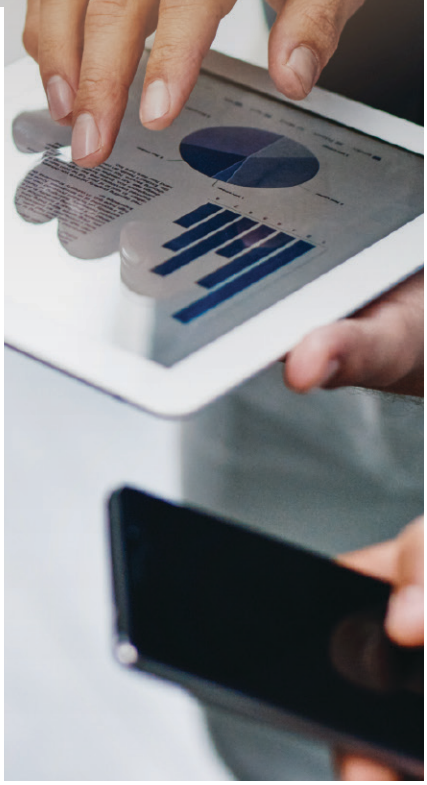

THE EXPANSION OF 5G WILL NECESSITATE SERVICE ASSURANCE

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The promise of 5G is enticing. There is no doubt that the low latency, high bandwidth of 5G will be a game-changer in today's rapidly transforming digital world. However, for service providers, the challenge is in justifying the multi-billion dollars of investments in new network equipment required without sufficient defined business cases.

According to World Economic Forum/Accenture analysis based on data from the S&P Capital IQ, $2 trillion in network investments is needed over the next decade to meet the growing demand. This investment burden will fall on service providers even though 5G profitability is not guaranteed with the use cases that are currently understood.

As the telecom industry begin rolling out network functions virtualization (NFV) and software defined networks (SDN) on the road to a virtualized infrastructure, service providers must grapple with managing this new infrastructure along with previous generations of mobile, and fixed network technologies. With different vendors using proprietary software and tools, infrastructures are enormously fragmented, adding to the challenge for service providers.

Because consumer 5G devices are not expected to hit the market until 2019, some service providers are hoping to recoup investments supporting large scale machine-to-machine (M2M) communication. Others are looking to big video such as 4k streaming, as well as critical or reliable communications that require very high levels of resilience or are reliant on achieving key performance indicators (KPIs).

With virtualization of the evolved packet core (EPC), session border controllers (SBC), service chaining, and orchestration plus the move to cloud platforms, the landscape for service providers has become extremely complicated. Existing and emerging use cases will require high levels of service assurance to ensure maximized availability, uptime, and quality. However, managing these attributes presents further challenges. For this reason, increased automation of operations will be needed in service management as well as network management.

In order to tackle the considerable challenges ahead, service providers will require smart visibility into increasingly disrupted architectures. Software solutions that provide end-to-end, multi-layer, multi-domain coverage are the best answer. Instead of costly hardware probes that must be deployed at every device, virtual probes that produce smart data, supported by intelligent tools, can embed much needed visibility into new networks.

"Always on" smart data tools are ideal because they won't miss key data points, while at the same time reliably delivering actionable insights. Such automated tools rely on advanced data analytics capabilities and built-in intelligence to uncover only the relevant data for analysis, rather than collecting an overwhelming mountain of irrelevant data.

For service providers that are rolling out 5G, having fast and accurate smart data tools can deliver critical visibility into the performance characteristics of any given service. This invaluable knowledge provides the foundation for service failures to be fixed in near real-time. Obtaining this level of service assurance will be absolutely vital in order for service providers to accelerate their use of virtualized infrastructure to make deployment and operation of enabling technologies, and 5G in particular, cost-effective and successful.

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