Market Insight Report:
5G Monetization

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Market Description

The 5G monetization market consists of the platforms, technologies, and business objectives which are deployed to generate revenue from 5G networks. In this Market Insight report, we identify communications service providers (CSPs) as the primary adopters and deployers of 5G monetization solutions targeted primarily at delivering revenue generating and profitable 5G services to customers, as well as designed to onboard partners and cultivate 5G ecosystem inputs. 5G monetization solutions typically use existing CSP business support systems (BSS) aligned with new 5G-specific capabilities such as 3GPP-compliant converged charging systems and Slicing-as-a-Service (SlaaS) to apply the tools needed to expose network capabilities, enable configuration options, streamline price determination, and assure cross-domain orchestration.

Market Overview and Key Takeaways

We anticipate that the 5G monetization market is ready to deliver ecosystem-wide benefits as 5G networks expand globally and mature swiftly. In 2022, we see CSPs making progress in deploying and scaling 5G standalone (SA) networks as they transition away from non-standalone (NSA) implementations that require combining 4F/LTE network capabilities with the initial deployment of 5G technology such as 5G new radio (NR). 5G NSA requires use of dual connection mode which entails interworking 5G NR control with 4G/LTE networks in areas like core and transport.

As a result, while 5G NSA was needed to kickstart 5G implementations across existing pre-5G mobile networks, it also entailed compromises in areas such as increased network complexity, limited flexibility, and sub-optimal energy efficiency metrics. Assisting in the advancement of 5G SA networks, including 5G monetization systems. are DevOps continuous integration (CI) and continuous development (CD) frameworks aimed at accelerating software collaboration and development.

In 2022 and beyond, we see 5G monetization hitting its full stride and potential as 5G SA networks expand and deliver the network-wide and ecosystem support needed to innovate 5G services, as well as broaden and diversify revenue streams. 5G monetization is integral to CSP cost-justification of their substantial investments in 5G network build and instrumental to advancing 5G service innovation in areas such as offering more personalized, any-pay user experiences, use case networking, and disruptive XaaS models across both the consumer and business realms. We anticipate that 5G monetization success is key to driving the expansion of 5G networking, including broader ecosystem embracement of open 5G models including open 5G networks and Open RAN.

Top 5G Monetization Market Shapers

In this section, we identify the top market shapers that are driving 5G monetization solution deployments and adoption.

- **Cloud is Key.** 5G monetization solutions require digital business enablement platforms that deliver cloud-enabled agility and flexibility. This includes distributing BSS workloads across cloud environments according to CSP requirements, as well as using DevOps frameworks to deliver cloud-native 5G monetization capabilities such as 5G Converged Charging System (CCS).

- **AI/ML/Analytics = Automation.** The fast-expanding adoption of machine learning (ML), artificial intelligence (AI), and advanced analytics engines are integral to automating the intelligent collection, transfer, exchange, zero downtime, and processing of data across cloud and edge environments critical to advancing 5G monetization strategies.

- **Intent-based Operations.** Intent-based and AI/ML-powered operations provide automated processes, which can play a vital role in the onboarding, administration, and delivery of the business requirements of CSP 5G monetization objectives.

- **5G SA Network Build.** As mobile operators transition to 5G Standalone (SA) networks, they are deploying the 5G core (5GC), 5G RAN, 5G Mobile Edge Computing (MEC), and 5G transport domains key to delivering network-wide 5G monetization capabilities. For example, 5GC delivers the programmability and network slicing critical to 5G monetization fulfillment and flexibility.

Top 5G Monetization Capabilities and Selection Criterion

In this section, we identify the 5G monetization capabilities and selection criterion that we see as having the most priority across CSP and 5G network decision makers. These include:

- **Digital Business Enablement.** From our view, 5G monetization solutions must support revenue management capabilities, such as online charging systems, 5G converged charging systems, and customer billing management. They also must support customer and management capabilities, such as order management, SLA management, and order management, plus product management, so as to assure 5G monetization fulfillment.

- **Digital Customer Enablement.** In order to meet 5G monetization goals, we believe CSPs need to support digital customer enablement capabilities that include customer channel management, customer journey management, E-commerce/marketplace, and sales and marketing management functions to help capture revenue streams.

- **Network Slicing.** To help optimize 5G monetization outcomes, CSPs are committed to developing network slicing technology that creates multiple dedicated logical and virtualized networks over a common multi-domain infrastructure by orchestrating ultra-reliable low latency communications, enhanced mobile broadband, and massive IoT essential to spurring adoption of revenue-generating 5G services.

- **3GPP 5G Standards = Interworking Assurance.** Through 3GPP-backed standards such as NEF (Network Exposure Function) aimed at onboarding partners and assuring closed-loop operations, and NWDAF (Network Data Analytics Function), we see CSPs advancing their 5G monetization implementations by using standard-backed solutions that can provide interworking stability across networks and cloud environments.

5G Monetization Services and Use Cases

In this section, we identify the 5G monetization services and uses that we identify as having the most traction throughout the 5G ecosystem in the near-term (up to 12 months).

- **Near-term 5G Monetization Service Possibilities.** We see 5G services with near-term 5G monetization potential as including dedicated private networks, consumer AR/VR, public safety, and ongoing IoT build. For example, Rogers Communications emphasized these services as integral to its nationwide 5G SA network commercial rollout in Canada, following on prior demonstrations of driverless autonomous 5G shuttles, 5G drone flights, and 5G smart city use cases.

- **SaaS-based Business Communications.** CSPs are expanding their support of SaaS-based business communications platforms and services, as they increasingly target B2B and B2B2x ecosystem opportunities. 5G SA networks deliver the programmability and policy control functions needed to scale and monetize third-party developer innovations and open API interworking key to 5G monetization.

- **Expanded Targeting of Verticals.** Through 5G SA network capabilities, CSPs are expanding their targeting of key vertical industries with 5G services that are tailored specifically to their needs. We identify top 5G monetization verticals as including hybrid workforce/WFH, smart energy, outdoor extraction industries, digital factory automation, remote education, personalized retail, agriculture administration, and transportation/logistics.

- **Augmenting Customer Experience (CX).** We view 5G monetization solutions as critical to augmenting the overall 5G experience in key areas such as streamlining billing processes, advancing BSS modernization, and enabling organizations to swiftly monetize 5G services with ongoing traction such as Esports and multiplayer mobile gaming tournaments. In sum, 5G monetization is vital to overall CSP objectives to differentiate and innovate their 5G service offerings.

The Futurum 'Ring of Honor' Solution Providers: 5G Monetization Solutions

In this section, we identify what we believe are the top five 5G monetization solution providers in the market today, noting why the players are selected based on our analytical perspective, meeting the top solution selection criterion and capabilities, as well as ecosystem-wide influence in powering use cases and service adoption.

Netcracker Digital Platform. We see difference-making monetization capabilities afforded by the Netcracker Digital Platform as including support for the 3GPP-compliant 5G converged charging system (CCS), which is indispensable to providing SLA-based charging, multi-access edge computing (MEC), and SlaaS models on a standardized basis. As a result, Netcracker's 5G-ready CCS can play a vital role in equipping CSPs with the rating and discounting flexibility to charge for any service, partner, or business model in real-time and according to customer requirements. In addition, the platform unlocks new revenue opportunities with partners through its support of partner-ecosystem business models and intricate multi-partner B2B2X settlement implementations.

Ericsson Digital BSS. We expect that accelerating cloud adoption for BSS is essential for CSPs to attain and maintain profitable services. CSPs can ill-afford to lose their influence across digital value chains and their top priority investments in the 5G-IoT ecosystem. Through Ericsson Digital BSS, with its support for the full set of charging, billing, and catalog capabilities purpose-developed for digital CSPs and cloud, we anticipate that CSPs can deliver the virtualized, on-demand service delivery platform to ensure the creation of new, profitable services and sustaining innovation through collaboration with ecosystem partners and developers.

Amdocs 5G Value Plane. The Amdocs 5G Value Plane solution targets the CSP need to shift from an infrastructure to a platform mindset in attaining 5G monetization objectives. We believe the solution provides vital capabilities, such as cross-network automation, comprehensive charging & policy functions with management through unified catalog to perform the centralized intelligence across enterprise, IT, network, and cloud domains needed to power data-optimized monetization. The solution's support of Network Exposure Function (NEF) and Network Data Analytics Function (NWDAF) can also help pave the way for standardized implementation of 5G monetization platforms throughout CSP networks and the 5G ecosystem.

Nokia Monetization Systems. Nokia Monetization Systems focus on enabling CSPs to use network-as-a-service (NaaS) to drive new usage charges coupled with differentiated pricing that takes advantage of 5G network latency, bandwidth, and reliability properties, especially 5G SA networks. We see the solution's support of network slice monetization by SLA, usage, or quality parameters as enabling flexible B2B2x, open partner, enterprise, and IoT service offerings throughout 5G environments. This includes leveraging automated decision making and AI to assure dynamic pricing and cloud-native, containerized microservices to fulfill the specific 5G monetization demands of customers.

Oracle Cloud Scale Charging and Billing. Oracle's 5G monetization solution includes its cloud BSS assets such as Oracle Cloud Scale Charging and Billing, aimed at enabling CSPs to offer pricing models which can incorporate any attribute or unit coupled with 5G pricing levers across any account structure. The solution is

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developed to augment customer experience (CX) through intelligent data session charging that uses flexible quota allocation. We see the differentiation of Oracle's 5G monetization solution boosted by offering in-memory data grid technology that helps ensure accurately processes charging and full transactional consistency regardless of pricing or account model intricacy.

Related Insights from Futurum Research: Top Recent 5G Monetization Market Developments

[Rogers Communications and Ericsson Advance 5G SA Network Cause with Nationwide Rollout in Canada](#)

[MWC 2022: Netcracker Digital Platform Enlightens Path for CSP Business Growth and Innovation – New Futurum Research Report](#)

[MWC 2022: Rakuten Symphony Conducts Robin.io Acquisition and New Alliance Moves](#)

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