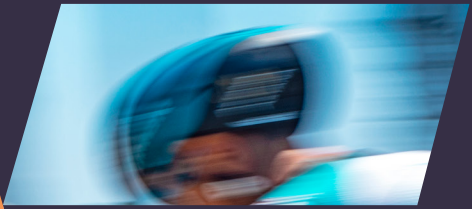


*case study*



APAC Tier-1  
telecommunications  
operator virtualizes network  
operations to support  
enterprise services and  
mobile core

## Overview

A tier 1 APAC operator is in the midst of a large scale project to create a single unified orchestration solution to support their network virtualization and cloud technologies. The project aims to deliver the benefits of automation, digitization and simplification in the mobile core and the B2B domains. By implementing Amdocs Network-as-a-Service (NaaS), it will enable them to offer on-demand, cloud-based network services to enterprises, thereby achieving those objectives.

## Business challenges

The operator's sales process for enterprise services is currently highly manual, with operational support systems (OSS), business support systems (BSS) and the network remaining separate islands in the business. This impedes agility, slows innovation and drives operational costs higher than is necessary.

The operator's focus for business services to date has been the sale of traditional connectivity products to large enterprises, such as VPNs over IP-MPLS and bandwidth-on-demand. But to successfully extend their business offerings to mid-sized enterprises, small to medium sized businesses (SMBs) and even small office/home office (SOHOs), they understood they would need to cut both time to market and the high cost of service innovation. This would require automating existing lengthy manual processes for introducing connectivity and mobile core applications.

An additional objective was to create new revenue streams and increase customer stickiness. To achieve this, the operator aims to introduce virtualized and cloud-based offerings, including network-as-a-service use cases like software-defined WAN (SD-WAN), virtualized CPE (vCPE), security and other value-added services (VAS).

## Key challenges:

- **Lengthy manual sales processes** due to lack of automation and integration between BSS, OSS and the network
- **Moving beyond current focus on large enterprises**, selling legacy products such as IP-MPLS and bandwidth-on-demand
- **High cost of service innovation** due to the lengthy manual process for introducing connectivity
- **End-to-end orchestration across different network domains**, for example mobile and enterprise
- Driving vendors to work together efficiently in a **multi-vendor environment**

## Business drivers

The operator's network virtualization transformation will support both the mobile core and enterprise services, with the goal of increasing agility, flexibility and efficiency. To mitigate existing manual, lengthy and error-prone sales processes, an end-to-end automation and integration transformation will be implemented across the OSS, BSS and network.

The project is designed to achieve three primary business objectives:

- **Automate operations and reduce OPEX** by integrating and orchestrating existing systems, including OSS, BSS (which is from Amdocs) and a new digital self-service portal (also from Amdocs), fully automating the current manual sales process
- **Increase revenues** by expanding the addressable market from solely large enterprises to include mid-sized enterprises, SMBs and even SOHOs, as well as extending their offering portfolio with virtual value-added services (VAS) such as security and other virtual network functions (VNFs)
- Dramatically **shorten new service introduction** by streamlining onboarding, testing and certification of VNFs from an open and wide-ranging, multi-vendor NFV ecosystem



## The solution

Amdocs' NFV solution powered by Linux Foundation's Open Networking Automation Platform (ONAP) provides a NaaS platform that can be used across multiple domains and network services to automate operations and management of virtual mobile core and B2B services.

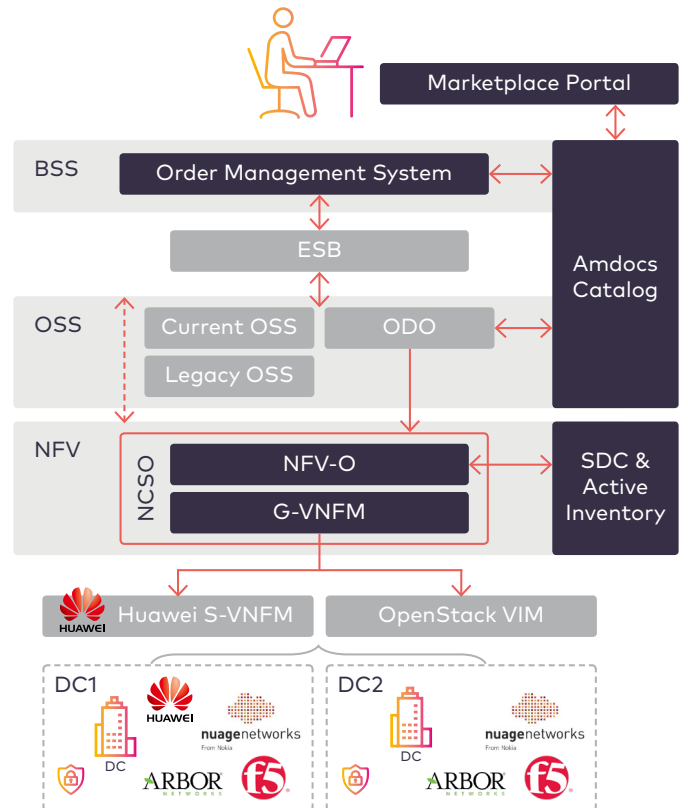
This tier 1 operator uses Huawei for EPC and IMS in the mobile core as well as for all core VNFs and hardware for NFV infrastructure. In partnership with Huawei, Amdocs is providing an NFV solution that orchestrates the mobile core, including vEPC, vIMS and hardware, to automate operations as well as to ensure full integration for assurance systems.

Amdocs' NFV solution driven by the NFV orchestration platform will also support the operator's plans to introduce network as a service (NaaS) to offer on-demand, cloud-based network services for business customers from an array of network software providers. These customers will benefit from Amdocs' self-service portal, which can handle diverse B2B services and provide access to a digital marketplace that offers an extensive and growing range of virtualized and cloud-based services based on third-party VNFs and applications. The portal will also be integrated with customer management and ordering, as well as eventually with end-to-end service orchestration to enable them to view and provision network services on demand.

Key capabilities to help the operator attain their business goals and deliver these new services include:

- **Self-service portal** integrated with customer management, ordering and the enterprise catalog provides access to the cloud-based digital marketplace, enabling business customers to order, provision, update and monitor their network services and value-added services on-demand

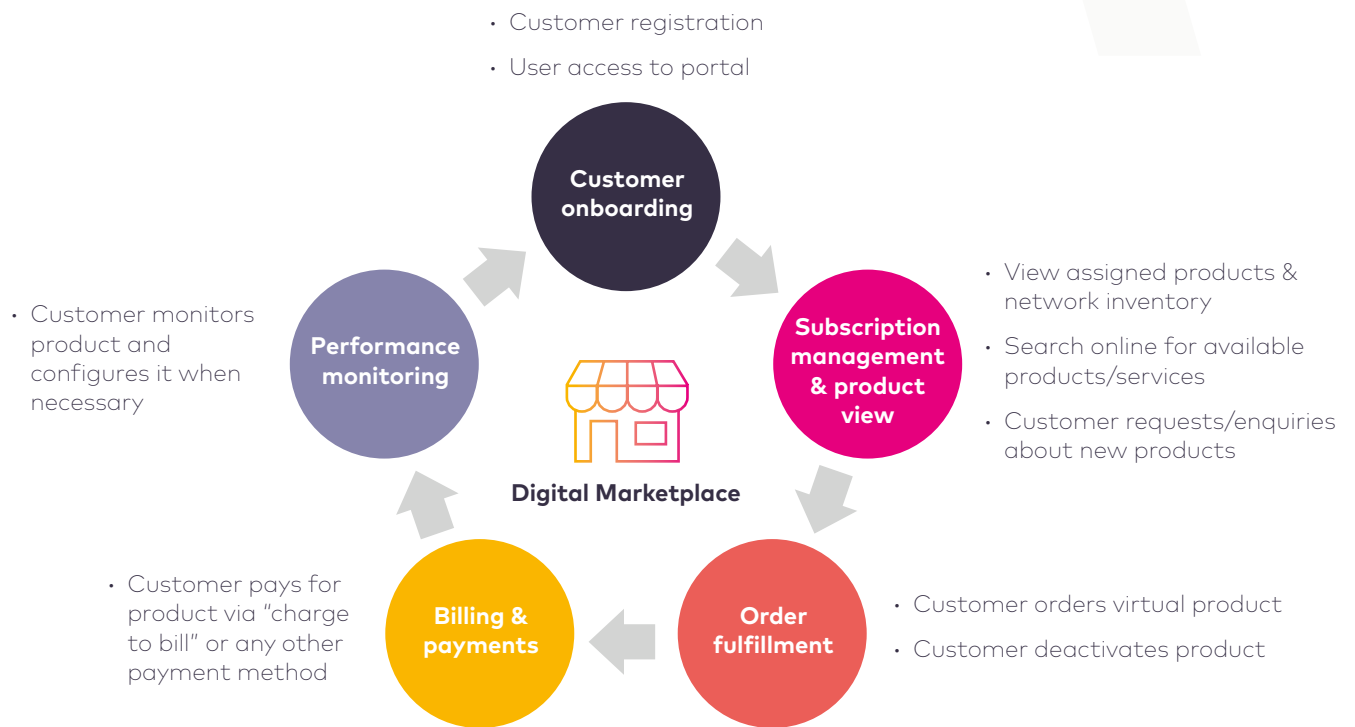
- **NFV orchestration across the lifecycle of any network function**, from onboarding and design through provisioning to assurance, with the ability to offer B2B clients virtualized value-added services on top of new or existing connectivity services
- **End-to-end NFV orchestration** across the mobile core and enterprise business market domains, based on an active partnership with Huawei
- **Service design and creation automation**, integrated with the master catalog, to speed VNF onboarding and testing as well as service chaining and service design
- **Active and available inventory** provides a single cross-domain view, including physical and virtual network resources, to support all processes in the service lifecycle
- **Integrations with existing BSS and OSS** including implementation and integration of NFV Orchestrator (NFVO), Cloud-O and Digital Marketplace solutions to fully automate the ordering of products and services, as well as orchestrate the provisioning of all resources including connection of value-added services back to the relevant connectivity service



**Fig 1 – Amdocs' NFV solution architecture for APAC tier 1 telecommunications operator**

Amdocs is the primary system integrator for the entire project, including the Amdocs' solution described above. As such, responsibilities include providing technical expertise and project management for integration of all the different components required for the successful implementation of the project, including the self-service portal and digital marketplace.

In addition, Amdocs is partnering with the operator to help adapt their approach to both R&D and deployment. This will be achieved through a program that trains employees to work in an agile, innovative way. By working alongside Amdocs, the operator's developers benefit from our experience and expertise, which helps them learn how to independently adapt the solution to meet changing market and business needs.



**Fig 2 – Digital Marketplace Portal Use Cases**

## Business benefits

Amdocs' highly scalable, flexible, resilient and proven technology solution will deliver the following benefits to the operator:

- **Automate operations and reduce OPEX**
  - Virtualize and automate platforms and processes for the mobile core
  - Digitize the sales process with end-to-end automation, orchestration and integration, thereby increasing productivity and reducing operational costs
- **Increase revenues**
  - Expand the addressable B2B market with new revenue streams through the digital marketplace portal, which will support the operator's entire B2B portfolio and enable them to sell to SMBs in addition to enterprises, thereby accelerating business growth
  - Enhance customer stickiness and reduce churn through a transformed customer experience, bundled connectivity and value-added services
- **Slash time to market and speed innovation** by dramatically shortening the service introduction cycle
  - Introduce new and innovative network and value-added services across their networks, as well as the public and private cloud.

Benefits to business customers include:

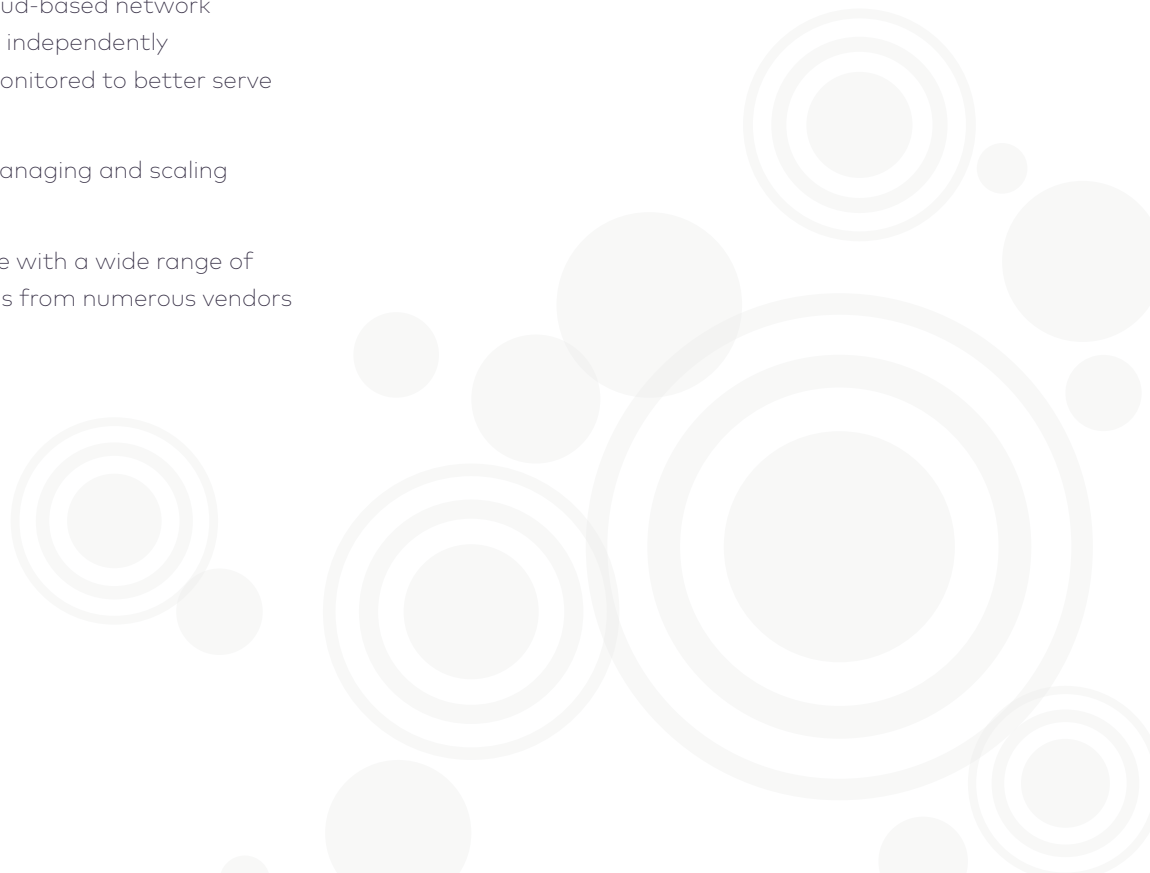
- Highly-flexible and scalable cloud-based network services that can be easily and independently configured, customized and monitored to better serve their own end-customers
- Single portal for controlling, managing and scaling the network
- Access to the VAS marketplace with a wide range of VNFs and business applications from numerous vendors

## Future-readiness

In addition to addressing current business needs, Amdocs is helping the operator set up their systems to meet future challenges. This is included as part of a five-year service agreement, where Amdocs' solution will help the operator activate, provision and manage multiple network services on the cloud from a wide range of innovative third-party network software and equipment providers. Amdocs will deliver the capabilities using DevOps methodology, thereby enabling faster evolution and implementation of quick changes to adapt to changing market demands.

Another issue is the extensive and growing range of VNFs in the digital marketplace, which will make VNF license management a critical function over the long term. This will be addressed by Amdocs VNF license usage management, which manages the end-to-end lifecycle of licenses based on licensing models defined by the third-party vendors.

In the longer term, the operator may also choose to leverage Amdocs' NaaS solution to manage and monitor internal IT workloads, as well as to support future 5G use cases for the virtualized mobile core, such as network slicing and mobile edge computing.



# about amdocs

Amdocs is a leading software and services provider to communications and media companies of all sizes, accelerating the industry's dynamic and continuous digital transformation. With a rich set of innovative solutions, long-term business relationships with 350 communications and media providers, and technology and distribution ties to 600 content creators, Amdocs delivers business improvements to drive growth.

Amdocs and its 25,000 employees serve customers in over 85 countries. Listed on the NASDAQ Global Select Market, Amdocs had revenue of \$4.0 billion in fiscal 2018.

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