SPONSORED FEATURE

Enabling telco IoT services

Published by

MOBILE WORLD LIVE

Preparing for a wave of IoT-enabled services

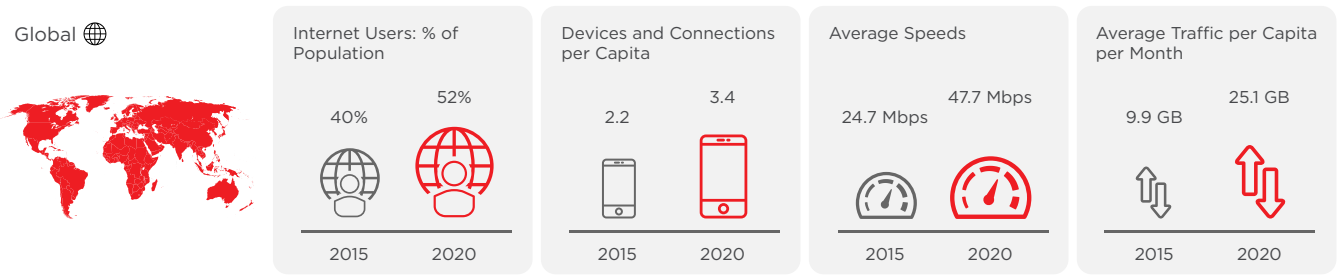
Across the globe, service providers are striving to adapt their business models to deliver digital services and keep up with consumer demand for faster, more secure connectivity. In many markets, operators face flat revenue growth and declining margins, as they look to continually boost network spending to keep up with soaring demand.

> "We see great potential for service providers to transform their business and customer experience by using NFV capabilities across domains and specifically in data centres."
>
> **Chris Heckscher, VP, Cisco *(pictured, left)***

At the same time, digital transformation is taking shape across every industry. The era of connected things is now at the heart of every business as the Internet of Things (IoT) connects more and more devices and data traffic accelerates. A trend that is only set to grow. Cisco's latest Visual Networking Index (VNI) expects:

- **More traffic:** Annual global IP traffic is expected to surpass the zettabyte (a zettabyte is approximately a billion terabytes) threshold this year, and the number of connected devices will be three times more than the global population by 2020.
- **More people:** By 2020, 52 per cent of the world's population will be online (up from 40 per cent today) adding 1.1 billion new internet users. Half of China's population now has internet access compared with just a quarter of India's.
- **More devices and connections:** Meanwhile, the number of devices and connections per person is predicted to increase from 2.2 to 3.4 over that period, while average traffic per capita will soar from 9.9Gb to 25.1Gb.
- **More mobile:** Looking specifically at mobile, data traffic is forecast to grow eight-fold by the end of the decade.

For service providers these trends send an important message: IoT is an unparalleled opportunity for future growth and will be essential in compensating for declining revenue in the once core services of voice and messaging. The challenge will be how to accommodate this increasing number of people, devices, things and higher traffic volumes — while monetising all these new connections.



Legacy assets and structure

A major impediment is that many legacy communications networks cannot keep up with the speed of change and are ill-prepared for the next wave of IoT-enabled digital services.

Traditional infrastructure needs rejuvenation: adaptation, in the short term, to reduce operating costs and swiftly respond to the increasing connection and customer demands; and transformation, in the long term, to establish a network platform capable of cost effectively managing a highly complex, connected and constantly 'on' world.

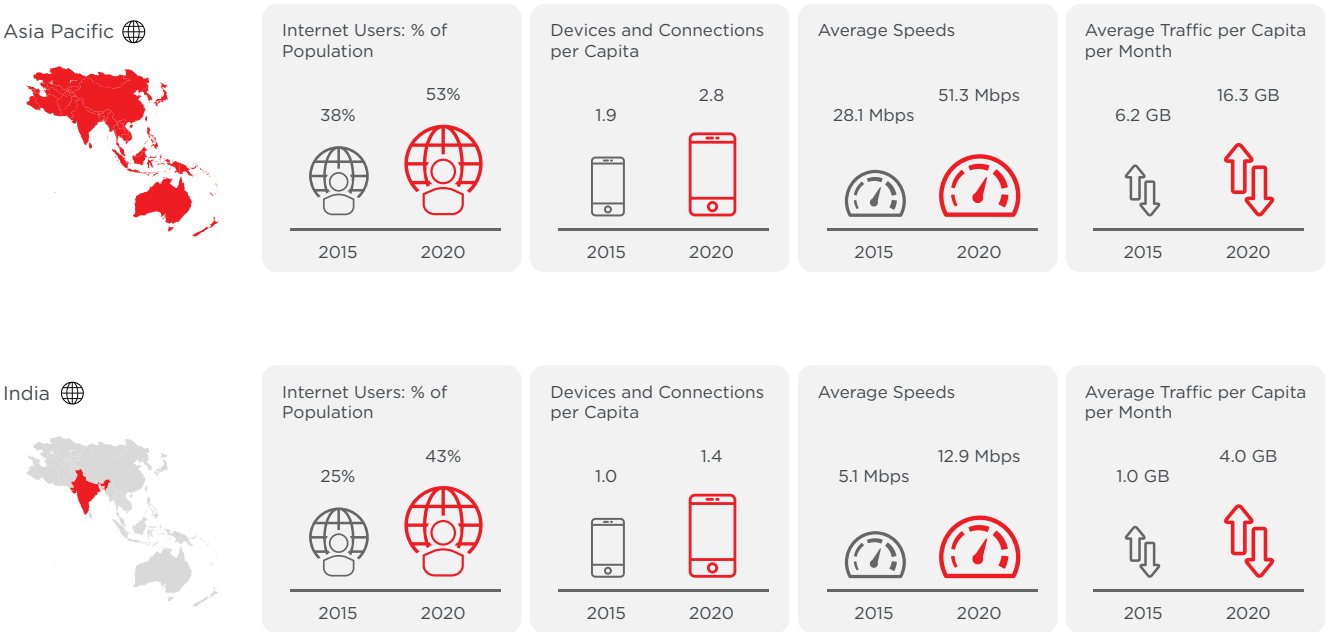
A further hurdle on the path to digital transformation is that many operators have traditionally built their network infrastructures separately by service with purpose-built solutions. This creates large, complex networks that can slow down service innovation and add significant cost and complexity, hindering the introduction of new digital services.

It is the perfect storm of legacy assets, market conditions and network constraints that is driving the telecoms industry to pursue a cloud-based model to simplify network operations and foster innovation.

Cisco VP Chris Heckscher sees a strong impetus for service providers to embrace the latest network function virtualisation (NFV) solutions to keep up with the rapid demands of the digital services economy. NFV and software-defined networking (SDN) technologies offer immediate opportunities for telcos to step up and meet their business customers' requirements for efficiency, simplicity, agility and profitability in their IT operations.

Many service providers are already starting to deploy NFV (see related story on 'XL launches Indonesia's first VPC-powered LTE network' on page 6). To ensure the success of these deployments, it is essential that NFV applications run on top of a solid foundation of compute, storage and network architecture, he said.

"We see great potential for service providers to transform their business and customer experience by using NFV capabilities across domains."



End-to-end support

The company's NFV Infrastructure (NFVI) combines virtual and physical environments to provide the necessary compute, storage and networking infrastructure to run NFV network services. Cisco said it complements existing virtualisation solutions like its Virtualised Packet Core (VPC) and combines all mobile packet core services for 4G, 3G, 2G, Wi-Fi and small-cell networks into a single solution.

Heckscher noted that NFVI also provides telcos with the necessary elements to accelerate their network transformation. Once installed, service providers can cut current service enhancement times, speeding up the introduction of new services from months or weeks to days or hours. Meanwhile, they can reduce operational costs, given the automation and centralised monitoring features.

The solution is part of Cisco's overall strategy to promote an open, modular and expandable network architecture, which enables service providers to deploy networks that can scale on demand and respond swiftly to unpredictable or unforeseen traffic models.

For example, Cisco's integration of SDN into the mobile services core is helping SK Telecom in South Korea to keep up with evolving network demands (see related story on 'SKT taps Cisco for support on core, IoT networks' on page 7). Cisco's Ultra Service Platform enables operators to automate new services quickly and bring centralised network control.

On the mobility front, the company is working with service providers to create richer digital-enabled user experiences, where traditional approaches to connectivity may not make economic sense. Heckscher pointed to New Zealand, where Spark used Cisco's carrier-grade Wi-Fi solution to build more than 1,000 Wi-Fi hotspots in its phone booths across the country.

With the offload of data from cellular networks to Wi-Fi, subscribers can access high-speed internet access in unexpected places. As a result of the pervasive connectivity, Spark NZ is laying the foundation for more businesses to become digital while unlocking additional revenue from new customers.

In Asia Pacific a number of operators, such as SK Telecom, and NTT Docomo, have already announced fully operational SDN and NFV deployments to lead their digital transformation. These technologies not only make it less expensive for them to build networks, but SDN and NFV solutions also provide greater flexibility and responsiveness for them to tap new business opportunities well beyond the boundaries of traditional mobile networks.

> "Our solutions are designed to enable service providers to transform their business, so they can take advantage of the vast opportunities, significant operational savings and limitless flexibility that software and the cloud provides."

The future: In the clouds

One of the most promising emerging opportunities for telcos is to extend their digital services through value-added cloud services. With more businesses embracing the cloud, there are ample opportunities for operators to move up the cloud services value chain, by helping enterprises manage both their networking needs and cloud environments.

To succeed, service providers need to consider how best to deliver cloud services that can support different cloud consumption models, including IT-as-a-service offerings. The key is to establish a versatile cloud service foundation, and collaborate with the right partners that can offer the infrastructure hardware and software solutions that operators need.

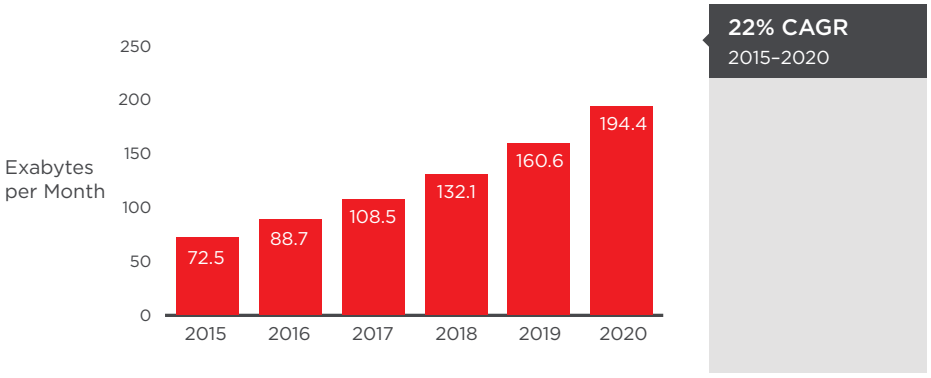
The most successful cloud solutions are often delivered through partnerships, where operators are able to provide customers with best-in-class cloud resources and applications in easy-to-consume packages. For instance, Cisco collaborated with Telus in Canada to deliver on-demand hybrid cloud services, providing customers with a pick-and-mix solution – allowing them to choose the best solution on an application-by-application, or even a workload-by-workload basis.

Globally, service providers are partnering with Cisco to lead their digital transformation initiatives. "Our solutions are designed to enable service providers to transform their business, so they can take advantage of the vast opportunities, significant operational savings and limitless flexibility that software and the cloud provides," Heckscher said.

He noted that it's an exciting time for service providers: a transforming world that is ripe with opportunities and technology partners ready to support their digital transformation, and herald in a new era of service provider services and profitability.

Global IP Traffic Growth / Top-Line

Global IP traffic will increase 3-fold from 2015–2020



Source: Cisco VNI Global IP Traffic Forecast, 2015–2020

XL launches Indonesia's first VPC-powered LTE network

Indonesian mobile operator XL Axiata has once again turned to networking giant Cisco to expand its capacity and boost peak performance using Cisco's packet core solution with network functions virtualisation (NFV) to power its LTE network.

This is Indonesia's first virtualised packet core (VPC) LTE network and will raise peak download speeds to 100Mb/s.

As the operator's first LTE virtual solution, Cisco's technology gives the network the ability to quickly handle large data traffic growth. "The software-driven solution allows XL to manage and introduce services at the touch of a button, allowing the company to deploy new applications in minutes rather than weeks or days," said Cisco VP Chris Heckscher.

XL is no stranger to leading the way. It was the first telco to implement the Cisco VPC solution in Asia Pacific and Japan, deploying Cisco's VPC in March 2015 to deliver the network flexibility and service agility needed to support its rapid data growth.

Indonesia's mobile data traffic is projected to jump 12-fold by 2020. XL, the country's third largest operator, now has 22 million data subscribers, which account for about 53 per cent of its 42 million total subscribers.

SKT taps Cisco for support on core, IoT networks

South Korea's largest mobile operator SK Telecom (SKT) has expanded its cooperation with Cisco to boost its network efficiency, reduce costs and to support its recently announced Internet of Things (IoT) initiative.

The operator, with a 49 per cent market share, is investing more than KRW100 billion ($84 million) in IoT projects over the next two years and will also develop IoT-dedicated modules and set up an IoT control centre.

SKT is talking to Cisco about deploying its Ultra Service Platform (USP), which Cisco VP Chris Heckscher says can lower the operator's total cost of ownership as well as reduce time-to-market for new services. USP uses software-defined networking (SDN) to boost the efficiency of data transmission, which reduces network costs.

Cisco was asked to build a 5G-ready mobile core platform that can "simplify, automate and accelerate SKT's mobile cloud" using its USP architecture.

The two firms completed a proof-of-concept trial last November, demonstrated the solution at the Mobile World Congress in February, and are working towards a commercial launch, which includes redundancy and fault management and performance support.

USP, which is already in use with six other operators, covers three specific solutions that can help support SKT's IoT services: virtual evolved package core, virtual Gi-LAN and virtual PCRF (policy and charging rules function).

SKT announced plans in March to deploy a nationwide IoT network based on low-power wide area (LPWA) technology. The 900MHz frequency band service is scheduled to launch in the city of Daegu at the end of this month and will be available nationwide a few months later.

LPWA networks support communication among IoT devices as they can transmit data over tens of kilometres while consuming much less power.

Cisco offers systems that support and integrate LoRa technology under a partnership with Actility, the provider of ThingPark, an IoT and M2M service platform.

South Korea is an important market for Cisco, and it works closely with SKT, LG Uplus and ISP Naver. Japan, China, India and Australia are also key markets in the region, Heckscher said.

MOBILE WORLD LIVE

Produced by the mobile industry for the mobile industry, Mobile World Live is the leading multimedia resource that keeps mobile professionals on top of the news and issues shaping the market. It offers daily breaking news from around the globe. Exclusive video interviews with business leaders and event reports provide comprehensive insight into the latest developments and key issues. All enhanced by incisive analysis from our team of expert commentators. Our responsive website design ensures the best reading experience on any device so readers can keep up-to-date wherever they are.

We also publish five regular eNewsletters to keep the mobile industry up-to-speed: The Mobile World Live Daily, plus weekly newsletters on Mobile Apps, Asia, Mobile Devices and Mobile Money.

What's more, Mobile World Live produces webinars, the Show Daily publications for all GSMA events and Mobile World Live TV – the award-winning broadcast service of Mobile World Congress and exclusive home to all GSMA event keynote presentations.

Find out more www.mobileworldlive.com

CISCO

About Cisco

Cisco (NASDAQ: CSCO) is the worldwide technology leader that has been making the Internet work since 1984. Our people, products, and partners help society securely connect and seize tomorrow's digital opportunity today.

Discover more at newsroom.cisco.com and follow us on Twitter at @Cisco.