Be enterprising: Connect the network to the business with E2E service operations

5G is going to reinvent what we know as “connectivity”. It will allow networks to support smarter applications and services that redefine how people live their lives and how businesses operate. Yet for the service providers on the front line of the 5G revolution, the big question is: “How can we monetize this?”

The answer requires **new strategies and business models** that allow third-party enterprises to design and deliver services using the network and its resources, opening up **unprecedented B2B2B and B2B2C opportunities**¹. This demands a shift away from traditional “define-and-push” services toward “design-and-pull” offerings — effectively turning the innovation model outside-in.

Industrial automation provides an excellent example of how this might work, producing a “win-win-win” scenario for service providers, their enterprise customers and the end users those enterprises serve.
Every enterprise that uses the 5G network for its own offerings will generate previously untapped revenue streams for service providers.

“Network slicing is expected to be the revenue enabling 5G scenario with the highest ROI potential. However, network slicing management systems infrastructure... is ill prepared to support 5G service complexity. [Service providers] will require a specific architecture that facilitates end-to-end processes, tailored to cross-domain physical and virtual infrastructures, that are a pre-requisite for an adoption of 5G services at scale.”

GARTNER

Challenge


The traditional value of the network has been its ability to connect people and businesses. With 5G, that’s going to shift. Increased intelligence and built-in flexibility will transform the network into a digital value creation platform — integrating service providers with a vast and varied ecosystem of third-party creators of innovative business and consumer services. Through 5G slicing, companies will be able to build the 5G network and its capabilities into their offerings for their end customers — and every time they do, service providers will generate additional revenue.

While network slicing can be done today, 5G will enable lower latency and faster speeds than ever before, opening up whole new arenas of application possibilities. Service providers nimble enough to create, deliver, assure and monetize these applications will attract a whole new kind of enterprise customer — and facilitate the creation of all-new revenue models and revenue streams.

Automation will be key to this. Manual processes won’t keep up with this next generation of 5G network-based applications, meaning automated capabilities have to be built in from the beginning to meet the new expectations of speed and scale.
To generate maximum ROI from 5G, service providers need to alter their approach in three distinct, interrelated ways:

- **Evolving their business model.** Traditional networking requires service providers to predefine services and offer them “as is” to customers. The 5G opportunity enables a design-and-pull model: creating an open ecosystem with customizable service templates for third parties to adopt and adapt however they see fit. These companies can “personalize” their own “slices” of the 5G network based on what their digital services and customers require.

- **Evolving their operations.** Up to now, network and service operations have been largely reactive. 5G operations will be intelligence-led and automated, leveraging analytics that allow service providers to proactively manage the network and software together as a holistic platform for creation, delivery, operation and monetization. With operational agility, assurance and efficiency, 5G slices will use only network resources appropriate to meet the requirements of the service provider’s third-party partners — and automatically reallocate those resources to other applications when they’re not needed.

- **Evolving their role.** As service providers make connectivity available so enterprises can build it into their own offerings, they will become transparent to those enterprises’ end customers — trusted partners whose value is in helping companies build solutions for market.

Opportunity

**A three-pronged shift**

With 5G, service providers can create end-to-end service templates that companies can select, use and customize whenever and however they need.
Solution
The network is just the beginning

Nokia developed the Future X architecture to support the full range of new business models service providers will seek to adopt in the 5G era.

Future X includes digital value platforms for service exposure and monetization, connecting operations to a larger ecosystem of applications including the Internet of Things (IoT), industrial internet and edge computing (for everything from connected cars to industrial automation).

Software is the key to achieving this, allowing service providers to make private network slices available to enterprise customers — in essence, giving them each their own 5G network — with service templates that use the slice from end to end. These templates are fully customizable and can be created without requiring any physical deployment of technology. They’re simply ready to be personalized as customers need them.

The software ensures the 5G experience meets the needs and expectations of both third-party enterprises building the network into their services and their end customers. Increasingly, those end users will include both people and machines: first-mover service providers able to address this concept of “machine experience” will emerge as winners in the enablement of B2B2B services.
Imagine a service provider with a robotics company as a customer. That customer, Cogno Robotics, sells networked industrial robotics solutions to manufacturers like Oulu Industries.

To meet its customers’ needs, Cogno Robotics requires extremely high-grade, reliable connectivity between the host application servers in its data center and the robotics systems deployed in customers’ factories — what the standard-setting body 3GPP defines as ultra-reliable low latency communications (URLLC). The service provider designs a configurable 5G URLLC slice offering into its service catalog and Cogno Robotics uses that template in its turnkey solution for Oulu Industries.

Cogno Robotics may choose to “white label” the network portion of the solution or present it as a co-branded offering with the service provider. In either case, the service provider is able to monitor the performance of the 5G slice using intelligent automated operations — ensuring its service level agreement with Cogno Robotics is upheld.

Automation, AI and machine learning are foundational to 5G operations, enabling real-time management, proactive service enhancements and constant optimization of network functions.
Anticipated benefits

One platform with countless possibilities

The Nokia approach to 5G operations gives service providers the platform to offer enterprises a catalog of services to meet their specific needs — with the ability to automate service deployment, monetization and operation at scale. The more these services are adopted by third-party enterprises for B2B2B or B2B2C offerings, the higher the revenues generated by the service providers. End users will benefit from advanced applications that take full advantage of the 5G network’s intelligent capabilities.

Looking ahead to 5G, the greatest challenge for service providers will be to connect the network to the business. Nokia makes it easy. Our end-to-end software portfolio spans everything from the technical design of network slices to individual service assurance, optimized by closed-loop automation and in-depth network and business analytics. With a portfolio that includes fixed, mobile and core access components and solutions, we bring expertise across all parts of the service chain — with products that work across vendors, domains and APIs for the greatest flexibility in deployment and operations.

Find out how you can generate maximum ROI by migrating to 5G.
Visit https://www.nokia.com/networks/5g/operations/ to learn more.