



Executive Briefing

ORCHESTRATION: WHERE CAN TELCOS BUILD NEW IP?

Orchestration is rapidly becoming a critical asset and skill set for operators looking to optimise the value of existing assets, and create new services and marketable IP.



Table of Contents

Executive Summary..... 2

 Orchestration will be a key foundation of the telecom techco 2

Services greater than the sum of their parts 5

 New services enabled by orchestration..... 5

Conclusion: Towards autonomous networks..... 13

Table of Figures

Figure 1: Projected revenue mix across the global AI-driven economy (% of total revenues)..... 3

Figure 2: Automated network service orchestration in OCA..... 8

Services greater than the sum of their parts

'Orchestration' is a much-used term whose meaning can be elusive. That is partly because there are multiple types of orchestration, operating at different layers of the network. In addition, orchestration could be viewed as the cement that binds the more 'glamorous' parts of the network (such as the core and the RAN), and for that reason tends to be taken for granted. But it is integral to some of the more value-generating use cases discussed in this report.

STL Partners' general definition of orchestration in telecoms networks:

Orchestration is the coordination and management of network resources and services, including multiple domains (for example, access, transport and core) and even multiple networks. Orchestration can encompass deployment, combining, configuring and scaling of network functions, and delivering services according to business policies and the service's required features.

This report looks at the important role that orchestration solutions, of one sort or another, play in telcos' ability to create new services and generate intellectual property (IP). We examine this from three main perspectives:

1. How orchestration can help telcos innovate services and create new value from existing assets and services, particularly by adopting a platform approach
2. How telcos and non-telcos alike can develop their own orchestration capabilities and software practices, which creates IP that can be marketed to other telcos or become a key differentiator in their services
3. How automated orchestration is a stepping stone towards autonomous networks and agentic AI – and indeed how orchestration of this sort is pivotal to the whole autonomous networks agenda.

In other words, orchestration plays a fundamental part in managing complex, multi-domain and increasingly software-based networks and in generating new services and value from them. In addition, orchestration, in its various forms, plays an important role in integrating new technologies (such as 5G standalone [SA]/5G-Advanced or AI) into existing network infrastructure and services.

New services enabled by orchestration

Below, we discuss some innovative services that rely on orchestration of one sort or another and which telcos can introduce relatively easily in the short term. This is because they utilise existing network assets and capabilities. Orchestration can combine these assets in new ways to innovate services, creating a multiplier effect in which the value of the new services is potentially greater than the value of the services that would be delivered via each domain if they remained separate from one another (where the whole is greater than the sum of the parts) – and where existing assets are put to new uses.

Premium, differentiated connectivity for video-related services

Operators use a variety of techniques to deliver the enhanced throughput and reduced latencies and jitter required for premium video services, such as cloud gaming, streaming and extended reality (xR), among others. These include network slicing and service orchestration that are directed to either virtualised (virtual machine-based) or containerised network functions.

Network slicing is not dependent exclusively on the telco having rolled out a 5G SA core and can be introduced via a 5G non-standalone (NSA) or even an LTE core. However, network slicing based on a 5G SA core is more dynamic due to the characteristics of cloud-native network functions (CNFs) and container orchestration. CNFs can be rapidly scaled up and ported to new locations as demand and network load change. 5G SA-based network slicing is also end-to-end and utilises cross-domain orchestration (alongside container orchestration) to guarantee sufficient network capacity and service levels.

For enterprises, premium connectivity-for-video services based on an LTE or NSA core are typically delivered via private networks or edge infrastructure so as to guarantee the required performance. These include services such as live video and managed streaming for enterprises, schools, public bodies, etc., as well as for events (such as multi-camera streaming). An example of this sort of solution is **Verizon's 5G Edge** product, based on public or private multi-access edge computing (MEC) to deliver video applications with guaranteed service levels. However, for use cases where macro-network performance, coverage and reliability are mission-critical, static 5G network slices are being increasingly adopted.¹

Premium services of this sort for consumers are also increasingly based on 5G SA cores to deliver enhanced performance over the macro network. There has been considerable innovation in this space as operators have searched for new ways to monetise their 5G SA investments. For example, **Deutsche Telekom** and **Reliance Jio** have both introduced cloud gaming services bundled with dedicated, enhanced connectivity based on network slicing (presumed in the case of Jio) and 5G SA cores. Indeed, both Deutsche Telekom and Reliance Jio have announced plans to roll out 5G SA cores in the near future.

The full version and executive summary of this report is available to subscribers of our **Network Innovation Service**

Get in touch to find out how to access this report

contact@stlpartners.com

Visit our network innovation hub

<https://stlpartners.com/network-innovation/>

PARTNERS



Research



Consulting



Events