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AMDOCS SERVICE DESIGN AND CREATE

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**How can service providers achieve the levels of innovation they aspire to and that are demonstrated by over the top (OTT) providers? And what difference would it make to competitiveness and to revenues if they could launch ten times more services to market in the same timeframe and requiring fewer man-hours?**

Implementing network functions virtualization (NFV) is predicted to deliver the kind of service agility to which many service providers aspire. The first step towards service agility is typically NFV orchestration; Amdocs Network Cloud Service Orchestrator enables service providers to instantiate NFV-based services in just minutes or even seconds. However this does not address the time to market aspects of service agility, and specifically the time and resource requirements that currently inhibit service provider innovation. A new solution is needed to enable the necessary shift in mindset to enable bottom-up, network engineering-driven innovation, in addition to more typical top-down, customer-driven service development. Amdocs believes that **resource and service development lifecycle automation** is the key to de-risking innovation and fully achieving the service agility promised by virtualization and that is where **Amdocs Service Design and Create** comes in.

## Service Provider Challenges

Virtualization is one of the most important and disruptive developments our industry has seen in the last twenty years. NFV and software-defined networking (SDN) are driving a paradigm shift in network technology from today's static communications networks to dynamic, elastic network clouds. High customer expectations, accelerating capacity demands and increasing competition mean that operators need ever leaner and more agile networks, as well as the capability to design, test, debug and launch new services quickly and cost-effectively. The ability to react rapidly to market and competitive pressures is a catalyst for faster service development and innovation, and the key to fulfilling the NFV promise of great leaps in service agility and even the potential for new revenue streams.

However the lack of automated tools for service development means that today's processes and operational support systems (OSS) are highly manual and cannot deliver the service agility and fast time to market promised by NFV. The network engineering process to design, test and launch new or adapted services is typically a slow, document-heavy and resource-intensive process with low levels of automation, manual hand-offs between teams, and complex testing requirements. New services typically take 9 to 12 months to create, even longer for complex services. 'Cost to fail' is too high to create the 'fire and forget' services that would enable service providers to emulate the levels of innovation more typical of over-the-top (OTT) providers.

NFV has created a requirement for the introduction of an NFV orchestrator (NFV-O) which is forcing a change in operators' processes. A new approach to service development is needed,

one that leverages the VNF management capabilities of NFV orchestration and automates the end to end, iterative service design and test process.

Amdocs' NFV orchestrator, Network Cloud Service Orchestrator (NCSO), can instantiate virtual and hybrid services in minutes; the new approach to service development must enable a change to the currently manual, time-consuming service design and test process that is equally radical to enable rapid, cost-effect service innovation and adaptation.

**66% of service providers surveyed confirm that service agility is the lead NFV implementation driver**

**Heavy Reading's 2015 NFV Operator Survey**

**60% of service providers surveyed said their current BSS/OSS lack the capabilities to launch new services in a timely and cost-effective manner**

**Metro Ethernet Forum Survey**  
Emerging Dynamic "Third Network" Services and the Role of LSO, 1Q 2015

## The Solution: Amdocs Service Design and Create

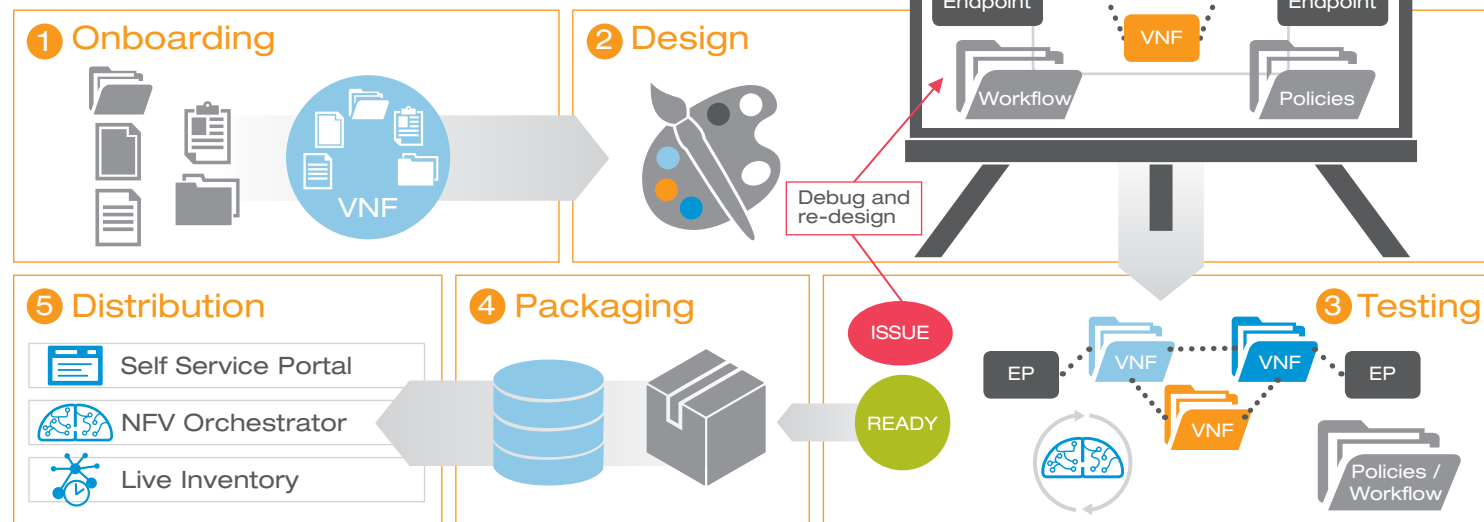
Amdocs Service Design and Create is a service development lifecycle solution that enables service providers to design, test and launch new virtual and hybrid services in **weeks rather than months**, and to respond quickly and cost effectively to customer needs, market demands and competitive pressures. While NFV orchestration manages the VNF lifecycle, Service Design and Create addresses the critical gap on how to model, test and debug end-to-end virtual services.

Automation of the service development lifecycle fundamentally changes the way network engineering responds to the business's requirements for new services. It provides a

unique platform which removes the time and cost barriers to innovation, empowering service providers to adopt a more agile approach to service design and creation. The solution is highly engineered so that network engineering teams can create new services collaboratively without support from programmers.

There are five stages in the service development lifecycle that are addressed by Amdocs Service Design and Create: onboarding, design, testing, packaging and distribution to consuming systems. The VNFs that have been designed, enriched and tested are then available via the catalog to be onboarded, orchestrated and instantiated by the Amdocs Network Cloud Service Orchestrator.

Fig. 1 – The 5 stages in the automated service development lifecycle



## Service Development Lifecycle

- 1. Onboarding** – highly automated onboarding of virtual network function (VNF) descriptors (or models) together with associated artifacts like software images, documentation and templates. Interaction wizards enable designers to enter operational requirements as well as technical parameters like virtual machine (VM) CPU size, dependencies and other functional and non-functional requirements. Vendor data such as VNF images, or details contained in standards-based formats like Yang or TOSCA, can be imported. An initial VNF resource definition is automatically generated for the next stage, significantly reducing the integration effort per VNF.
- 2. Designing** – the design and validation process is greatly simplified through a user-friendly, graphical drag-and-drop environment in which to define virtual resources and hybrid services. The designer can select and combine key elements such as policies, thresholds, KPIs and deployment process models with VNFs and physical network elements (PNFs).
- 3. Test and debug** – the designer can take a service or resource definition and, using the Amdocs NFV orchestration capability – **Amdocs Network Cloud Service Orchestrator**, step through the planning function and see the outcomes of any policies and workflows that have been configured. The designer can test service definitions by viewing, interacting with and debugging the design.

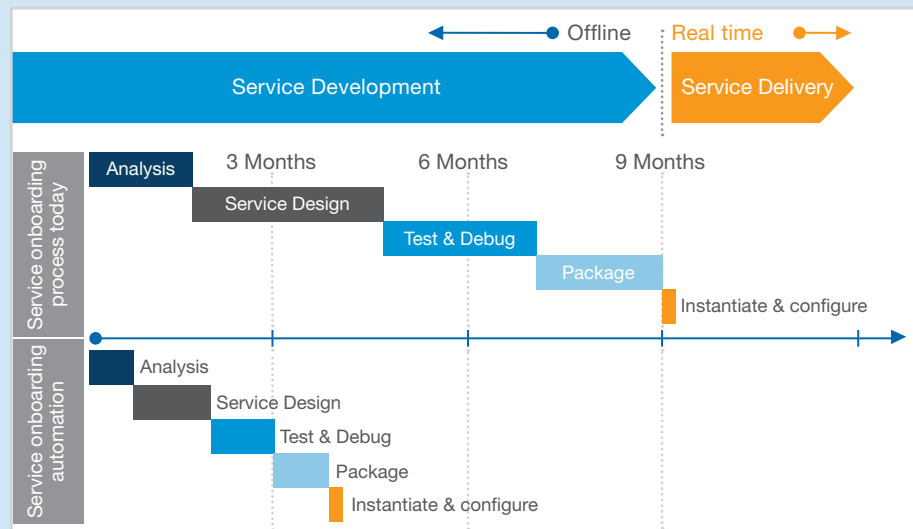
- 4. Packaging** – the pre-defined and tested services, including policies, thresholds and deployment process models are released, packaged and published to the Amdocs Master Enterprise Catalog so that they are available to be turned into commercial offerings and can be accessed by multiple business systems including billing and a self-service portal.
- 5. Distribution** – essential artifacts and service data such as software images, policy definitions, model definitions, performance thresholds, etc., are distributed to the key consuming systems, including Amdocs Network Cloud Service Orchestrator, inventory systems, virtual infrastructure managers (VIM) and assurance systems. Today, this distribution process is mainly manual; automation of the process will cut-time and cost of handover from design to ready-for-fulfillment.



## Benefits

Amdocs Service Design and Create offers a highly automated service development lifecycle so that more services and service updates can be released in a year, enhancing agility and enabling the OTT-like levels of innovation to which many service providers aspire.

Fig 2 – Service development cut from months to weeks



The ability to try, adapt and try again, quickly and at low cost, fundamentally changes a service provider's ability to respond to customer needs, market demands and competitive pressures. This has a direct impact on customer experience, enhancing customer stickiness, reducing churn and increasing opportunities for capturing more revenue per customer.

Amdocs Service Design and Create provides resource and service onboarding automation that shortens time to design, test and launch virtual and hybrid services to **weeks rather than months**. It enables service providers to:

- **Innovate faster** by easily combining service components to create new services
- **Reduce service development costs** through **re-use** of modular design components, such as VNFs, policies and workflow definitions
- **Simplify and accelerate service composition** with the intuitive drag-and-drop interface
- **Quickly validate and test designs** that leverage physical and virtual resources through automated onboarding and test and debug
- **Onboard and configure VNFs quickly and efficiently** with templates for vendor VNF packages; these templates are governed by the service provider
- **Eliminate manual hand-offs** through a common, collaborative development environment shared by all stakeholders
- **De-risk service introduction and adaptation through iterative testing** in parallel to live network in support of DevOps processes
- **Achieve auto-readiness** through pre-integration to Amdocs Network Cloud Service Orchestrator and to Amdocs Master Enterprise Catalog

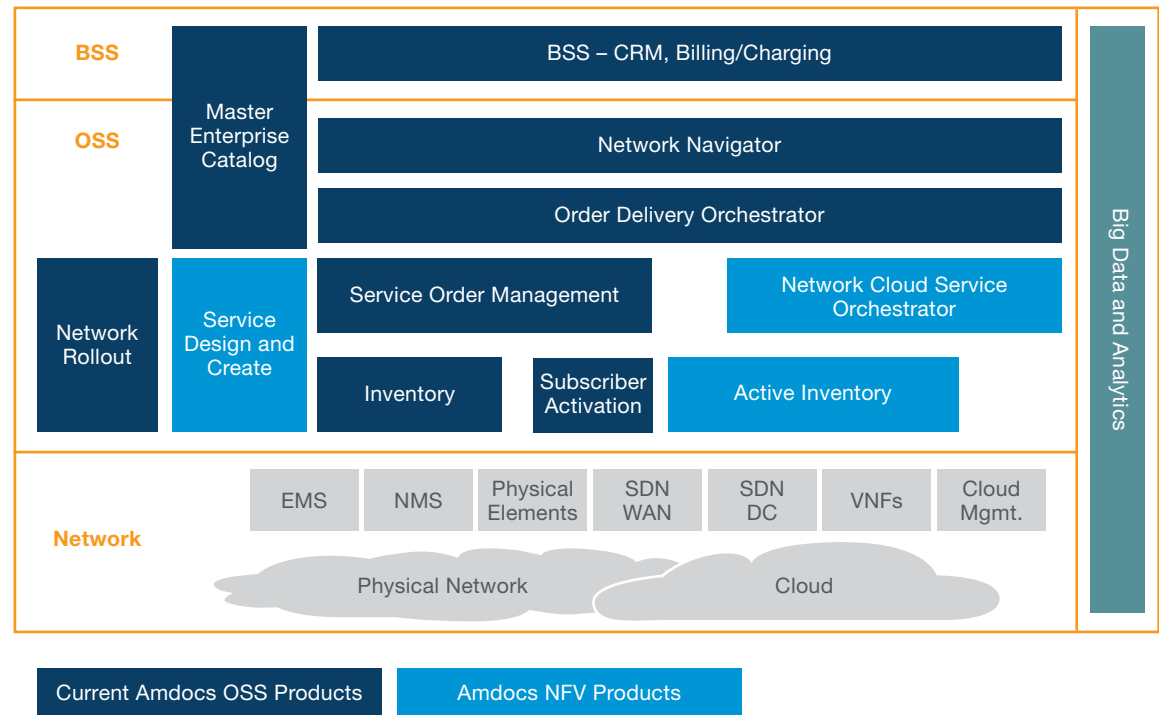


## Features

Amdocs Service Design and Create offers:

- Full service development lifecycle support
- Service provider-governed templates for vendor VNF packages
- Modular policy, threshold, KPI and workflow definitions
- Automated test and debug of designs
- Visualization of impact of change
- Intuitive drag-and-drop interface
- Vendor-neutral service modelling to create virtual and hybrid services
- Pre-built integration with Amdocs Network Cloud Service Orchestrator to enable services to be instantiated in minutes or even seconds
- Integrated with Amdocs Master Enterprise Catalog for commercial products and offerings

Fig. 3 - Amdocs Service Design and Create within the Amdocs NFV-ready OSS portfolio



For more information on the benefits and capabilities of Amdocs Service Design and Create, Amdocs Network Cloud Service Orchestrator and the Amdocs NFV-enabled OSS portfolio, contact your account manager or visit [nfvreadyoss.com](http://nfvreadyoss.com) or [www.amdocs.com](http://www.amdocs.com).





## ABOUT AMDOCS

Amdocs is the market leader in customer experience software solutions and services for the world's largest communications, entertainment and media service providers. For more than 30 years, Amdocs solutions, which include BSS, OSS, network control, optimization and network functions virtualization, coupled with professional and managed services, have accelerated business value for its customers by simplifying business complexity, reducing costs and delivering a world-class customer experience.

The Amdocs portfolio enables service providers to capture the world of digital immediacy by operating across digital dimensions to engage customers with personalized, omni-channel experiences; creating a diversified business to capture new revenue streams; becoming data empowered to make business and operational decisions based on insight-based and predictive analytics; and achieving service agility to accelerate the fast rollout of new technologies and hybrid network services.

Amdocs and its more than 24,000 employees serve customers in over 90 countries. Listed on the NASDAQ Global Select Market, Amdocs had revenue of \$3.6 billion in fiscal 2015.

**Amdocs: Embrace Challenge, Experience Success.**

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