



# The New DSP:

## Building a Successful 5G Business

Exclusively for



**Netcracker**

An NEC Company



## Adapting to a New World

As operators approach their second decade of digital transformation, it's more apparent than ever that this is a journey and not a destination. Every year, there are new options and optimizations that affect the journey, and right now the focus is very much on 5G and adapting to a post COVID-19 world. Operators are adjusting strategies to incorporate these changes while continuing to move forward with efforts to transform business, technology and operations functions.

5G will bring many new opportunities as businesses deploy thousands of connected devices and engage with customers in a more digital way while accommodating remote workers and autonomous operations.

With these opportunities comes the need for improved customer-facing processes, network and service agility, bigger partner ecosystems and, above all, security.

And with new revenue opportunities come new competitors vying for both consumer and business customers.

### About the Study

The ICT Intuition global survey of operators includes 100 Tier 0, 1 and 2 operators evenly distributed globally across North America, CALA, EMEA and APAC. Targeted operators include Verizon, Bharti Airtel, Rogers, Telenor, Telus, Softbank and Oi. Executives responding include Officers, Directors, Unit Heads and Senior Managers.

For our previous survey in 2017, operators were asked about current progress and where they planned to be in 12 months, two years and beyond to further gauge progress as they transform their businesses, services and technologies to become true Digital Service Providers (DSPs). This survey was designed to gauge progress against previous benchmarks as well as the accuracy of those predictions.



## Digital Channels Are in Place, but It's Still All About Care

**77%**



rate improving/  
optimizing customer  
experience as the top  
business goal

Source: ICT Intuition

Improving and optimizing customer experience ranks at the top of every operator's business goals in the survey. Steady progress is being made in implementing new digital channels, especially related to the care side of the business.

And as recent global health events push customers and businesses toward digital channels for living, working and studying, understanding and improving the customer experience becomes even more critical. Many working, shopping, lifestyle and dining transactions that were suddenly shifted to digital channels will likely stay there going forward. Tele-health and remote work are here to stay and require operators to fortify the performance, reliability and security of digital channels to optimize the experience for both residential and business customers.

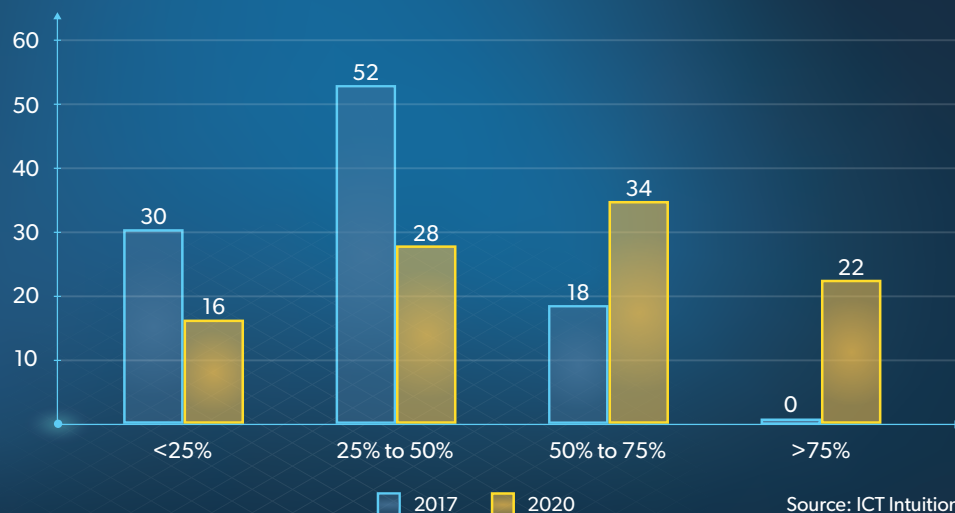
### Spending Prioritizes Digital Channels

In the previous study, operators were asked what portion of customer care transactions (e.g. orders, help, support) is being conducted using digital channels. In 2017, less than 20% of operators surveyed were handling half of all customer transactions via digital channels. In 2020, that figure is 56%, and 22% are handling nearly all customer care transactions via digital channels.

Customer experience remains a top five spending priority for 69% of operators; however, that spending remains focused on customer care rather than delivering new services, creating unique offers or implementing loyalty programs.

The disconnect comes when the business units responsible for customer care are not the same ones tasked with other customer-facing functions. Priorities shift to improving tactical responsibilities rather than the foundational changes required to achieve transformation.

What portion of  
customer care  
transactions are  
being conducted  
using digital  
channels?



## 5G and Digital Services Shift Focus to Partner Ecosystems

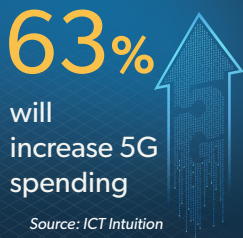
Even before the COVID-19 pandemic, growth in digital service offerings and utilization was accelerating. Significant growth in IoT, cloud services and IaaS/PaaS has occurred since the 2017 survey, and operators are moving quickly to offer these new digital services.

SD-WAN wasn't even an option in 2017, and now nearly 70% of operators deliver those services according to the survey. The recent explosion in demand for services in remote education, tele-health and digital events will combine with the millions of additional IoT device-worker connections to fuel the move to 5G and the unique support requirements that go with it.

Current events and evolving technologies have created an ideal opportunity for operators to deliver not only 5G connectivity, but also a wide variety of new services and business models that were difficult if not impossible to deliver just a few years ago.

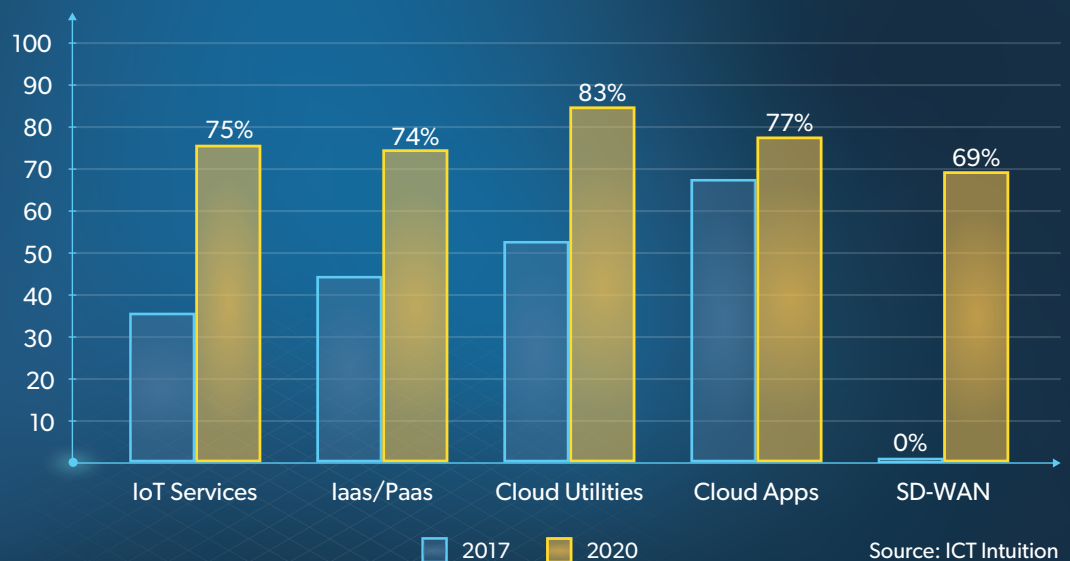
Yet for all the hype and anticipation, 5G is taking longer than expected to evolve. There is more complexity and that equates to more challenges, but demand from business customers is soaring as industries adjust operating models and accelerate their own digital transformations. Operators are responding with more deployments and budget priority.

The solution for many operators is wider use of partners, and with that comes a need for dynamic partner management and partner settlement solutions as the number and type of partner will continually change.



**63%**  
will  
increase 5G  
spending  
Source: ICT Intuition

Which digital  
services do you  
currently offer  
your customers?





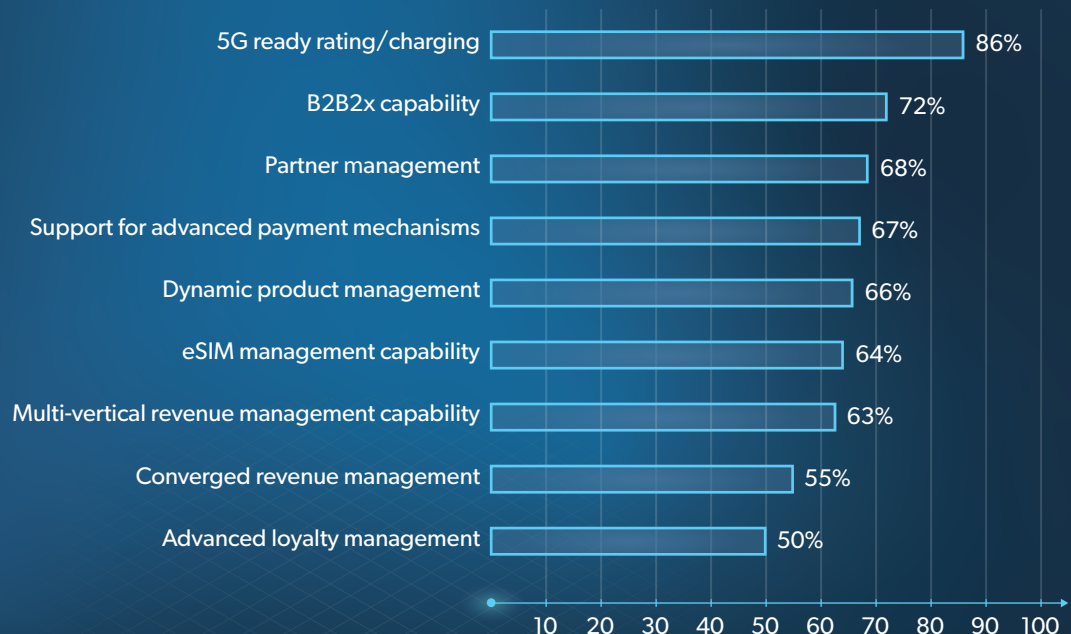
## Partner Ecosystems Are Complex

As 5G opens up the possibilities for new services, operators know they need a large and efficient partner ecosystem to further grow their business and monetize that investment. Beyond technology partners, service providers will need to work with digital service partners, content providers and even other operators.

Managing a wide variety and high number of partners requires a broad new approach that existing systems were never intended to deliver. Building a partner ecosystem requires both intelligence and automation to rapidly and accurately evaluate, certify, on-board, off-board and settle with partners.

Regardless of approach, more investment is needed to implement a solid end-to-end partner platform. While most operators agree that BSS functions are in need of further investment, only 26% named BSS as a spending priority. However, that figure does not include OSS/BSS budgeting allocated to business units outside of IT, which is becoming much more common.

What aspects  
of BSS/revenue  
management  
require further  
investment  
to meet  
transformation  
objectives?



Source: ICT Intuition

## Public Cloud Acceptance Is Growing as Multicloud Becomes a Necessity

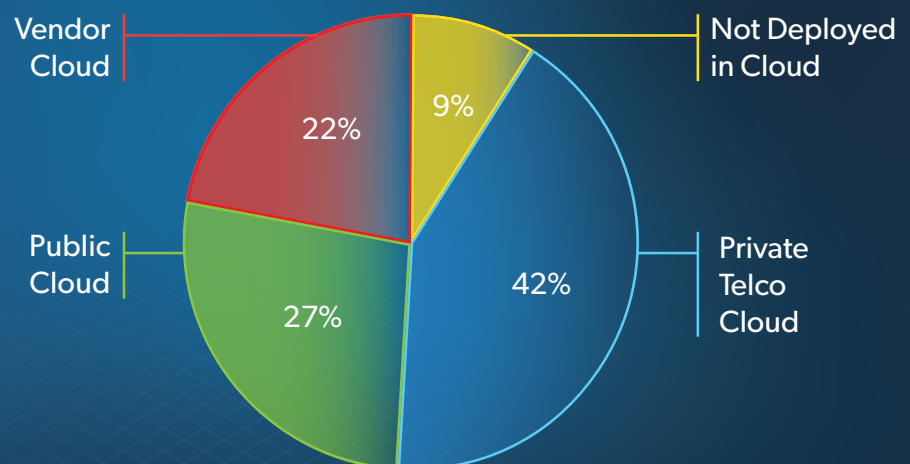
In our previous survey, 75% of operators predicted they would have cloud OSS/BSS deployments in two years and 93% within three years, and that prediction has been realized. Over 90% have deployed at least part of their OSS/BSS functionality to some type of cloud platform. While most favor a private telco cloud, there are numerous functions that are now being moved out of private data centers into public and even vendor cloud platforms.

In this survey, North America is moving fastest to the public cloud while operators in EMEA continue to favor a private cloud for most OSS/BSS functions. The exception is APAC, which eschews cloud OSS/BSS deployment in general with more than 30% responding “Not Deployed in Cloud” compared to less than 10% across other regions.

BSS is a popular starting point for moving to the public cloud given that many BSS initiatives are replacements rather than extensions of existing systems. And public cloud is thought to be generally less expensive than private cloud as operators only pay for what they need, can scale on demand and avoid the upfront expense and ongoing operations of their own telco cloud.

The most popular BSS application in the public cloud is CRM with 36% of deployments. Product catalog as well as billing and revenue management are also growing with 28% and 18% respectively that are public cloud based. Operators are looking to follow next with OSS/Orchestration.

Which cloud platforms are being used or partially used for OSS/BSS?  
(average of responses across primary OSS/BSS functions)



Source: ICT Intuition



## 5G and Edge Cloud Will Further Drive Multicloud

New 5G services, especially those that require an edge cloud for latency or performance requirements, will further drive public and vendor cloud deployments. Operators will need fast access to cloud resources in many locations and will need to form partnerships with specialist cloud platform players to achieve their service goals.

As long as these multi-cloud deployment strategies deliver the right performance at the right price, we expect operators will continue to migrate some OSS/BSS functionality away from private telco clouds.

**77%**

rank security  
as the top  
operational  
challenge

Source: ICT Intuition

## Security Becomes a Bigger Challenge

With increasing virtual workloads, massive numbers of IoT devices and distribution of services and OSS/BSS to multiple public and private cloud platforms, security and privacy remain top concerns.

In addition to the challenge of integrating partner elements and service offerings, operators must ensure that strict levels of control and monitoring are maintained to protect sensitive data and infrastructure while repelling cyber-attacks and intrusions. Vendor solutions will require similarly strong security frameworks that are part of the products and solutions being delivered to operators.



## More Automation = More Analytics and AI/ML

When discussing business strategy, 70% of operators insist that a high degree of operations automation is a key element to delivering on digital transformation. Not coincidentally, that same percentage indicate that reducing operations expense is a goal of their digital strategy.

Every operator is managing a hybrid of fixed, wireless and virtual resources. And those virtual resources are becoming cloud native. Add a multi-cloud environment, extensive partner management, product development and customer experience management, and automation becomes a necessity.

From security to interoperability and orchestration, operators need sophisticated automation to ensure carrier-class reliability, scalability and performance. The problem is that so much attention is being paid to network expansion and virtualization that OSS/BSS often becomes an afterthought. So much so that 73% of operators say existing OSS/BSS cannot manage complexity, and 61% don't think the technology is even ready.

There are pockets of automation gaining momentum such as operational process automation. Nearly one-third have automation deployed across the business, while 39% have implemented automation within specific business units and nearly half will be spending more on automation than in the previous 12 months.

Yet automation of existing workflows isn't enough. Orchestration/OSS systems need to move away from deterministic workflows to declarative, intent-based orchestration based on standard service models and descriptors.

As a result, a majority of operators will be spending more on analytics, artificial intelligence and machine learning than last year with an emphasis on operational and customer analytics/AI/ML. Progress has been slower in this area as a result of poor data quality and a lack of data science skills. As intelligence is built into systems rather than acting as a stand-alone function, utilization and results will improve. Many vendor solutions are adding intelligent automation to their solutions, and operators are seeing success.

**Rank the operational challenges to successful digital transformation (ranked extremely or quite challenging)**



Source: ICT Intuition



## Conclusion

In the decade or so since operators started transforming to become digital enterprises and digital service providers, they are finally making real progress. Technology has caught up, complexity is slowly being reduced with standards for APIs, automation and XaaS offerings, cloud is becoming more reliable, and customers are becoming more digital. Execution is accelerating in all regions with the majority of operators feeling like they are at least halfway there.

As network, service creation and customer experience efforts take priority, security, staffing and interoperability remain barriers to successful transformation.

The outbreak of COVID-19 and, more importantly, the response to the pandemic by governments, businesses and service providers, have shown that rigid manual operating models, over-provisioning of fixed networks and an inability to rapidly deploy capacity can adversely affect customers.

This suggests a new and important window of opportunity to accelerate digital transformation in operator enterprises and for their business customers. Expanding cloud-based networks and services, automation and built-in intelligence are needed to support a new normal that includes remote work, education and healthcare.

And while the scale of these networks is daunting, the processes to operate them don't have to be. Many of today's network operations processes are needed to work around existing systems and processes. Add-ons and exceptions are so common that the original process has been entirely obliterated to achieve the same outcomes. Operators can replace outdated systems with well thought-out processes, solid executable transition plans and partners.

Foundational business and operational strategies must be reiterated and fortified so that "make do" doesn't become "makeover". Flexible architectures allow room for new technology and techniques, rather than creating additional silos. There is an opportunity to define differentiating, optimized, automated processes, and there are systems that can implement those processes.

Digital transformation has been going on for a decade and will continue for the foreseeable future, and in between operators need to keep the network running, keep customers happy and monetize operations. Change on a global scale is difficult, but as we've seen with the response to COVID-19, not impossible.



# Netcracker Digital BSS/OSS: Making CSPs Central to Their Customers' Digital Experience in the 5G Era

With the rollout of 5G networks, increased power at the edge and partner-enabled ecosystems bringing new services to market, CSPs need modernized BSS/OSS that meets the new network, IT and business demands that these services create.

Netcracker Digital BSS/OSS is a modernized and digital portfolio of products and services that has been redesigned and enhanced for the 5G era.

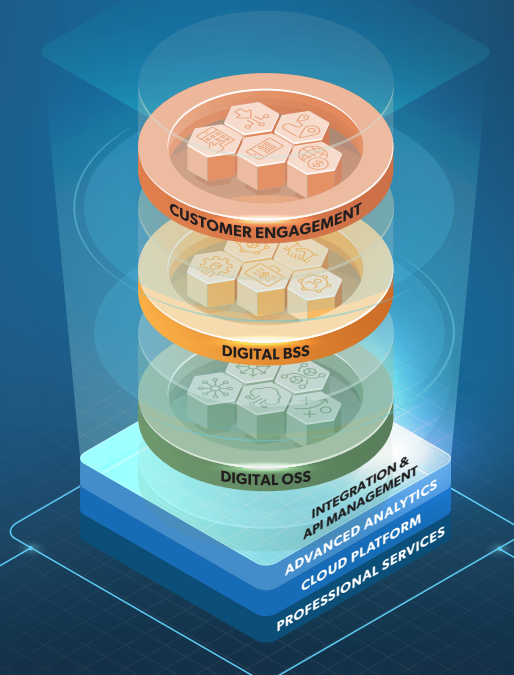
It includes Customer Engagement, Digital BSS and Digital OSS layers, each of which contains a broad range of enabling functional areas. Complementing the horizontal layers are Cloud Platform Management and Advanced Analytics. The entire product suite runs on the Netcracker Cloud Platform, allowing CSPs to benefit from the cloud scale, performance and efficiency of flexible delivery models.

Netcracker Digital BSS/OSS is fully open, standards-compliant and cloud-native. It allows CSPs to develop their own enhancements or co-develop functions through a low code platform and blueprint delivery approach. Central to Netcracker Digital BSS/OSS is an industry-leading security framework with the highest level of proven system-wide security and privacy, providing critical protection in an era of increased cyberattacks, intrusion and disruption.

## Netcracker Digital BSS/OSS for the 5G Digital Era

### MODERN SOFTWARE

- ✓ Built for cloud
- ✓ Simplified and lightweight
- ✓ Dynamically adaptable to business needs
- ✓ Sets security benchmark
- ✓ Open and standards based



### CUTTING EDGE

- ✓ 5G, edge cloud
- ✓ Digital ecosystem enablement
- ✓ Advanced customer experience
- ✓ Hyper automation
- ✓ Modernized delivery

Source: Netcracker



Netcracker Digital BSS/OSS helps CSPs become central to customer lifestyle needs by:

**Radically transforming customer engagement:** CSPs can anticipate customer needs with AI-driven contextual interactions to go beyond problem solving and deliver relevant new services that combine their services, partner services and rich 5G experiences. Personalized offerings can be dynamically created and delivered with a groundbreaking gaming-style user experience and cross-partner loyalty schemes.




**Rapidly achieving monetization with dynamic partner ecosystems:** Netcracker Digital BSS/OSS helps build dynamic digital ecosystems to quickly adapt to changing business and market needs. With automated onboarding, simplified lifecycle management and partner-centric B2B2X opportunities, Netcracker enables CSPs to become both leaders and enablers of new platform-based monetization opportunities in diverse markets.

**Fully enabling hyper automation:** Netcracker Digital BSS/OSS uses a new operational model to eliminate manual tasks and drive hyper automation across network domains, cross-domain services, business processes and channels. Its digital applications are cloud-native, utilize AI/advanced analytics and run in a multi-cloud environment, delivering the high performance and resiliency of telco cloud platforms to public clouds.

**Innovatively implementing a new service and delivery model:** Delivery is optimized with Agile/DevOps methodologies and a blueprint approach, providing an extensive library of out-of-the-box processes and functional capabilities to minimize the lengthy requirements of gathering phases and accelerate solution delivery. Netcracker accelerates cloud migration by providing a set of specialized services for cloud enablement that helps CSPs build up, migrate to, or improve on cloud-native IT environments.

**Conclusion:** Netcracker Digital BSS/OSS brings a new level of modernization to service provider business and operations environments, helping them to innovate and disrupt in the 5G digital economy.

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