



Netcracker 2020: Enabling Service Providers to Build Digital Ecosystems and Disrupt with 5G

Networks & Service Platforms

Report Snapshot

Netcracker 2020 portfolio of products and services

- Lowers TCO across lines of business, as well as legacy and 5G, with automation/predictive/visibility/single platform and flexible deployment options (multi-cloud and hybrid)
- Supports innovation for revenue growth with lower risk, faster time to market as well as scalability of services in 5G including slicing and MEC, with strong support for efficient and innovative ways to work with an expanded partner ecosystem in a digital marketplace
- Enhances security and privacy and network performance
- Improves profitability of network slicing with pre-standards functionality



Service Providers

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Netcracker 2020: Delivering CSPs the Foundation for Transformation, Automation and Differentiation

Netcracker has redesigned and enhanced its customer experience, OSS and BSS software portfolio and platform to be compliant with both hyperscaler and carrier cloud-native container-based environments. Netcracker has now established multiple relationships with global cloud hyperscalers, including AWS, Google Cloud Platform and Microsoft Azure to enable flexible deployment options for communications service providers (CSPs), enterprise networks, value-added resellers and managed services.

What stands out about Netcracker 2020 is its roadmap of rich functionality for the evolving 5G and converged network era as well as superior integrated security and automation capabilities. Netcracker aims to enable CSPs to enhance their value for customers with orchestration and service enablement and to differentiate their services through an extended partner ecosystem. The enhancements in Netcracker 2020 should enable CSPs to play a larger role in the 5G revenue ecosystem through support for new digital partners complemented by the agility to launch new services and enhance value propositions for end customers.

In addition, Netcracker has built on its work with Rakuten Mobile to develop leading-edge, AI-driven customer loyalty capabilities that span across partners and industries and offer 'gamification' and digital persona support. These enhancements encourage customers to engage with the CSP platform much more frequently, enabling CSPs to offer more relevant partner-enabled services and deliver a new level of personalization.

Netcracker has also introduced a lighter, low-code approach with Netcracker 2020, enabling its customers to develop their own features or engage in joint development. This is an important new direction many CSPs want to undertake to adapt faster to their business needs and do this in a joint partnership approach with their vendors.

Netcracker 2020 has placed a big focus on intelligent automation that spans its entire portfolio. With the aim to lower total cost of ownership (TCO) and accelerate time to market (TTM) and innovation, it uses a domain orchestration strategy, based on business intent and standardized service models, to fully automate operations within and across domains that can be virtual, physical and cloud native. An example of this is the Netcracker Network Domain Orchestration solution, which has just been nominated as a finalist for the [Leading Lights 2020 Most Innovative Telco Cloud Product Strategy](#) award. Netcracker 2020 has also increased its support for automation across a multi-vendor environment with multi-cloud and DevOps support. Netcracker's [MEF 2019 awards](#) indicate its leadership in multi-vendor service orchestration and its strong suite of solutions across a common platform. In the associated PoC for "[Orchestrated Virtualized Multivendor SD-WAN Services](#)," with NTT Communications and multiple vendors, Netcracker demonstrated how to simplify the use of multiple SD-WAN and value-added service vendors using automated operations and a new digital user experience.

Partnership Ecosystem Support for CSP Value Creation in the 5G Era

For CSPs to survive and grow, they need to offer value propositions that create real value for their customers—both in terms of new types of services and in the control of differentiated quality of service and customer experience.



To deliver on the promise of 5G with differentiated value propositions for a wide range of end customers, CSPs require a robust ecosystem of partners that can help drive service innovation. Capabilities like those Netcracker has assembled and packaged as part of the extensive Netcracker 2020 portfolio allow CSPs to position themselves to attract, rapidly onboard and manage partners as they capture additional value through new B2B2X offerings.

Netcracker 2020 includes new capabilities for Customer Experience and Partner Management that should enable CSPs to play a larger role in monetizing and marketing new functionality in the 5G service value chain. Of particular note are the capabilities for digital self-management, digital omnichannel and customer lifecycle management with automated lead-to-cash for B2B and B2C services.

Although the previous Netcracker 12 offering had many of the same building blocks, Netcracker 2020 enhances that functionality for digital-first, partnership-centric expanded service offerings and new types of complex partner arrangements for B2B2X, cross-partner loyalty programs and personalized customer journeys and digital persona support as 5G supports increasingly converged service offerings.

A 5G Business Enabler: Netcracker Digital Partner Enablement for Ease of Doing Business and Ability to Disrupt

In Netcracker 2020, the company brings in enhanced Partner Management capabilities and couples this with its Digital Marketplace to host a rich ecosystem of pre-integrated digital partners.

Netcracker 2020 Digital Partner Ecosystem Enablement



Source: Netcracker

CSPs are now able to easily manage partners and add value to them with a strong set of self-management tools including self-onboarding, an end-to-end view of services and finances, subscriber management, problem solving as well as analytics, security options and built-in loyalty programs all accessible through a single, intuitive partner portal. Netcracker's Digital Marketplace brings all digital services together and includes a unified product catalog, quote configuration models, support for eSIM-enabled services as well as payment in digital currencies. Partners can leverage a Netcracker 'loyalty engine' that works across diverse service types and supports value share among partners, and even introduces a gamification platform for new, engaging approaches to assure customer loyalty.



5G Slicing

Netcracker 2020 Supports and Supplements Lagging Standards

In 2019, Netcracker launched 5G **Network Slice resource model** (3GPP 28.541) and **5G Network Slice service model** (GSMA NG.116) as well as prototyping 5G Slicing Management System (including CSMF and NSMF), a [Generic Slice Templates \(as described in GSMA NG. 116](#) (GST)) catalog with a Design Studio extension for GST modelling and 5G domain Network Resource Models. Netcracker uses the GST NEST 2.0 template as a formalized service i.e. slice specification – with intent parameters that can be used to intelligently translate the required ‘intent’ into a low-level resource payload request for physical slice provisioning. Netcracker’s implementation is aligned with 3GPP 28.541. The intelligence to fulfil the policy and ‘intent’ leverages Netcracker’s proven Service Orchestration and extensive business and network policy rules so that a lot of external environment-specific factors are automatically taken into account.

Netcracker further enhances the economics of 3GPP network slicing by allowing ‘slice requests’ that do not have strict isolation requirements or stringent QoS limits to determine which service and network functions can be shared depending on network utilization, policies and other factors.

Once the slice or its subnet is created, Netcracker’s End-to-End (E2E) Converged Service-Resource model – which consists of more than 15,000 resource modules and Netcracker’s library of best practices – provides precise traceability from the service intent layer to an individual resource.

Netcracker’s slice management software is therefore able to implement program policies to allow sharing of more than one ‘slice’ over any network resource.

Netcracker Use of 5G Service Based Management Architecture (SBMA)

Netcracker 2020 has been designed to align with the 3GPP SBMA architecture. The Operational layer (Service Orchestration and supporting areas, Resource Inventory, forthcoming closed-loop mechanisms, etc.) applications are fully aware of the 3GPP Network Resources Model (NRM) and the Service, and Slicing models are aligned with 3GPP 28.5x specifications. Netcracker Service Orchestration utilizes the Communication Service Management Function (CSMF) and Network Slice Management Function (NSMF) functionalities to communicate with either Network Slice Subnet Management Functions (NSSMFs) or directly with Element Manager (EM)/Network Function Management Function (NFMF) depending on the vendor implementation.

With Netcracker 2020, Netcracker has improved feasibility and capacity checking, added reference service specifications for new 5G service slice types (FWA, FWA+BoD) and has been doing research to improve AI/ML algorithms for network slicing as well as enhancing scenarios for integration with NSSMFs. Netcracker is also working to prototype or trial multi-vendor NSMF (with further alignment with 3GPP), predictive AI/ML algorithms for slice capacity utilization and optimization and closed-loop configurations for multi-domain slices.

All of these capabilities will dramatically enhance the CSP business case for Network Slicing.



Unfortunately 3GPP has postponed – to Release 17 and beyond – formal specification of many of the more dynamic slicing and management capabilities that are needed to make network slicing truly profitable. As a result, like several other vendors that are trying to meet real market demands for network slicing in 2020/21 from CSPs and their enterprise customers, the functionalities of Netcracker 2020 applications described already stretch beyond the formal boundaries so far described in 3GPP.

Addressing CSP Pain Points

With its portfolio of products and solutions, Netcracker is aligning itself with the needs and pain points of CSPs and their customers and ecosystem partners. As networks become more software centric and intelligent, that software is being disaggregated as microservices that facilitate instant customization and even service differentiation. Netcracker supports the accelerating digital transformation of networks, business processes and customer engagement as its CSP customers move forward in their transformation journeys.

Importantly, Netcracker 2020 provides CSPs with an ability to differentiate their services and network performance, increase value for customers and partners, and evolve services, network and business models across 5G network slicing, Multi-access Edge Compute (MEC) and converged fixed-mobile networks.

CSPs are beginning to require cloud-native platforms e.g. Kubernetes and decomposed microservices software, multi-vendor support, DevOps process tools and Continuous Integration/Continuous Delivery (CI/CD) models, but they also need to support their legacy systems and manage the hybrid transformation. Digital transformation is most often a series of iterative transitions in processes, architecture and solutions – each with new supporting skillsets. Netcracker has developed the skills to support cost-effective system integration.

What Stands Out to Strategy Analytics as Important Benefits of Netcracker 2020

Several critical benefits are delivered by Netcracker 2020. It:

- Lowers TCO across lines of business, as well as legacy and 5G, with automation/predictive/visibility/single platform and flexible deployment options (multi-cloud and hybrid)
- Supports innovation for revenue growth with lower risk, faster time to market as well as scalability of services in 5G, including slicing and MEC, with strong support for efficient and innovative ways to work with an expanded partner ecosystem in a digital marketplace
- Enhances security and privacy and network performance
- Improves profitability of network slicing with pre-standards functionality.

With the introduction of Netcracker 2020, Netcracker has completed a powerful portfolio of services and tools to take on the role of SI, co-development partner or managed services provider to CSPs of any size looking to enhance customer experience and automate OSS and BSS across fixed and mobile networks, consumer and enterprise business areas.



In summary, Netcracker 2020 provides essential components for the new 5G landscape, including access-agnostic future of connectivity and:

- Delivers a full portfolio of 5G service enablement requirements
- Provides industry-leading security, partnership ecosystem and customer loyalty support
- Delivers a strong story on its roadmap, in conjunction with standards development organizations (SDOs).



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