

digital-to-network automation

Supporting digital transformations through seamless, integrated service fulfillment and operations

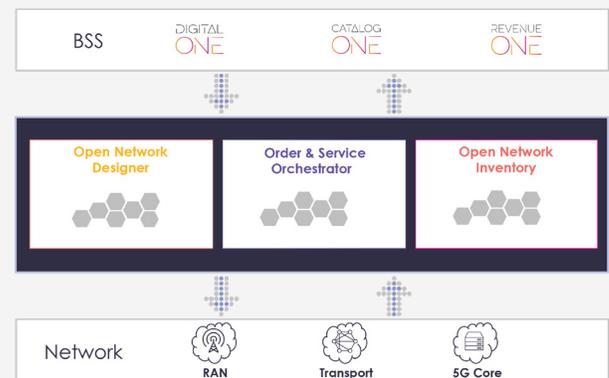
The global telecoms industry landscape is changing faster than ever. We're in an era of limitless communications, with continuously evolving expectations from both consumers and enterprises of how to keep our digital society connected and engaged. At the same time, the erosion of legacy revenue streams driven by over-the-top (OTT) competitors continues, as 5G services enter the game – forcing operators to consider new ways of maintaining relevancy with consumer and enterprise customers.

According to EY (2020), these trends are reflected in CSPs' strategic priorities for the coming three years – digital business models (71%), customer experience (61%), and cost control and business efficiencies (53%). CSPs have responded by embarking on digital transformation journeys and projects, transforming their BSS systems that were originally built for a business paradigm that's increasingly outdated: they're rigid, siloed, rely on extensive human involvement and often require obscure skills.

But as transforming BSS systems is rather intuitive (as they are consumer-facing), modernizing the OSS (network-facing) ecosystem is crucial and inevitable. New **digital** services cannot be fulfilled, activated and operated in a closed-loop manner all the way between the BSS and **network** – if the OSS layer remains 'legacy', misaligned and not well orchestrated.

Amdocs Digital-to-Network Automation solution is a true digital transformation enabler by design, enabling seamless, aligned and integrated service fulfillment and service management, together with inventory management across physical, virtual and cloud network assets. With process automation and pre-integration between BSS & OSS components, our solution enables a smooth path towards digital success and enhanced consumer and enterprise customers satisfaction.

Highlights

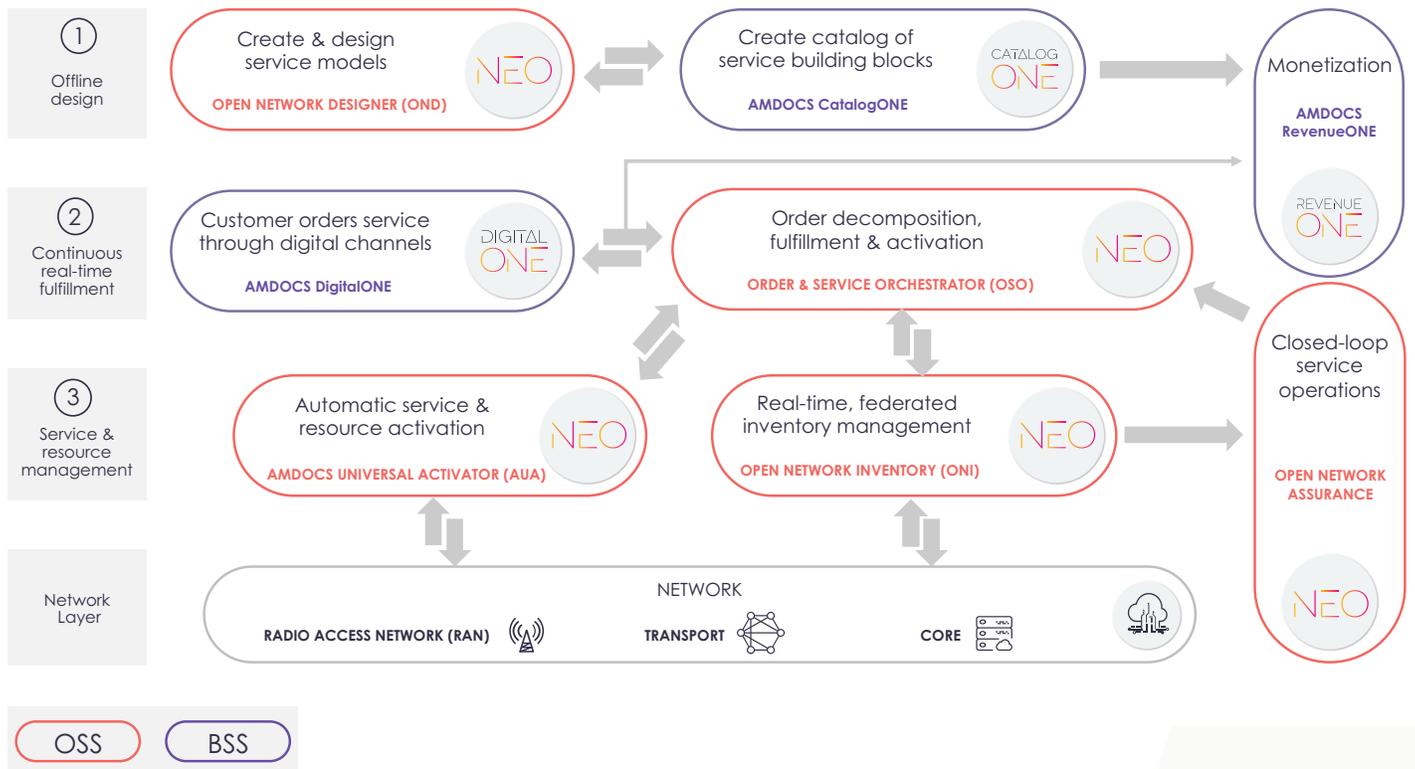


- A business-driven next-generation OSS solution to fully support your digital transformation journey
- Cloud-native, MS-based and intelligent automation-infused for greater business agility, faster TTM and optimized OPEX
- Enables seamless, integrated Digital-to-Network operations through market-leading OSS products – Open Network Designer, Order & Service Orchestrator and Open Network Inventory
- Seamlessly integrated to any BSS & OSS stacks through Open APIs, with pre-integration to Amdocs CES20 BSS suite – CatalogONE, DigitalONE & RevenueONE

Taking Digital-to-Network operations to the next (generation) level

The current digital-to-network complexities and processes create challenges for the digital transformation journey. Firstly, distributed, siloed IT systems (e.g. as multiple inventories for different domains or LOBs) make it hard to control and run operational processes efficiently. Secondly, the complex, fragmented fulfillment process, comprising a multitude of unintegrated touch points with manual steps along the way – leads to inaccuracies and order fallouts. Thirdly, the disconnect between fulfillment and assurance systems and processes hinders the ability to implement closed-loop operations, leading to a reactive problem-solving approach.

Amdocs Digital-to-Network Automation solution helps overcome these challenges by introducing an efficient, automated and integrated approach to fulfil, activate, orchestrate and operate any consumer/enterprise service – with full-service lifecycle management capabilities:



Integrating BSS & OSS by design

Amdocs Digital-to-Network Automation solution is primarily focused on providing real, end-to-end automation and alignment throughout the end-to-end service lifecycle process. It allows smooth, efficient operations in multiple scenarios such as:

- Ordering process using a unified order handling process and single catalog across BSS & OSS
- Service fulfillment and activation with real-time notification to billing and charging for efficient monetization
- Service assurance and closed-loop operations with bottom-up notifications and alerts through inventory back to the order & service orchestrator

The solution features pre-integration with Amdocs CES20 OSS & BSS products, including CatalogONE (cloud-native product catalog), DigitalONE (multichannel commerce and care) and RevenueONE (cloud-native, 5G-ready monetization). It also enables quick, easy integration to any BSS stack via open APIs.

Modular solution, with market-leading OSS products and capabilities

Amdocs Digital-to-Network Automation solution comprises the following OSS products;

Open Network Designer (OND)

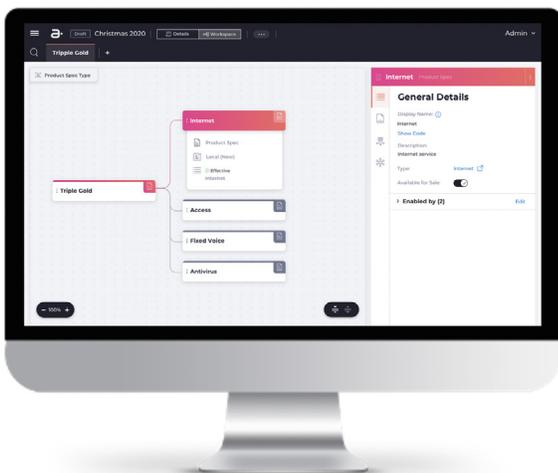
Open Network Designer is a graphical design and configuration environment for use by network, IT and business personnel to design services, product specifications, service workflows and orchestration processes.

The solution enables you to design and maintain network service models, which in turn can be used as components in other service models.

The models are then used by the orchestrators to deploy/provision actual service instances on the live network.

Amdocs OND's key capabilities include:

- Pre-integration to Amdocs CatalogONE (aligning service and product models) and Amdocs Open Network Inventory
- Based on the SDC module from ONAP, and extended with additional capabilities from Amdocs
- Support for the complete service design lifecycle
- Creation and composition of service designs is carried out via an intuitive UI
- PNFs/VNFs/CNFs can be onboarded using standard structures and information models



Order & Service Orchestrator (OSO)

Amdocs OSO is a cloud-native, automated, catalog-driven solution for managing the service order lifecycle, enabling service providers to fulfill complex, bundled, multi-play orders quickly and accurately. Wherever an order originates – from self-service, a customer agent or B2B admin – the solution decomposes each order into a sequence of interdependent tasks and fulfills it. Automatic tasks such as equipment provisioning, configuration and service activation are supported. Manual tasks, such as site visits, are also supported in fulfillment workflows. From B2B perspective, OSO also provides support for service availability, serviceability checks and site survey.

Amdocs OSO's key capabilities include:

- *Product-to-service decomposition* – By integrating to your BSS systems, Amdocs OSO validates each order and decomposes it into individual service orders. It then sends them to the relevant external systems such as inventories, activation, WFM, as well as to network controllers and orchestrators
- *Service order view and lifecycle management* – Amdocs OSO stores the service orders and sends fulfillment status notifications for error handling. It provides full visibility via a 360-degree view of the service order and all related objects, such as services, processes and tasks. It also supports remediation of fallouts both manually and automatically, based on preconfigured policy and enables advanced SLA & jeopardy management
- *Activation* – **Amdocs Universal Activator (AUA)** can execute service orders by activating the relevant network elements, as well as customer CPE via TR-069 and other protocols
- *End-to-end integration* – OSO sits at the heart of the BSS/OSS architecture and is pre-integrated with Amdocs portfolio solutions – CatalogONE & DigitalONE (BSS), Open Network Inventory & Open Network Assurance (OSS)



Open Network Inventory (ONI)

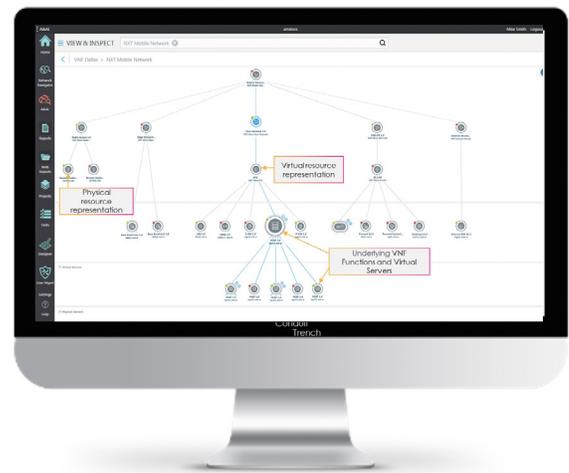
Amdocs ONI is a cloud-ready, catalog-driven, hybrid inventory solution that supports inventory management and visualization of physical, logical, cloud and virtual network functions, including support of federated network views across both Amdocs and third-party inventory systems.

Amdocs ONI includes a service inventory for managing the network service topology. The service inventory utilizes graph database technology for highly scalable, ultra-fast writing and retrieval of service tree structures that characterize rapidly changing NFV and hybrid networks. It also provides service fulfillment and assurance systems with the data needed for accelerated and automated operations.

Amdocs ONI key capabilities include:

- Full coverage of network service topology, logical and physical network underlays, and interdependencies
- Full coverage of CNFs, VNFs and non-virtualized network elements
- Highly scalable, to handle the largest tier-1 networks as well as tier-2 and tier-3 networks
- Network capacity monitoring and management
- Advanced metadata management and creation

- Open APIs enable rapid integration and lights-out operation with northbound and southbound systems
- Advanced, cross-silo graphical user interface for end-to-end views and data access across the network
- Advanced federation of third-party inventories and other external data sources to enable maximum reuse of existing resources and accelerated deployment
- Tracks both 'as-is' and 'as-planned' network, and locks assigned network resources to prevent unauthorized reassignments and prevent design fallout
- Pre-integrated with Amdocs OSS – Open Network Designer (OND), Order & Service Orchestrator (OSO) and Open Network Assurance



Amdocs Digital-to-Network Automation solution fully supports your digital transformation and any business model to support your business growth and competitive positioning **by providing you with:**



Faster time-to-market

Through accelerated service design, test, launch, fulfillment and orchestration of any service



Improved customer satisfaction

Through reduced service order processing time, order fallouts and human errors driven by automation



Optimized OPEX

Through reuse of service design templates, enhanced fulfillment process automation and closed-loop operations



Increased business agility

Through, modular, cloud-native, microservices-based architecture and use of open, standard based APIs



Enhanced visibility & control

Through federated and complete inventory view over all network elements, service order & fulfillment tracking and visualization

Why Amdocs Digital-to-Network Automation Solution?



OSS Market Leadership



#1 in Service Design and Orchestration product revenue (Analysys Mason market share report, 2020)



Overall, Amdocs is seen as the **world's strongest OSS/BSS partner** (2020)



Leader in Digital Transformation Platforms (2020)



Proven BSS/OSS bi-directional expertise

An **integral part of Amdocs CES20** offering, combining pre-integrated, market-leading BSS & OSS products & solutions

35+ years of communication & media BSS/OSS expertise, with more than **350** customers worldwide

We deliver – 95+% success rate in delivering on time



NextGen service & network automation platform

Holistic end-to-end service lifecycle automation – From design and creation, to orchestration, continuous monitoring and closed-loop operation

Accelerates innovation and monetization – integrated with Amdocs BSS, open to any third-party BSS

Cloud-native, microservices-based, open solution

About Amdocs

Amdocs' purpose is to enrich lives and progress society, using creativity and technology to build a better-connected world. Amdocs and its 25,000 employees partner with the leading players in the communications and media industry, enabling next-generation experiences in 85 countries. Our cloud-native, open and dynamic portfolio of digital solutions, platforms and services brings greater choice, faster time to market and flexibility, to better meet the evolving needs of our customers as they drive growth, transform and take their business to the cloud. Listed on the NASDAQ Global Select Market, Amdocs had revenue of \$4.1 billion in fiscal 2019. For more information, visit Amdocs at www.amdocs.com.