



5G: NEW SERVICE OPPORTUNITIES FOR NETWORK OPERATORS?

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FROM 4G TO 5G: WHAT'S THE DIFFERENCE?



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When mobile operators introduced 4G cellular services to the market, the primary offer was an increase in data speed compared with 2G and 3G. “Blisteringly fast” speeds would enable video on-demand, online gaming and much more to be available anywhere, directly on your mobile phone screen. This has indeed been the case. 4G has introduced a step change in use of mobiles that has taken them far from the voice-only devices of the 2G and 3G past. However, this emphasis on speed has also had some downsides for operators. Data speed is essentially a commodity, so how does one carrier differentiate its 4G offering from others? When there is nothing else, it comes down to price. That can quickly escalate into a price war.

Will we see the same for 5G? On the face of it, planned usage scenarios for 5G will see considerable expansion beyond 4G in three underlying network dimensions – enhanced mobile broadband (eMBB), massive machine type communications (mMTC) and ultra-reliable and low latency communications (URLLC). These span consumer, enterprise, industry and IoT segments.



Enhanced Mobile Broadband

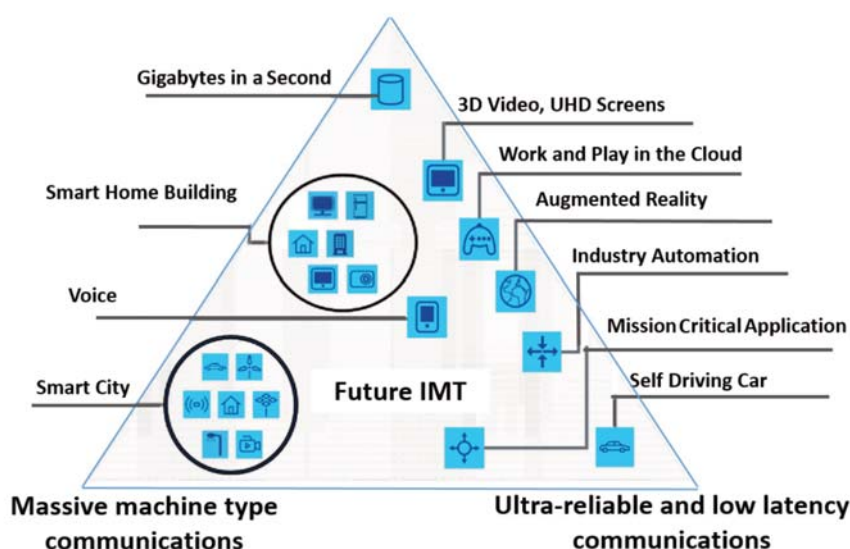


Figure 1: Usage Scenarios for 5G – Source: ITU and IMT-2020

As illustrated in **Figure 1**, these three dimensions enable a range of new usage scenarios that cannot all be efficiently delivered with a single 4G network but can with 5G, through a “network of different networks” approach. This opens up a potentially enormous variety of new services, but who will benefit from these – the operators or the major Internet technology players?

A recent study by **Strategy Analytics** (September 2019) highlights some of the challenges that operators face. Consumer focus groups comparing their current experience with 4G and the anticipated benefits of 5G included the following insights:

- Satisfaction with 4G is high, so 5G needs new value propositions. As a result, operators must create compelling, differentiated 5G experiences if they want to motivate customers to adopt 5G plans
- Most consumers are interested in 5G, but must be convinced of the benefits
- Need to focus 5G messaging on new experiences and solving pain points

In addition to these, current perspectives on 5G were provided by network operators themselves, including the following indicative quotes:

- “It is hard to differentiate in the long term based on network coverage/quality or on price level, so the main focus for us for 5G commercialization has been about creating a set of compelling 5G services available for free for all 5G subscribers.”
- “4G speeds are already high, which makes it hard to upgrade subscribers to 5G without services.”
- “Everyone likes to talk about use cases and new things 5G can bring but fact is 4G is pretty good where not congested and 4G is improving.”
- “Operators also see strong value of 5G for enterprises.”

Such feedback suggests that network operators need to do something different for 5G compared with 4G in order to ensure payback on the billions of dollars invested in new infrastructure and in the new spectrum allocations required to bring 5G to the market.



5G – WHERE’S THE MONEY?

It is evident from these and other insights that the successful and sustainable monetization of 5G by network operators requires an approach incorporating service innovation rather than pursuing the traditional approach of simply offering more bandwidth and capacity.

As outlined in **Figure 1**, 5G is the first mobile generation to deliver the potential of a “network of networks” – the ability to serve multiple customer segments from consumer to enterprise to IoT with different network requirements all within one network infrastructure. As such, it delivers what can be referred to as a number of “monetization levers” that can be utilized to enable service innovation and a new value-based proposition.

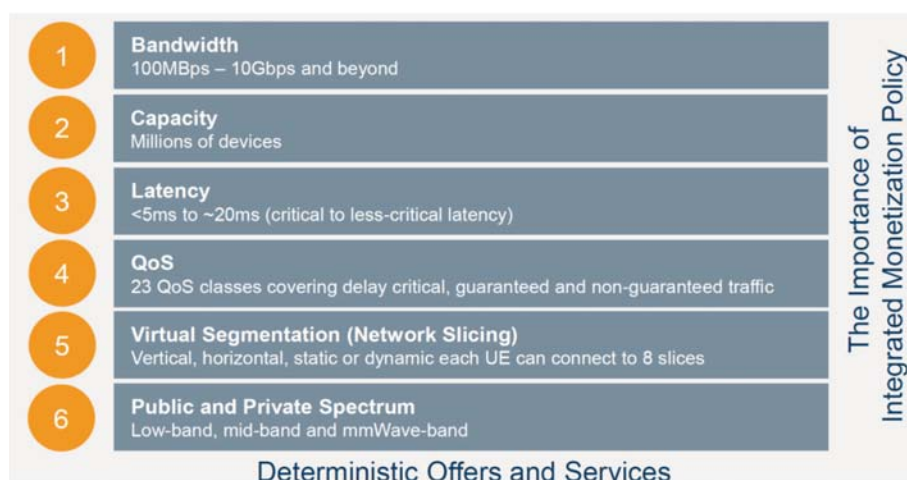
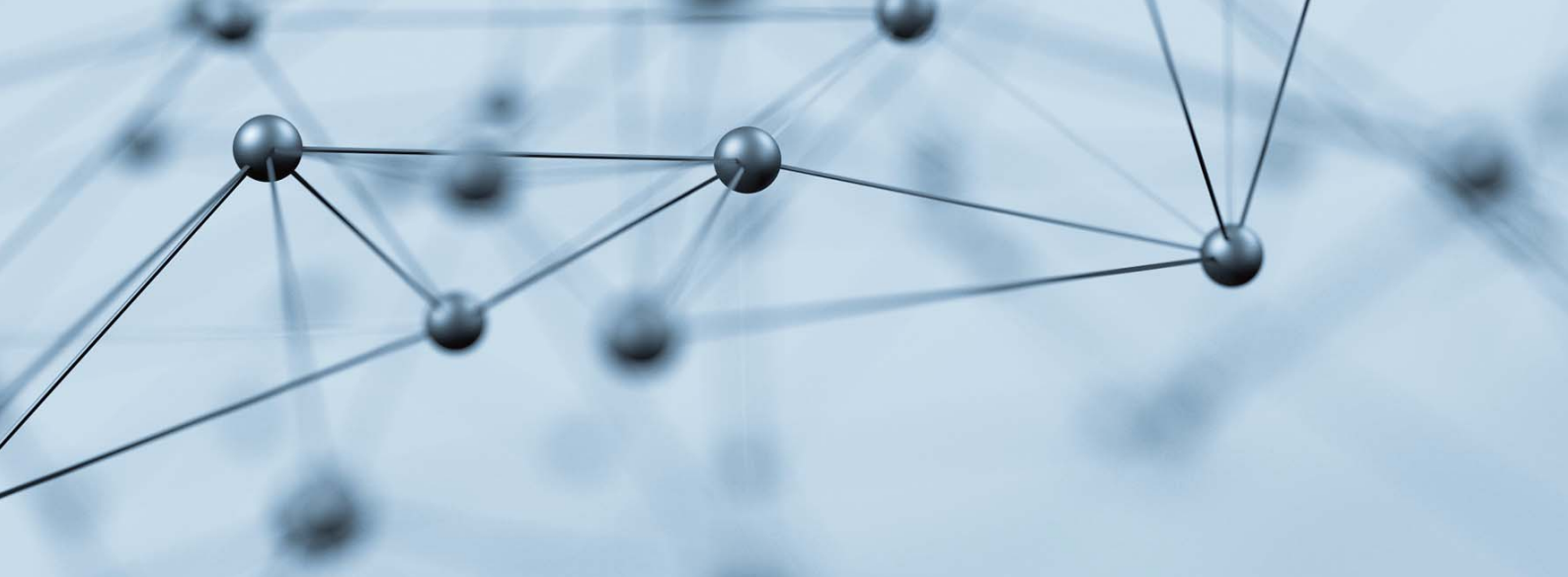


Figure 2: Monetization Levers of 5G

When the ITU and IMT-2020 group defined the key criteria the industry needed to deliver for the 5th generation of mobile in 2015, eight key criteria were defined, of which the six in **Figure 2** represent the main opportunities to deliver the service innovation proposition, the new digital operating model and the sustainable monetization offers that are a part of both. These levers should be viewed as the tools available for operators to shape their end product – a service-based offering to consumers, enterprises and industry.

Many consumers as an example do not need to understand what bandwidth, latency and quality of service are, but if they are the tools that are utilised to deliver a superior 3D online gaming experience as an example, that same consumer will see their benefits reflected in an experience they enjoy, value and are willing to pay for.

Virtual segmentation, or network slicing, is the lever getting the most coverage at present. That is because of its ability to support virtualisation of the 5G network end-to-end, from device to data centre. This can define virtual segments for particular applications within individual business sectors, such as healthcare, finance or manufacturing or in the consumer sector, for example, slices for online gaming.



5G is the first mobile generation to support true, end-to-end virtual segmentation that is standards-based. It opens up the prospect to “build once, use many” – build one network and use the same infrastructure for a number of parallel, uniquely configured virtual slices with each slice using the appropriate monetization levers required for the needs of that slice, ring-fenced and secured from each other. Initially, the number of network slices will be small in number and mostly static in nature. Each user device will be able to connect to eight simultaneous slices. Over time, greater innovation will come from the delivery of network slicing on-demand, controlled by the end user applications.

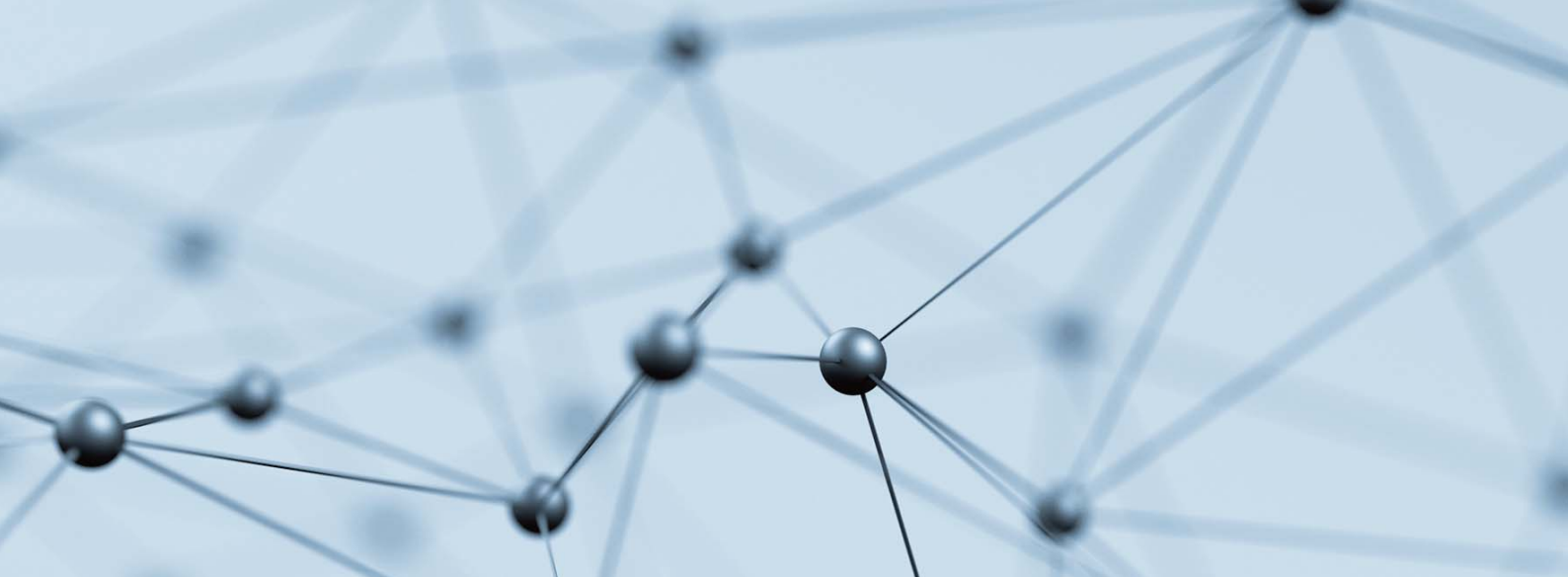
The 6th lever refers to both public and private spectrum. Firstly, the available spectrum for 5G services will differ per country based on local regulatory and government policy. Private spectrum refers to the potentially increasing usage of 5G in large industrial and/or business complexes to supplement or substitute wi-fi based application delivery, under the private control of the enterprise themselves using licenced or unlicenced spectrum.

Telco commercial teams will need to devise and implement services that not only pull on these rich levers of monetization at their disposal, in the quest to deliver a sustainable and differentiated digital operating model, but also to do so from a monetization platform that can shape and control them at the level of scale and performance necessary across many customer segments.

DIGITAL FIRST: WHAT CUSTOMERS WANT

At a practical level, a key aspect of these new mobile services is how they are delivered to customers. Some insights into what customers would value in their interaction with their network suppliers can be gleaned from a recent survey conducted by **IDC** (August 2019). The purpose of the survey was to understand how businesses view their mobile service providers and the quality of support they receive. Survey respondents were involved in the management of their organization’s telecom service contracts, with qualifying respondents including C-level personnel (CMO, CEO, CIO), as well as respondents with the titles of EVP, VP, Director, and Manager. The survey covered 300 organizations in US, UK, NL and HK – with 50 to 1000+ staff – and included the following findings:

- Tracking mobile expenses is a time-consuming overhead for every organization. 77% of respondents track and manage their mobile service expenses with no automated support with 65% using spreadsheets and 12% using nothing at all.
- Getting on top of service usage expenses is a challenge. 72% of respondents cannot allocate telecom expenses to business users/departments. 63% cannot place usage limits on individuals and 62% cannot perform online trend reporting.
- 71% of the larger organizations and 65% of smaller ones would be interested in outsourcing their telecom usage analysis to their MNO.
- Importantly, self-service is seen as a differentiating factor when choosing a service provider. The most valued benefits in this regard were: **Flexibility** to make changes to a service at 78%, ability to **easily track** usage and spending at 75%, and **easy online access** to service management at 67%.



Key takeaways from these and other observations are:

1. Spend management emerged as a significant opportunity that operators can address and monetize now, particularly as businesses appear ready to relinquish non-core functions to partners. Operators could take the opportunity to develop and then leverage a more trusted partner relationship.
2. Self-service features address the increasing desire of enterprises for control and agility, as well as provide a potentially significant service differentiator for operators. User-driven controls of the kind pervasive in leading digital businesses are likely to become an important part of operator B2B propositions.

Other takeaways involved eliminating month-end bill shock and lessening billing disputes.

A key point from these is a digital first strategy – provide customers with the service they need online and in real-time as the main means of customer contact. This is typically through an app and is consistent with the growing demand by customers for instant service. Providing business customers with on-demand usage transparency and interactive service control is challenging, but it is what users everywhere are now demanding. Operators that wait for the rollout of 5G and associated enterprise services before they put these advanced capabilities into play will be too late to meet customer expectations. At the same time, delivering a better level of service can generate incremental revenue in the short term for operators and create more loyalty among their customers. From experiences of services like Uber, Airbnb and many others, it is now evident that customers are gaining more loyalty from their experience of interacting with an app than through a brand – such as an operator brand – in its own right. They use Uber, for example, and place their trust in it because it is easy to use, always available anywhere and provides a quick response in real-time. Although such apps have taken root in the consumer space, that expectation is now in the enterprise space as well. As the “Bring Your Own Device” trend has shown, what starts as a consumer experience will quickly become an enterprise requirement as well.

A further point is that using apps to communicate with customers dramatically reduces the cost of providing customer support. Such automated support takes direct labour out of the process, so not only streamlines and speeds up the service itself, it also significantly reduces the operational cost.

SOME CARRIERS ALREADY MOVING

To assist in overcoming the difficulties with the initial sale of 4G as a commodity, some carriers have already moved to introduce these types of digital first services. Whilst the type of carrier differs (tier 1 incumbents, tier 2 alternate operators, etc.) and the business approach differs by market (digital offering under an existing brand or new flanker or B-brand) what remains consistent is the delivery of an outstanding experience based on the four main pillars of delivering a digital first experience:

- The experience needs to be truly real-time and on-demand with no delays and no alternate path routing. The app IS the single source of commerce truth.
- The experience should be able to be personalised by the customer to their specific needs.
- The experience should always be under the control of the customer. They own it.
- The experience always needs to be transparent. No surprises, no bill shock, no degree of separation from other sources.

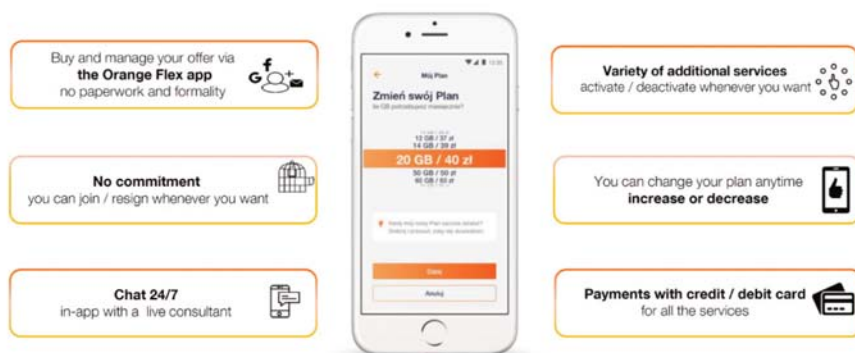
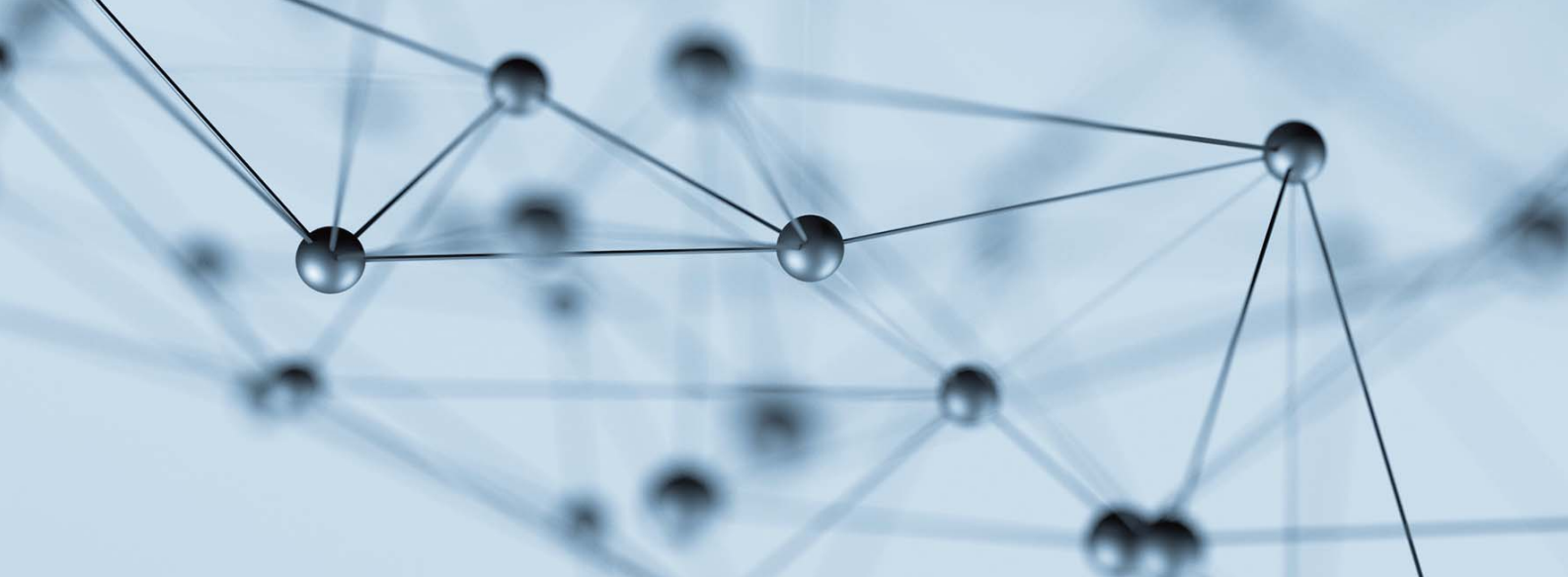


Figure 3: Orange Poland Flex Application Showing Digital Service for Customers

The Orange Flex application shown in **Figure 3** seeks to provide customers with a full digital experience, based on simplicity, transparency and full customer control.

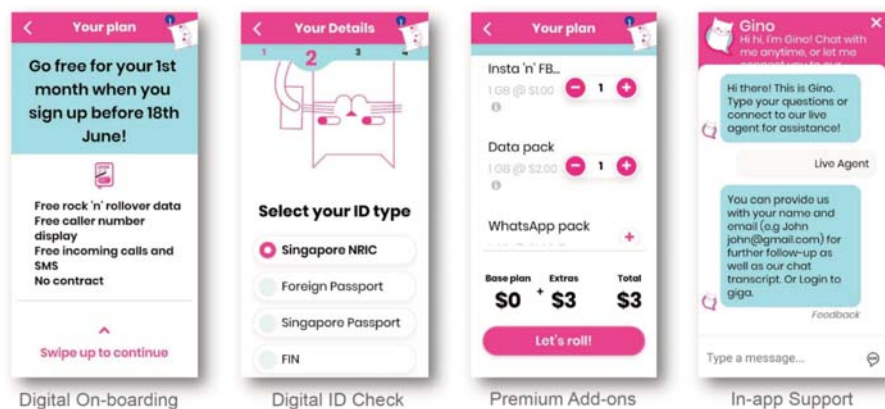


Figure 4: Live App Digital Experience with Starhub Singapore’s Giga

Figure 4 shows the digital experience for Giga, Starhub’s new digital mobile service. Starhub wanted to create a new challenger brand in the highly competitive Singapore mobile market that is continually innovating. Their proposition is based on a better, simpler and more intuitive experience.

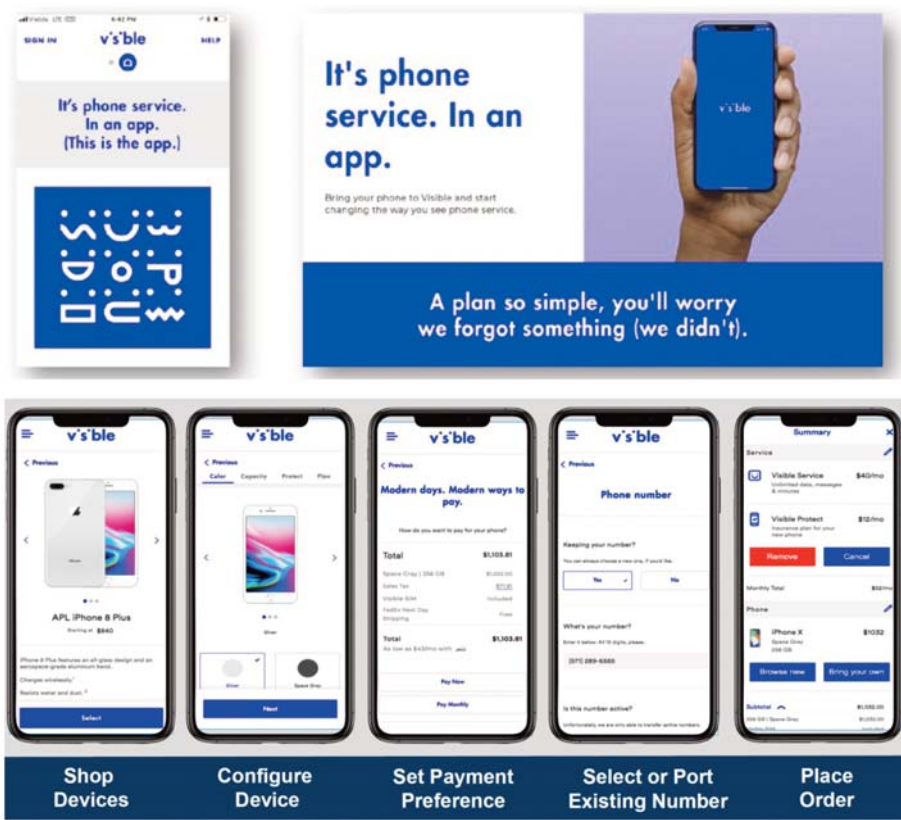


Figure 5: Visible, New Digital Brand from Verizon

Visible has been introduced by Verizon and **Figure 5** illustrates what it is – a phone service in an app – and the streamlined customer onboarding and ordering process. The proposition is based on convenience and transparency, with customers controlling their own experience.

PLATFORM FOR DIGITAL FIRST 5G MONETIZATION

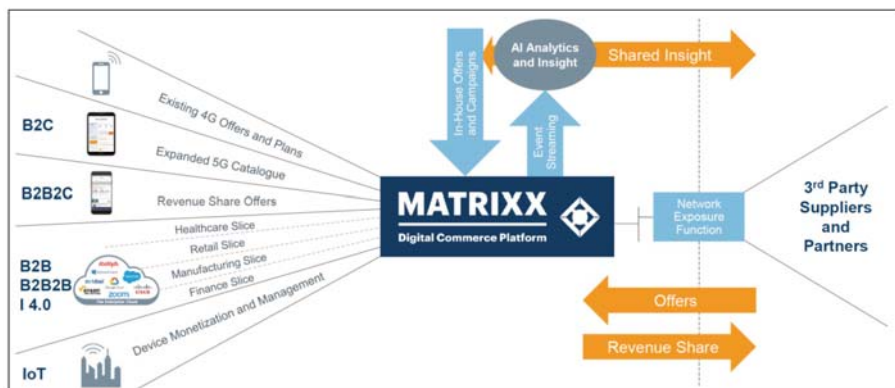
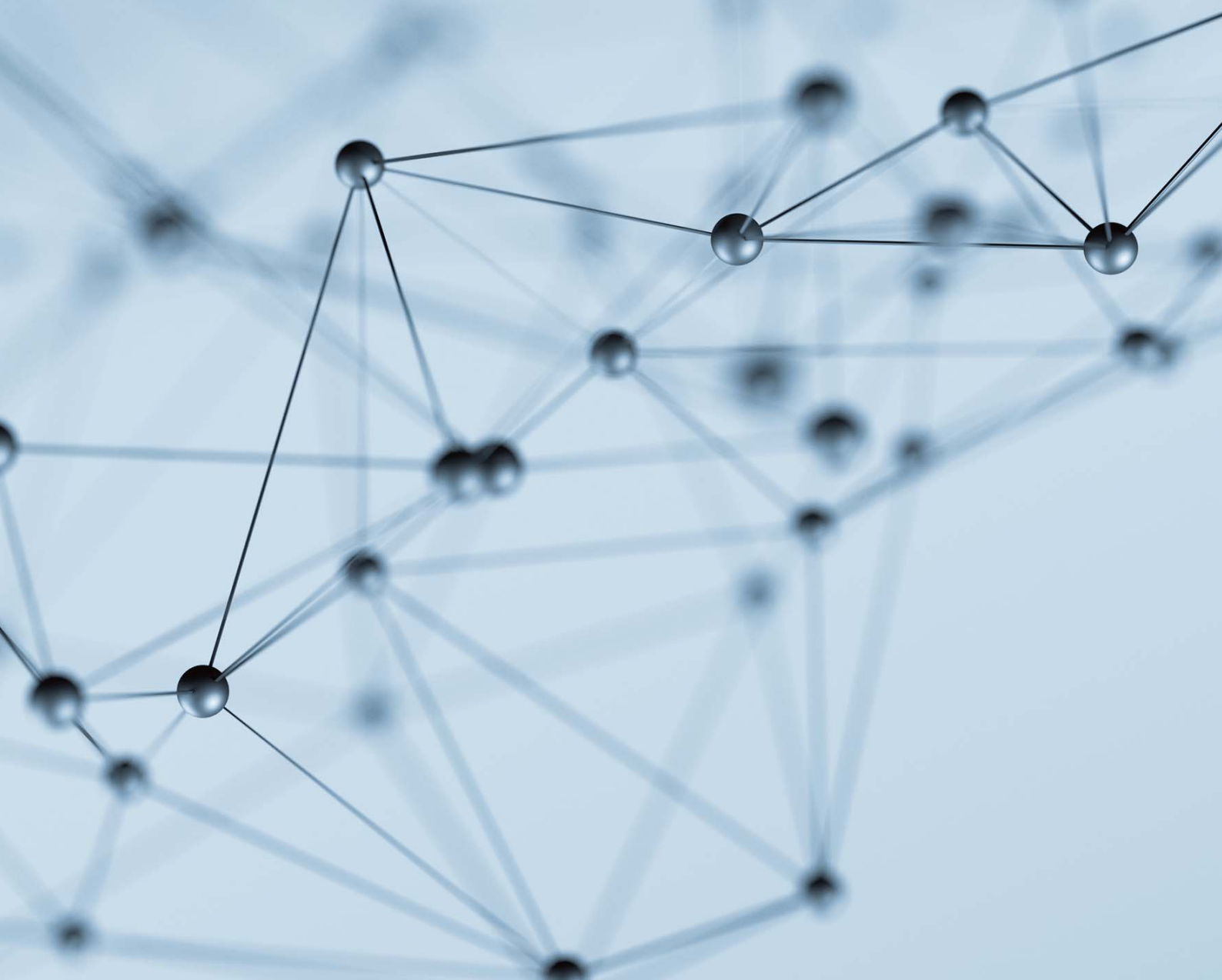


Figure 6: MATRIX Digital Commerce Platform



The MATRIXX Digital Commerce Platform was designed from scratch to sit at the heart of an extensive digital service delivery environment. Its ability to sit at the heart of that and serve all customer segments and network types acting as a single source of commerce platform is its key differentiation for 5G deployments.

It can achieve that because it does not require any fundamental re-design or development to fit into a 5G world. The development of a 5G Service Based Architecture interface is all that has been required to allow it to take on the role of a 5G Converged Charging System.

Its patented database technology delivers massively scalable transaction performance across all transaction types at ultra-low levels of latency.

It is ideally suited to handle digital service delivery in today's established 4G LTE world as well as today's growing, rich and complex 5G world, comfortably handling the transaction and latency challenges presented.

It does so in a highly cost-effective footprint resulting in a compelling overall cost to serve model. Its "click not code" product design, eliminating the tyranny of the "change request tax" and associated service delays, is the key inherent reason for that.

It is the only fully field proven, battle hardened digital commerce platform, proven in some of the most exacting network environments globally, delivering consumer, business and IoT plans alike.

More details on MATRIXX Software can be found [here](#).