MARKET NOTE

5G Operational Readiness — Netcracker Digital BSS/OSS for Digital Services Management in the 5G Era

Karl Whitelock

EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: 5G Operational Readiness — Netcracker Digital BSS/OSS for Digital Services Management in the 5G Era

In 2008, Netcracker Technology became a subsidiary of NEC Corp. Since then, NEC consolidated its telecom software and services assets under Netcracker to offer digital transformation solutions globally. Netcracker supports 250 customers in over 50 countries. Netcracker software and services can unlock opportunities of the cloud, virtualization, and the changing mobile ecosystem through its operations and monetization solution suite. In June 2020, Netcracker 2020 was announced to help service providers innovate and disrupt the 5G digital economy by transforming their customer engagement, dynamically evolving their digital ecosystems, and helping them reach new levels of automation and security.

Key Takeaways

- 5G is becoming a business reality at the expense of rapidly increasing technical and service offering complexity. 5G also brings the opportunity for communications service providers (SPs) to deliver business and enterprise customers personalized connectivity services, also known as network slicing. This capability helps communications SPs use 5G to be much more than just a next generation of faster, better, and smarter digital mobility services.
- Multi-access edge computing (MEC), or just "edge" from an enterprise perspective, adds another dimension to the low-latency, high-bandwidth, and ultra-fast connectivity attributes of 5G. Working with partners such as hyperscaler cloud providers (HCPs), MEC brings compute capacity, data storage, levels of analytics, artificial intelligence (AI), and applications for meeting industry-specific needs. Together, 5G/MEC is the single most important new services strategy for business and communications SPs alike.
- As the go-to-market paradigm for 5G/MEC evolves, the service delivery and revenue management functions are heavily impacted. The distributed, real-time, and dynamic needs of 5G/MEC services makes installed systems no longer fit for purpose. A cloud-native IT design is essential for business success.
- In 2021, Netcracker launched an end-to-end, full-stack cloud-native SaaS solution called Netcracker Cloud BSS.

Source: IDC, 2021

October 2021, IDC #US48260621

IN THIS MARKET NOTE

The operations and monetization management needs of 5G service offerings and the business strategies tied to 5G/MEC technology presently go well beyond what most installed systems and business processes were designed to address. Network slicing brings new requirements to the business management and operations processes tied to real-time and dynamic responsiveness. Similarly, 5G/MEC highlights the need for partner ecosystem onboarding and revenue allocation management. Last, support for new business models, an increased emphasis on the customer experience, and a broadened charging/billing mantra tied to a flexible service offering environment make 5G the greatest disruptor of the service fulfillment, assurance, and monetization processes since automation first began decades ago.

The cloud-native Netcracker Digital BSS/OSS product suite is modular and uses a microservices architecture to satisfy the operations and customer management functions defined by hybrid 5G network operations and business-level digital transformation. This IDC Market Note reviews a portion of the Netcracker Digital BSS/OSS product suite by focusing on the billing, partner management, and business management functions of the digital lead-to-cash process.

IDC'S POINT OF VIEW

Hybrid 5G Service Management Is No Easy Task

Hybrid, multitechnology networks are the norm today and will continue to be such for the foreseeable future. NSA 5G and SA 5G, in the early stages of what are generally multiyear rollouts, lean on previous generations of mobile technology to fully meet connectivity expectations. As 5G deployment continues, business and enterprise customers then begin to capture the high-speed, low latency, and personalized connectivity benefits that 5G brings. In the months ahead, technology evolution will define new network capabilities such as multitechnology roaming and carrier-to-carrier slice handoff. In this environment, new customer experience requirements will advance, systems complexity will grow beyond today's expectations for 5G-ready operations, and the role of flexible systems will become an even stronger driving force for staying customer connected.

Delivery of network slicing — individual and personalized virtual configurations of 5G's speed, latency, and throughput capacity delivered across a shared physical infrastructure — typically starts with a few slices during initial 5G installation but then proliferates to hundreds and even thousands of slices as 5G is more widely deployed. To enhance a slice's effectiveness, communications SPs work with HCP partners, content delivery providers, and application developers to create advanced end-to-end solutions involving 5G/MEC. In this complex environment, each slice is configured, managed, assured, and billed separately along with addressing new needs tied to partner management, real-time responsiveness, and dynamic change.

Reshaping the decades-old network connectivity services strategy and systems architecture tied to static operations into a new customer experience environment where flexibility and personalization of business solutions becomes a major focal point is a dilemma most communications SPs now face. Operational aspects such as real-time charging, dynamic service change, interactive partner management, and continuous end-to-end service monitoring are essential for meeting customer expectations. An operational uplift is needed for the service provisioning and orchestration functions, service and product catalog, end-to-end service assurance, partner management, rating and charging, billing, and the customer notification functions.

Automation Is So Strategic in the 5G Era

Network latency thresholds for a factory assembly line, a remote telemedicine procedure, or autonomous vehicle operations have different operational needs and timing requirements for when the major 5G building blocks of latency, bandwidth, and ultrafast connectivity must collectively work to satisfy customer expectations. Other use case examples include multiparty live video, virtual reality, gaming, augmented reality, industrial automation, surveillance/detection, connected events, connected agriculture, nonsurgical "connected health" procedures, and connected transportation.

In these and thousands of other examples, service complexity is the norm and real-time attention to service operations is the need. The fulfillment, assurance, and monetization processes require a dynamic capability that needs real-time updates when usage conditions change. With each change, how will configuration and monetization flows be validated? How will end-to-end service operability be measured against SLA definitions? How will the E2E flow of revenue, now in real time, be accounted for? How will virtual network function usage be ensured? How will detailed billing for partner contributions be prepared and validated?

Although the list of operations and monetization questions continues to mount, some of the business management requirements that 5G operational readiness now brings to light include:

- **Impact on product management.** Enable real-time creation of offerings that can take advantage of any 5G network parameter. Deliver multifaceted product bundles across industry verticals and the digital value chain. Provide extensive configuration capabilities and a user-friendly interface for nontechnical users. Facilitate open application programming interfaces (APIs) to synchronize with external partner catalogs. Empower an app store–like customer experience by offering dynamic service offering quotes and pricing.
- **Impact on customer management.** Enable customer profile updates by user definition in real time. Offer a simplified point-and-click digital onboarding process that includes a digital identity management function. Order or deactivate network slices on demand. Provide the ability to offer dynamic personalized loyalty programs. Define any engagement scenario via a completely digital omnichannel process.
- **Impact on partner management.** Enable quick onboarding of any partner type, including over the top, Internet of Things (IoT), and HCPs. Support various B2B2X partner models pertaining to resellers, distributors, wholesale suppliers, and sponsorship partners. Offer dynamically changing multipartner revenue sharing models. Deliver advanced self-service capabilities, management reporting, and control.
- **Impact on revenue management.** Support slice-based and cross-slice charging scenarios. Facilitate on-demand scaling to satisfy growth needs in terms of subscriptions or devices. Deliver real-time convergent charging (4G/5G) capabilities based on any combination of pricing and charging variables including:
  - **Network slicing information:** Latency, throughput, reliability, mobility, geography, security, analytics, cost profile, or coverage
  - **Device type:** Consumer device model, telemetry device, or vehicle
  - **Partner ecosystem:** Revenue share, license packages, minimal commitment levels, or contract guarantees
  - **Session parameters:** Volume, location, coverage area, usage time, app usage, number of devices, load, edge resources, network resources such as network as a service (NaaS), thresholds, or input/output cycles

Netcracker Digital BSS/OSS

The Netcracker Digital BSS/OSS product suite helps communications SPs move from connectivity service providers to 5G-enabled digital solution enablers (see Figure 2). The 5G-supported Digital BSS/OSS product suite is designed to facilitate the operations and monetization capabilities needed to drive 5G offerings tailored to enterprise customers, consumers, and partners using a variety of B2B2X business models. The Digital BSS/OSS product suite is also designed to address the needs of digital partner ecosystems and to deliver end-to-end service automation across hybrid and cloud services.

FIGURE 2

Netcracker Digital BSS/OSS for the 5G Digital Era

Source: Netcracker, 2021

The major functional components of the Netcracker Digital BSS/OSS product portfolio are:

- **Customer Engagement.** The Customer Engagement module is designed to provide a personalized, relevant, and consistent customer experience across all channels. The key functions include customer journey management, channel management, and marketing management.
- **Digital BSS.** The Digital BSS module automates business processes supporting the customer life cycle from discovery, shopping, ordering, and billing to payments and maintenance. It also addresses traditional, next-generation, and value-added B2B2X services. The key functions addressed by Digital BSS include customer management, sales management, partner management, product management, and revenue management.

- **Digital OSS.** The Digital OSS module enables end-to-end service and resource management by providing orchestration for traditional and digital services including SDN/NFV, cloud, IoT, and 5G. It automates operations across complex hybrid environments. The key functions addressed by Digital OSS include service management and orchestration, hybrid resource management, SDN/NFV management and orchestration, and infrastructure management.
- **Integration and API Management.** The Integration and API Management module helps to remove complexity from disparate data types, interfaces, and business requirements. This module offers compliance with industry standards including TM Forum, MEF, ETSI, and 3GPP.
- **Advanced Analytics.** The Advanced Analytics module is a unified data intelligence platform designed to proactively target dedicated business processes, solutions, or services to make smart decisions. This module consists of analytics domains and an analytics platform.
- **Cloud Platform.** The Netcracker Cloud Platform provides container and application management for availability, scalability, performance, and optimal resource consumption. The platform offers a configurable user interface (UI) for monitoring and reporting with flexible administrative tools. A DevOps toolset facilitates automated development and deployment.
- **Professional Services**. With most digital service implementations, especially involving 5G, professional services versed in both the solution capabilities and industry best practices are a key asset for minimized time to market for the cloud-based solution.

The Netcracker Digital OSS/BSS portfolio is designed to address both the operations and monetization needs of 5G/MEC using a containerized microservices architecture. Netcracker is just one of a few key suppliers able to address all the operations and monetization needs of the communications industry using a single platform, which is also backed by multiple solution implementations in all global regions.

LEARN MORE

Related Research

- *Market Analysis Perspective: Worldwide Communications Service Provider Operations and Monetization, 2021* (IDC #US48228721, September 2021)
- *Microsoft and AT&T Cloud Native Networking is a Significant Step Forward, but Do Not Forget 5G Operational Readiness at Scale*, (IDC #US48076421, July 2021)
- *Worldwide Communications Service Provider Operations and Monetization Solution Forecast, 2021-2025* (IDC #US47726421, June 2021)

Synopsis

This IDC Market Note provides our perspective on Netcracker's 5G operations strategy. Netcracker offers two solution delivery options, the Netcracker Digital BSS/OSS product suite to satisfy all operations and monetization requirements via a full-stack cloud-native architecture and the Netcracker Cloud BSS SaaS solution for organizations that want a faster approach to the market.

"With the continued push to satisfy new business models and customer expectations, supporting 5G services takes an integrated operations and monetization strategy. A few organizations offer these capabilities as a full cloud-native stack. Dynamic and real time are two aspects of 5G that existing systems and processes cannot effectively address, which is why full cloud-native operations and monetization solutions, such as those provided by Netcracker, make good business sense," says Karl Whitelock, research vice president, Communications Service Provider Operations and Monetization at IDC.

About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

Global Headquarters

140 Kendrick Street
Building B
Needham, MA 02494
USA
508.872.8200
Twitter: @IDC
blogs.idc.com
www.idc.com