



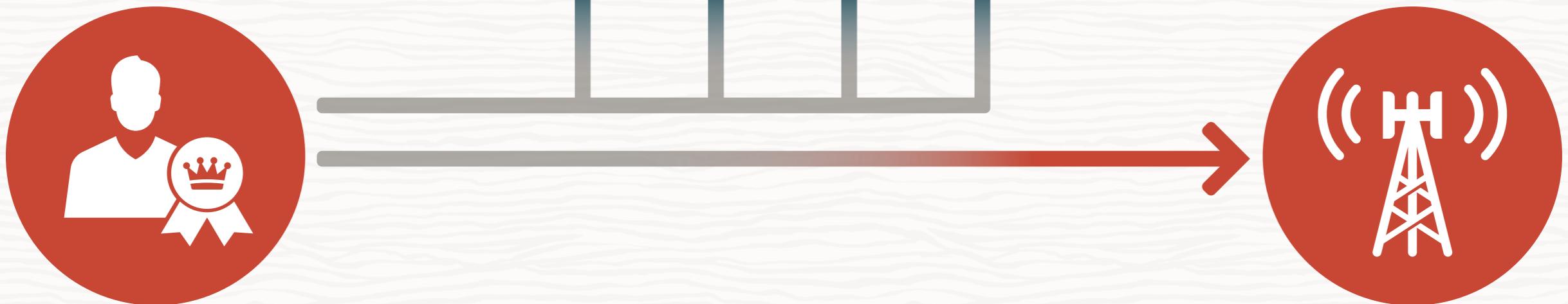
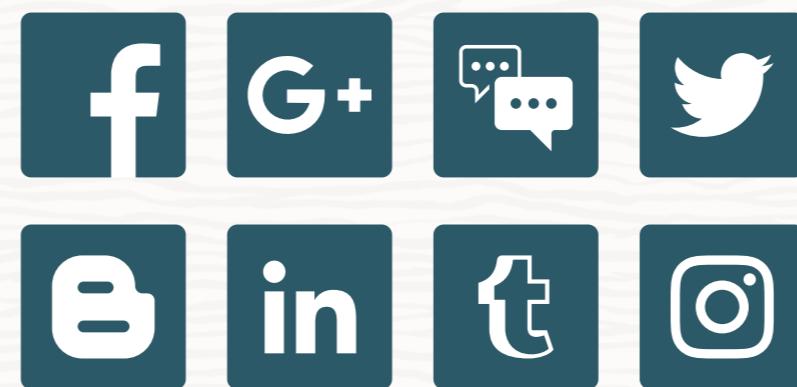
Taking Control of Your Back Office to Transform Your Business

Open, agile solutions coupled with cultural change are keys to success

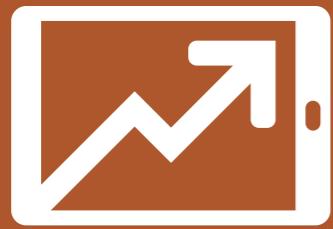
Digital Brands Are Disrupting the Traditional CSP-Subscriber Relationship

Digital disruptors and OTT service providers are inserting themselves between the CSPs and their customers and stripping away the value of CSPs' customer relationships

Disruptors



CSPs Need to Confront Specific Existential Challenges, Exacerbated by the Digital Disruption Undermining Their Business



Economics

In recent years, CSPs have lagged other industries both in terms of revenue growth and profitability improvement.



Digital Transformation

CSPs have been slower to digitally transform, but there is pressure to transition their business model into “digital lifestyle providers.”



Customer Experience

CSPs have been historically rated as providing a poor customer experience, as can be seen in the industry NPS scores.



Brand Relevance

Other consumer-focused digital brands are attracting customer and worker attention, eroding CSPs’ relevance to end customers.

Technology Can Help CSPs Address Some of These Problems, but Can Also Open Up New Operational Challenges

Network Investments

Significant investment is going into network renewal including radio infrastructure and backhaul, but it opens up CSPs to new revenue opportunities and use cases.

5G wireless infrastructure investment will reach \$24 billion by 2023² though it is unlikely to generate additional service revenue for CSPs³

IMPLICATIONS

5G will have an impact on CSP back-office systems; need to move to platform approach to foster ecosystems

New IT Paradigms

Operationalizing 5G investments will require cloud native and virtualized deployment of applications, using agile devops to quickly create new solutions, automating operations to optimize the experience.

63% of CSPs will have begun virtualizing OSS/BSS functions by 2021⁴

IMPLICATIONS

Differentiation will come to those CSPs that leverage these concepts extensively

2. "Worldwide 5G Network Infrastructure Forecast, 2019–2023" (Patrick Filkins & Rajesh Ghai, IDC, December 2019)

3. "Report: 5G Revenue Impact to Be Minimal" (Phil Britt, Telecompetitor, June 2019) [<https://www.telecompetitor.com/report-5g-revenue-impact-to-be-minimal/>]

4. "Omdia Survey Results on NFV Adoption" (Chris Silberberg, Omdia, January 2020)

CSPs Generally Agree Why Their Back-Office Needs to Be Modernized

IT System Deployment Evolving

Streamlining and automating operational processes and systems can yield significant economic results for CSPs: 10-30% improvement in back-office efficiency.⁵

Open Ecosystems Needed

5G networks will demand that multiple third parties have access to systems and networks, while maintaining security and control. This presents a challenge for the back-office, as traditional deployment models are either not truly open or do not allow for CSP control.

“5G’s faster operating pace requires OSS platforms that have the speed and scalability to support new 5G business models. Operators need rapid service order management, service creation and service activation, automated provisioning and fulfillment, and dynamic network management.”

- OMDIA⁶ -

5. “Embracing the future: How can operators embrace telecom disruption?” (Rajesh Duneja et al, Arthur D. Little, January 2020) [<https://www.adlittle.com/en/embracing-future>]

6. “2020 Trends to Watch: Telecom Operations and IT” (Kris Szaniawski, Omdia, December 2019)

But There Is a Lot of Organizational and Industry-Wide Inertia Slowing Down this Modernization

Legacy Systems

People and processes are aligned to current back-office systems, and the cost of retraining or recruiting necessary skills is significant.

Internal Challenges

Vendor solutions do not necessarily address cultural and transitional challenges faced by CSPS internally, impeding the realization of promised solution benefits.

Vendor-Customer Engagement

Moving from a product model to platform and solution model requires new ways of engaging customers with products from a broader ecosystem.

“Majority of OSS product vendor offerings (design, fulfillment and assurance solutions) are increasingly aligning their marketing with service orchestration and automation goals; but with little focus on CSPs’ internal environment challenges.”

- GARTNER⁷ -

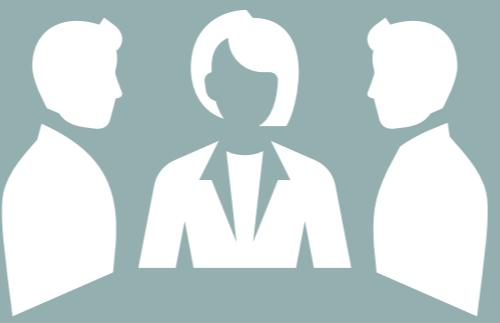
7. *Market Guide for CSP Operations Support System Solutions*” (Amresh Nandan, & To Chee Eng, Gartner, January 2020)

CSPs Need to Prioritize Control and Cultivate Collaboration in the Back-Office



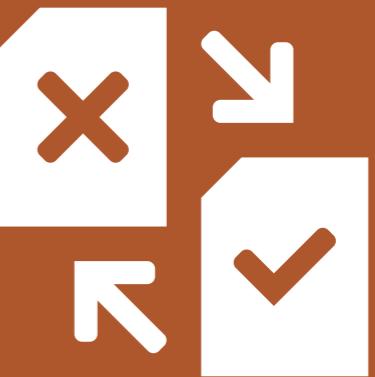
Digital End State

Plan back-office investments and process changes to enable a fully functioning digital service provider.



In-House Development

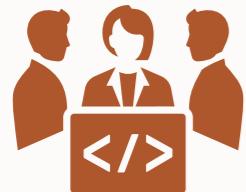
Collaborate with vendor partners to ensure that back-office applications and solutions fulfill CSP needs.



Change Management

Oversee vendor selection to optimize capabilities in line with CSP back-office needs to retain solution control.

Simultaneously, Modern Back-Office Systems Must Drive Towards Agility and Flexibility



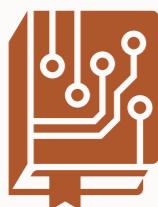
DevOps

A DevOps approach to application and service creation is vital for the rapid speed at which CSPs will need to adapt to evolving business dynamics.



Cloud Native

Majority of digital transformation experts believe CSPs need to invest in cloud native OSS solutions, but only a small portion (4%) have actually begun this process⁹



Open Digital Architecture and APIs

TM Forum has developed its Open API Framework and Open Digital Architecture as ways to promote best practices in creating open ecosystems.

“60% of CSP respondents said they are still in the very early stages of incorporating DevOps practices and tools into their Operations”

– TM FORUM⁸ –

“Over the coming year around 70% of CSPs plan to use cloud delivery for at least one system in the telecoms IT domain”

– OMDIA¹⁰ –

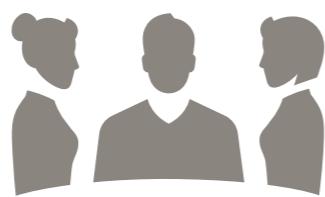
8. “Future OSS: towards an open digital architecture” (Tim McElligott, TM Forum, November 2019)

9. Public Cloud: an essential but not singular solution for CSPs” (Tim McElligott, TM Forum, December 2019)

10. “2020 Trends to Watch: Telecom Operations and IT” (Kris Szaniawski, Omdia, December 2019)

A Cultural Shift Toward Openness and In-House Collaboration Is Most Critical to the Vision of Modern Back-Office Systems

CSPs are realizing that they don't need to own all aspects of their operations. Through open ecosystems, they can find the best partners for different capabilities.



Cultural Change

Technology shifts will require new skillsets and open organizations. 90% believe that culture change is critical to realize ambitions for future-oriented back-office operations.¹¹

“By 2022, 25% of CSPs will invest in in-house service and network management technology development including integration capabilities—compared to 4% in 2019”

- GARTNER¹² -

11. “Future OSS: towards an open digital architecture” (Tim McElligott, TM Forum, November 2019)

12. “Market Guide for CSP Operations Support System Solutions” (Amresh Nandan & To Chee Eng, Gartner, January 2020)

Through Back-Office System Transformation CSPs Will Be Able to Better Control their Destiny and Monetize Significant Network Investments



Agility and Velocity

Modern, open OSS solutions give CSPs the flexibility and ability to deliver new services and use cases rapidly.



Cultural Renewal

Flexible, service-oriented and cloud-native OSS solution components provide tools necessary to accelerate cultural and skillset transformation.



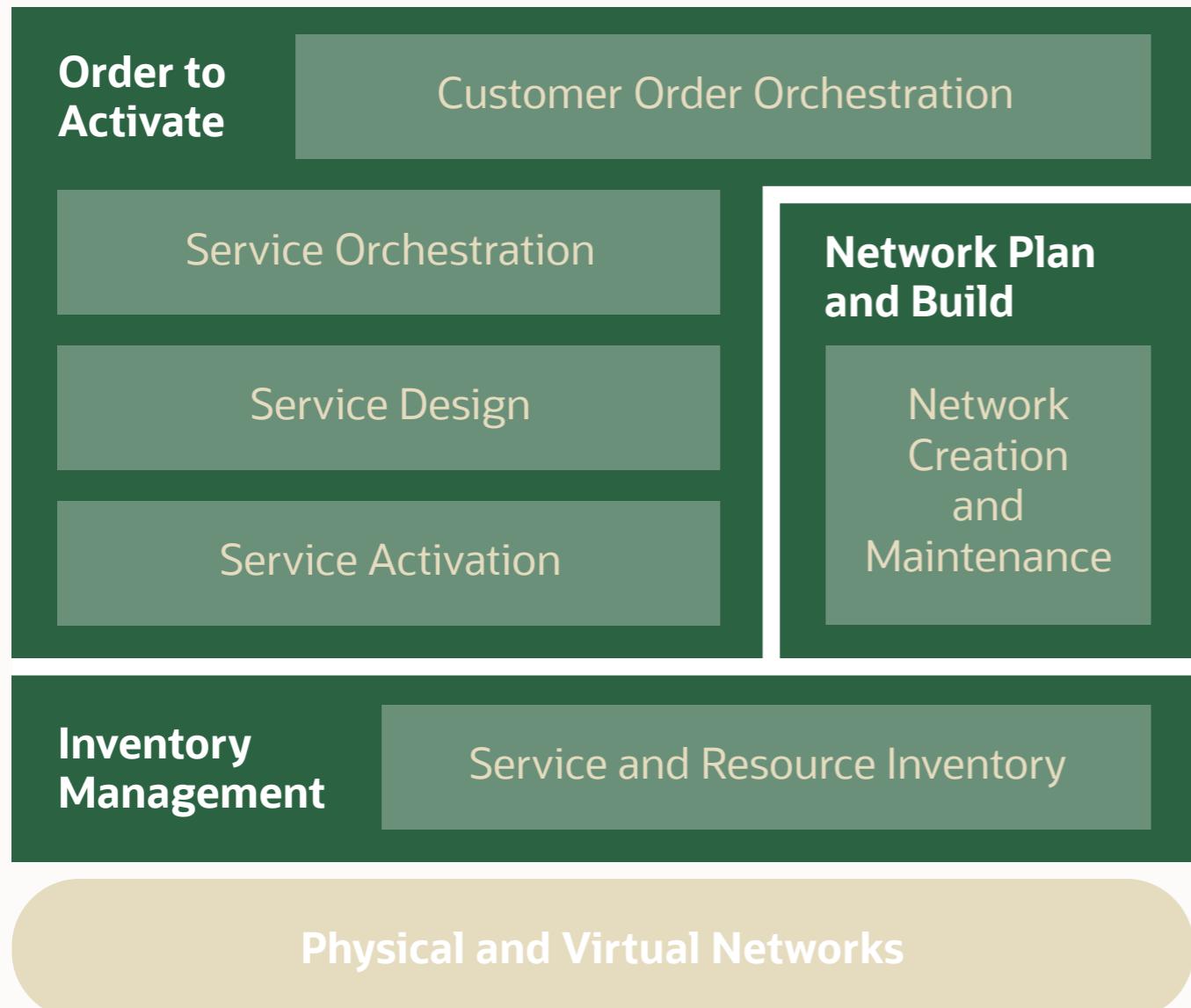
Monetize 5G

Modern OSS solutions are key to enabling the value realization of significant 5G network investments.

Integrated Solutions Offer CSPs the Best Path Forward for Modernizing Back-Office Operations with Agility, Cost and Control

	Managed Services	Integrated Modular Solutions	Open Source
Agility	Speed and ease with which CSPs can make changes, regression test and deploy new use cases		
Cost	Total cost of ownership (incl. SW licenses HW, maint., hosting, in-house development, etc.)		
Control	Control of deployment (incl, terms and conditions, resource allocation, prioritization, etc.)		
	Lower agility, higher cost and limited oversight, skills and control of solution as it evolves	Assemble and configure solution from open, modular components maximizing CSP agility and control with optimized cost	CSP “owns” entire solution —slows agility and heightens risk and operational cost over time risking loss of control to “open source overdose”

Oracle Communications Service and Network Orchestration Addresses All Key Functions of a Modern Back-Office Solution



Key Criteria for Consideration When Selecting a Vendor

- Standards-based
- Open and modular
- Functional maturity
- Operationally robust
- Proven at scale
- Deployment flexibility
- Future-proof



Oracle Communications Service and Network Orchestration Will Help You Regain and Retain Control of Your Back-Office Operations

Open

- Open standards-based APIs
- Adheres to TM Forum Open Digital Architecture (ODA)
- Platinum member of Cloud Native Computing Function (CNCF)

Future Proof

- Supports current network and digital use cases
- Designed to enable future deployment scenarios in 5G and beyond
- Evolving to support AI-driven, autonomous operation

Scalable

- Proven at scale: Individual CSPs processing >2 million orders per day
- Oracle has over 200 CSP deployments using its back-office solutions to serve hundreds of millions of subscribers

Control

- Optimum combination of agility, cost and control
- Choice and control of operational model: in-house IT and/or SIs
- Choice and control of deployment model: on-premise, private cloud, or public cloud



Thank You





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