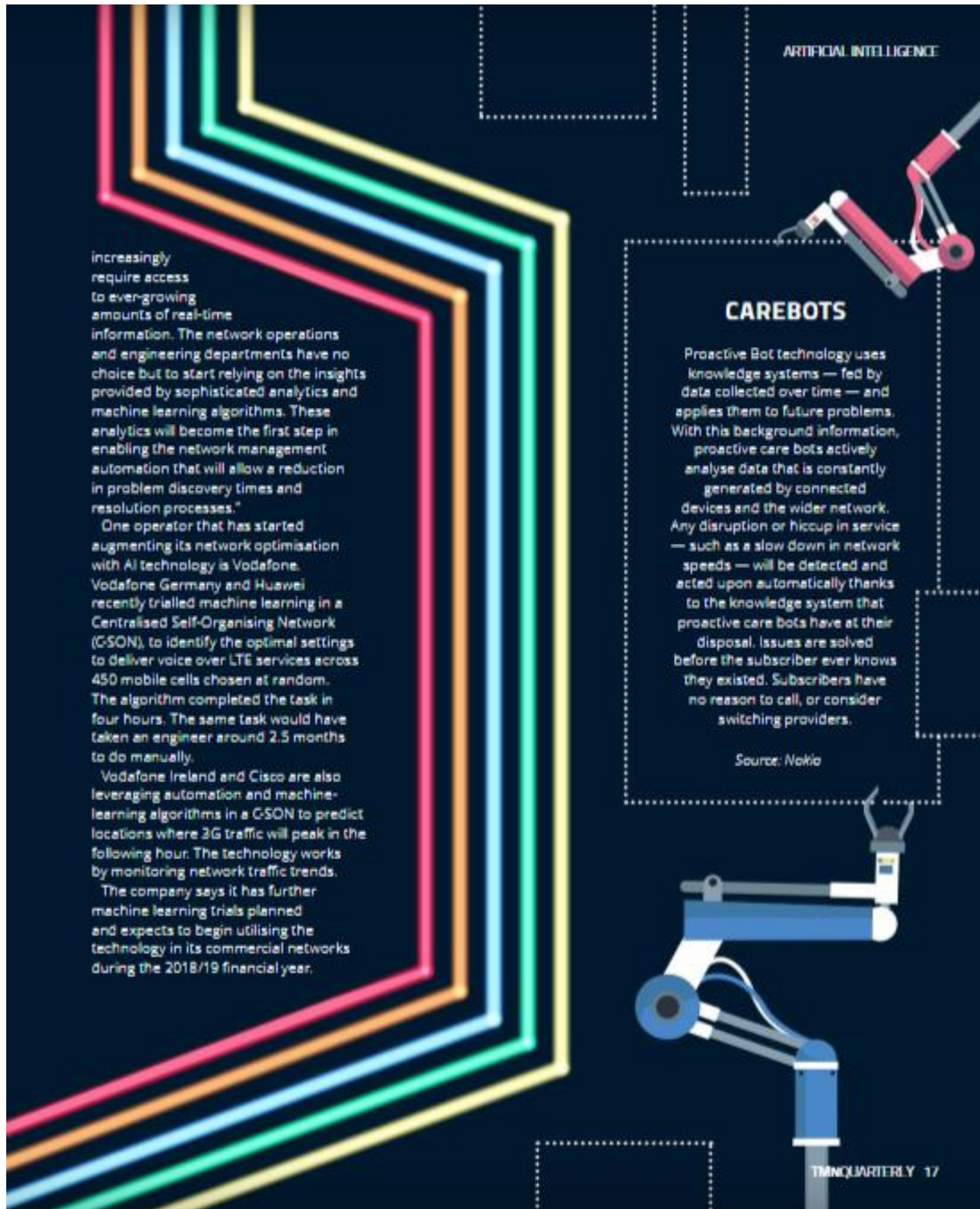
benefitting from those new and truly revolutionary capabilities.

"Two important factors are at play here: the maturity of the available tools and the maturity of the organisation.

"Mobile operators are currently missing the value that can be obtained through AI and machine learning in part due to generic approaches, utilising tools that weren't built to address specific telco use cases, challenges and business processes. As a result, the analytics that are produced tend to be non-real-time, too general and descriptive in nature, and lacking any actionable information. Another hindering factor is the maturity level of the organisation itself and its readiness to effectively consume and act upon the insights brought by the analytics. Integrating the analytics and AI into the existing business processes, or modifying them to take full advantage of the newly available technologies also presents a challenge.

"With the rapid evolution of network technologies driven by 5G and cloud-driven advancements, and the introduction of more sophisticated and dynamic services, the focus is shifting from traditional network monitoring to services-oriented assurance which takes services consumption context into consideration. Modern NOC, SOC (Service Operation Centres) and Engineering departments will

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increasingly require access to ever-growing amounts of real-time information. The network operations and engineering departments have no choice but to start relying on the insights provided by sophisticated analytics and machine learning algorithms. These analytics will become the first step in enabling the network management automation that will allow a reduction in problem discovery times and resolution processes."

One operator that has started augmenting its network optimisation with AI technology is Vodafone. Vodafone Germany and Huawei recently trialled machine learning in a Centralised Self-Organising Network (C-SON), to identify the optimal settings to deliver voice over LTE services across 450 mobile cells chosen at random. The algorithm completed the task in four hours. The same task would have taken an engineer around 2.5 months to do manually.

Vodafone Ireland and Cisco are also leveraging automation and machine-learning algorithms in a C-SON to predict locations where 3G traffic will peak in the following hour. The technology works by monitoring network traffic trends.

The company says it has further machine learning trials planned and expects to begin utilising the technology in its commercial networks during the 2018/19 financial year.

CAREBOTS

Proactive Bot technology uses knowledge systems — fed by data collected over time — and applies them to future problems. With this background information, proactive care bots actively analyse data that is constantly generated by connected devices and the wider network. Any disruption or hiccup in service — such as a slow down in network speeds — will be detected and acted upon automatically thanks to the knowledge system that proactive care bots have at their disposal. Issues are solved before the subscriber ever knows they existed. Subscribers have no reason to call, or consider switching providers.

Source: Nokia