

Monetising 5G: How OSS/BSS must change to enable new business models

Breakout group discussion summaries

06/05/2021

Agenda

- 1 Rating and charging**
- 2 Policy management**
- 3 Customer management**
- 4 Network operations and assurance**

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Operators will need more flexible rating and charging models to exploit value from 5G

Pain points the solution area must handle

- **Adapting models to changing business requirements**
 - Rating and charging will no longer just be about voice/data, but about different services and network usage (e.g. network slicing)
- **Making the business case and functioning at scale**
 - Operators will want to understand the business benefits when they are making investments → though there is an awareness that 5G will enable new applications, there isn't total clarity on *what* they will be
- **Developing cohesion/understanding between operators and BSS platform providers**
 - There won't be a "one size fits all" solution: technology providers need to understand operators' needs, but there also needs to be an understanding of the requirements of end customers (i.e. enterprises)
 - There should be room for both smaller and larger operators to adopt these solutions

Capabilities solution must have to handle pain points

- **More flexible charging / business models**
 - This will require business-driven, agile systems → linking network and business needs
- **Tighter link between charging and policy**
 - Rating and charging will need to reflect *how* the network is being used and account for more granular charging complexities e.g. charging customers according to QoS or latency needed (e.g. for mission-critical applications) → this ties in with policy functions

The one key takeaway / next step for the industry is...

Don't wait for 5G to start having conversations: it is important for operators and platform providers to bridge their understanding and speak the same language, creating an open channel for communication to create mutual awareness of needs/ capabilities

Communication between telcos and platform providers will be key to overcoming challenges with changing existing models

Type	Telco challenge	Mitigation
Organisational	<ul style="list-style-type: none"> Understanding <i>what</i> is necessary to implement changes at scale Deciding <i>when</i> to start exploring / investment in new rating/charging models → is it best to wait for 5G, or start now? 	<ul style="list-style-type: none"> Engage with the wider ecosystem: though operators will make upfront investments, solutions will need to be a partnership → creating the conversation with partners is often one of the biggest challenges, so operators should start engaging the wider ecosystem <i>now</i> to build an understanding of potential solution requirements with 5G
Financial	<ul style="list-style-type: none"> Proving the business case → operators need to understand what they can achieve before making investments in new solutions 	<ul style="list-style-type: none"> Communication: discussions with partners (e.g. platform providers) will enable operators to understand the potential benefits of (for example) more flexible rating/charging; speaking to end customers (i.e. enterprises) will ensure they understand their requirements and allow them to explore potential charging models that will deliver value for them
Technological	<ul style="list-style-type: none"> Dealing with legacy systems → question of whether operators should move to a separate BSS stack for 5G Ensuring systems are relevant for each enterprise customer → no “one size fits all” 	<ul style="list-style-type: none"> Don't ignore legacy: Operators shouldn't build something completely new for 5G services, but explore the best way to move over to a more modular cloud-based system Consider monetisation opportunities: could become part of API economy, and charge based on <i>how</i> you expose 5G data

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Necessary changes to policy mgmt. provides an opportunity to reevaluate 5G monetisation opportunities

Pain points/use cases the solution area must handle...

- Policy management must be able to generate complex network policies to support wireless, fixed, cable and IoT/M2M networks
- As operators roll out 5G they need to exert more sophisticated control of their network resources
- There are a range of new use cases that operators will need to be able to support, including:
 - Network optimization and security including for network slicing
 - Highly personalised service tiers including SLA measured billing
 - Flexible multi-device and user data plans
 - Streaming video and content delivery
 - API exposure and service delivery and analytics
 - Managing multiple ecosystems of third party developers and partners

Capabilities solution must have to handle pain points...

- Sophisticated and dynamic contract management capability system that can span multiple suppliers and partners
 - Ensures that appropriate parties have the control they require without impacting on the operator's own policy
- Ease of integration into other telco systems
- Very low latency between networks and charging system – complimentary systems between policy charging function reacting and applying policy on the control plane and network assurance which ultimately controls what is delivered to the customer

Likely timeframe for when this solution must change...



Next 1-2 years

The difference in 5G network interfaces means policy mgmt. will have to change to support scaled 5G deployments

The one key takeaway / next step for the industry is...

Providing platforms plus ecosystems are the way that operators will be successful with 5G – policy management is one of the key platforms.

Changing policy mgmt. systems will come with challenges that the industry must overcome

Type	Telco challenge	Mitigation
Organisational	Marketing departments are making statements about the potential use cases operators can offer but they are not working closely together with the network and policy teams on how they will actually deliver them.	<ul style="list-style-type: none"> • Ensure cross collaboration between key teams by setting up working groups on topics key to 5G monetisation • Identify “anchor / exemplar” use cases early from a marketing perspective and ensure technical teams are comfortable with enabling it
Operational	Operators know that they need to upgrade their policy mgmt. systems but they also need to continue a high quality service today – upgrading is the equivalent of an aeroplane trying to replace its engine while mid-flight.	<ul style="list-style-type: none"> • The industry must collaborate to provide operators with the option to take a best in breed approach as they replace and upgrade their systems
Financial	Operators have yet to figure out exactly how they will adopt new commercial models e.g. how will SLA measured billing actually work.	<ul style="list-style-type: none"> • Ensure that CFO teams are bought into a commitment that in order to monetise the investment in 5G infrastructure operators will need to explore and embrace different commercial models
Technological	Operators must evolve both their low latency capabilities and the extreme reliability of this low latency if they are going to be able to provide mission-critical connectivity and solutions.	<ul style="list-style-type: none"> • Ensure to develop proof points in the lab but also be aware that these latency and reliability proof points will need to be proved commercially, at scale, as well

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Telcos need to take a more active role in the transformation of their customers, enabling them to harness the 5G's value

Pain points/use cases the solution area must handle...

- **A large part of better customer engagement, in a 5G world, will be education of 5G's transformative benefits** → Currently, business across regions and sectors either see 5G as "just another G" (it's 4G but faster, so why should I pay a premium), or they hear about the "Sci-Fi" use cases and think it isn't useful for them. Telcos need to use the 5G narrative to engage more effectively with enterprises and highlight the business case and transformative value of 5G
- **A key stage on this journey will be better automation... (within the telco and the end customer)** → In order to leverage the full value of monetising 5G, operators need to drive better automation within their own businesses and that of their customers. Vendors should be pushed towards providing more plug and play automation solutions – working closely with customers to learn, iterate, and highlight to customers where they need to invest
 - Automation of BSS across customers can be hard as systems are so varied
- **... as well as a move towards more digital models** → operators need to support the use of digital to engage customers, but need to understand which use cases/services can be delivered in this model vs traditional sales

Capabilities solution must have to handle pain points...

- **Partner management capabilities are key to success** – telco have limited partner management capabilities and use cases to date. With 5G, operators will need to expose APIs and services to partners to create a stickier proposition
 - On the flip side, partner management is a bucket capability that hides changes that need to happen underneath? There's a combination of use cases to make partner management happen
- **Billing systems will need to be changed** – payment models for examples will change in a 5G/MIoT world - new devices, new subscription models
 - 5G is a horizontal model – won't just buy 5G connectivity, also comes with the VAS to bill too.

Likely timeframe for when this solution must change...



Next 3-5 years

To move to next-gen customer engagement, in a 5G world, it's not just operator readiness that's the issue (data management, automation, skills), it's also 5G capabilities (slicing, SA 5G)

The one key takeaway / next step for the industry is...

Telcos can (and need) to take a more active role in the lives of their customers – highlighting the transformative nature of 5G and the models it can enable.

Transforming the customer engagement models will come with operational and technological challenges

Type	Telco challenge	Mitigation
Operational	<ol style="list-style-type: none"> Integrating with legacy systems: <ul style="list-style-type: none"> On the customer side (especially manufacturers or for end to end services) On the internal telco side 	<ol style="list-style-type: none"> If the operator is only playing in connectivity it's going to be a meagre opportunity – the major revenues are in value creation... But then the operator has to come with partners to provide solutions and support the integration
Technological	<ol style="list-style-type: none"> 5G challenges and standards – still a few years out Update tech stack to be more agile in deployments – can't be highly customised networks for each use case 	<ol style="list-style-type: none"> Operators need to pay more for 5G innovation and better back end cataloguing for example Need to look into how IT (digital BSS) will enable value creation from OT/networks

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The scope of “OSS” is expanding and the delineation between networks and operations support is less clear

Traditional OSS

- Service orchestration
- Inventory management
- Fault detection
- Performance monitoring
- Deterministic

Orchestration

- Expansion into orchestration of network functions
- Edge computing will expand this further and include orchestration of non-network workloads (third party applications)
- 5G network slicing will bring further complexities
- Non-deterministic; model based

The changes in orchestration and OSS are due to the demands of new 5G services and the move to cloud-native

Pain points/use cases the solution area must handle...	Capabilities needed to solve these	How to measure success?
<ul style="list-style-type: none"> ■ A key characteristic for 5G applications is going to be getting data to the “right place” in a timely way – this means all supporting systems have to operate at low latency ■ NFV was initially about moving to virtual network functions (VNFs) but telcos now need to scale this automatically ■ The move to virtualised and containerised networks is raising new challenges – e.g. operating virtual RAN on different edge cloud ■ Customers have higher expectations for their service and need to know problems in real-time (not hours or days) ■ Network slicing and edge computing will require end-to-end orchestration throughout the value chain ■ Even private networks are complicated to orchestrate when there are some parts of the network (core) in a public cloud, the RAN on-site and edge applications at different locations 	<ul style="list-style-type: none"> ■ Technologies like open APIs will help enable zero touch partnerships and enable vendor interoperability ■ Cloud standards and cloud-native platforms will ensure greater scalability 	<ul style="list-style-type: none"> ■ Telcos providing new services to (enterprise) customers, e.g. network slicing ■ Telcos building their own competence to manage cloud-native networks and platforms ■ Ability to diagnose problems in real-time or, even better, in advance of the event

The one key takeaway / next step for the industry is...

OSS/BSS needs to be a priority, in tandem with discussion on network upgrades, rather than an afterthought

Telcos are not yet ready to move to cloud-native, but steps are being taken across organisations and technology

Type	Telco challenge	Mitigation
Organisational	<ol style="list-style-type: none"> 1. Significant competency gaps in cloud-native – most network engineers are used to the “old way” of operating a network 	<ol style="list-style-type: none"> 1. Need to upskill and/or outsource operations in the short term
Operational	<ol style="list-style-type: none"> 1. Telecoms operators are having to change their core processes and systems while they are operating (“like changing engines and aircraft mid-flight”) 2. Unclear where the boundaries between network operations and OSS are 	<ol style="list-style-type: none"> 1. Telcos need to reduce the complexity in their existing systems and processes before moving to cloud, APIs and automation 2. As the technologies mature, it will become clearer where the boundaries lie and how telcos can best organise and operate different elements; container orchestration may be overtaken by specialist container management platforms
Technological	<ol style="list-style-type: none"> 1. Standards and APIs are not yet mature 2. Vendor systems and solutions not being interoperable 3. With edge computing, orchestration will expand across multiple sites (e.g. 50+ enterprise branches with private 5G and edge) 	<ol style="list-style-type: none"> 1. Vendors changing their mindset and seeing the value of working together rather than creating APIs for a closed environment 2. Forums and communities help to ensure vendors are collaborating 3. Cloud-native technologies will help telcos to orchestrate in an automated, scalable way