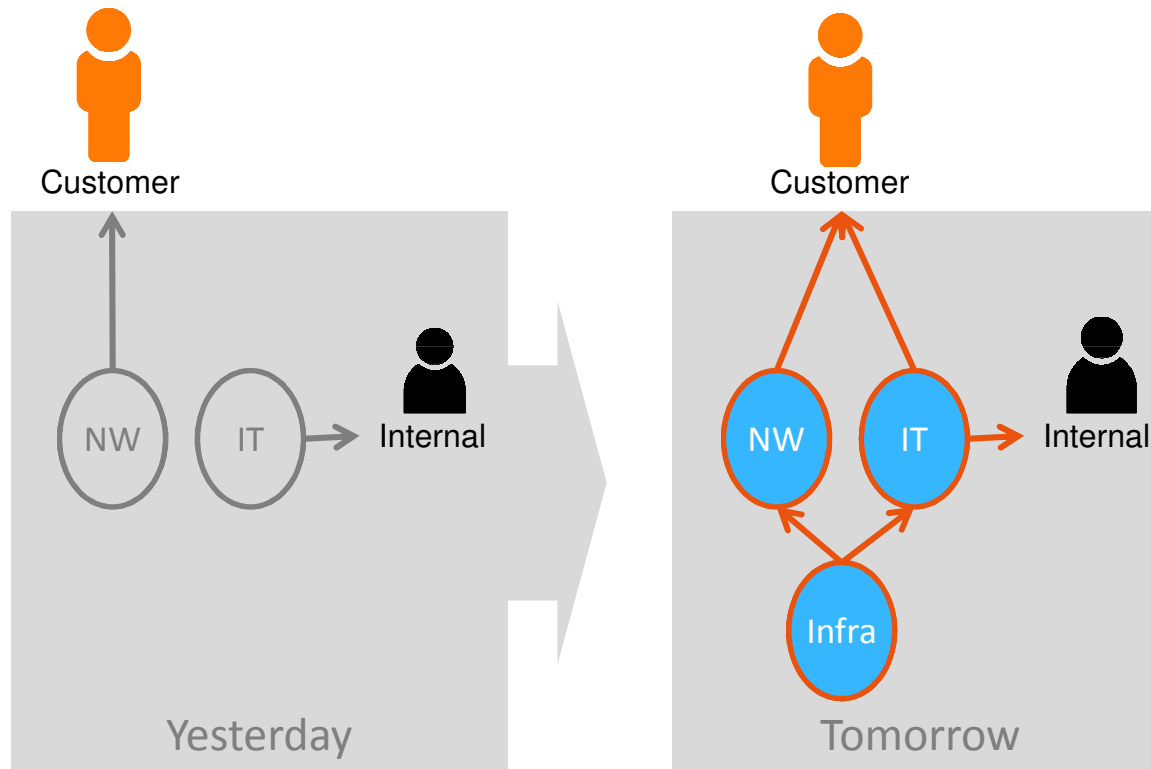


DevOps in Service chains and 5G network slices.

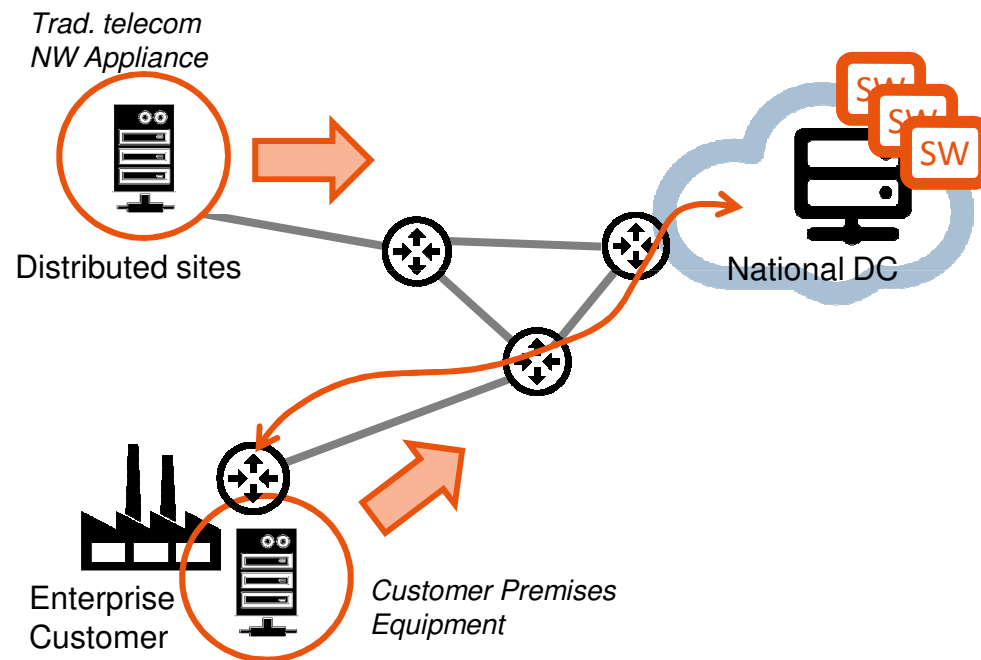
Mats Eriksson
Telco Cloud Forum
April 2016

Two trends for operators.



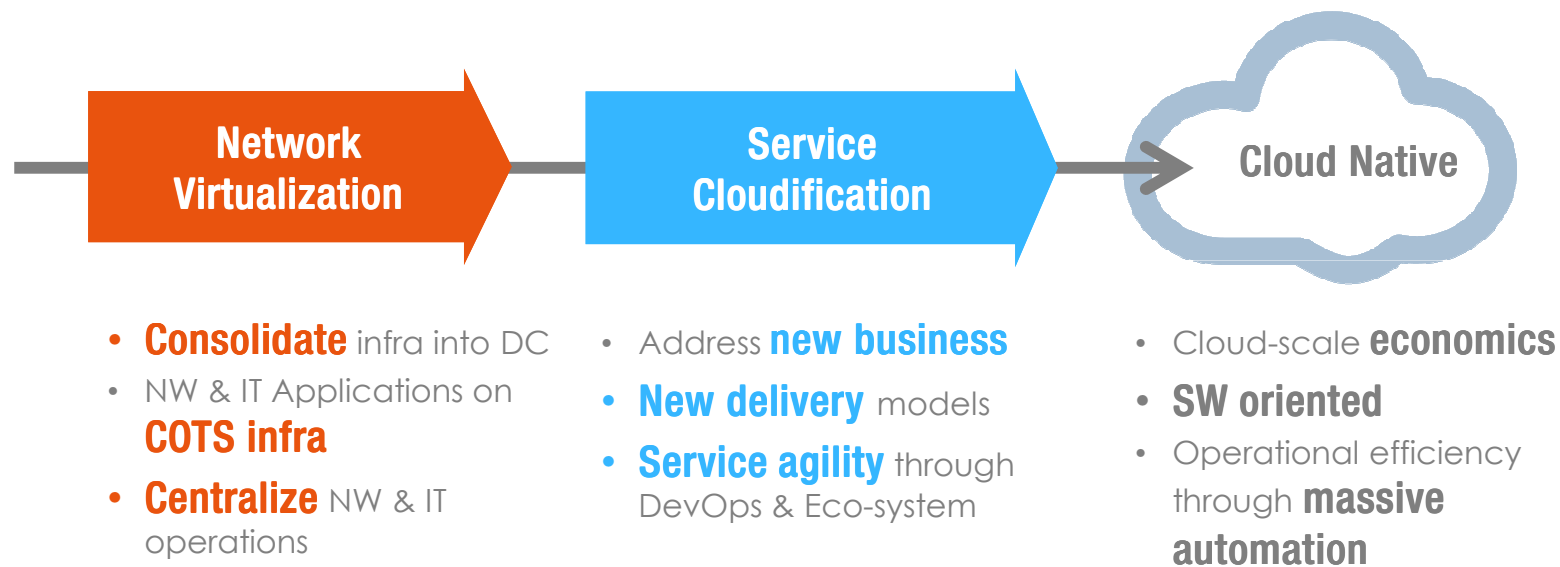
1. **Generic Infra** pooled in DCs – SW Defined NW
2. **IT** becomes increasing part of **delivery to Customers**

When Networks go SW. ■

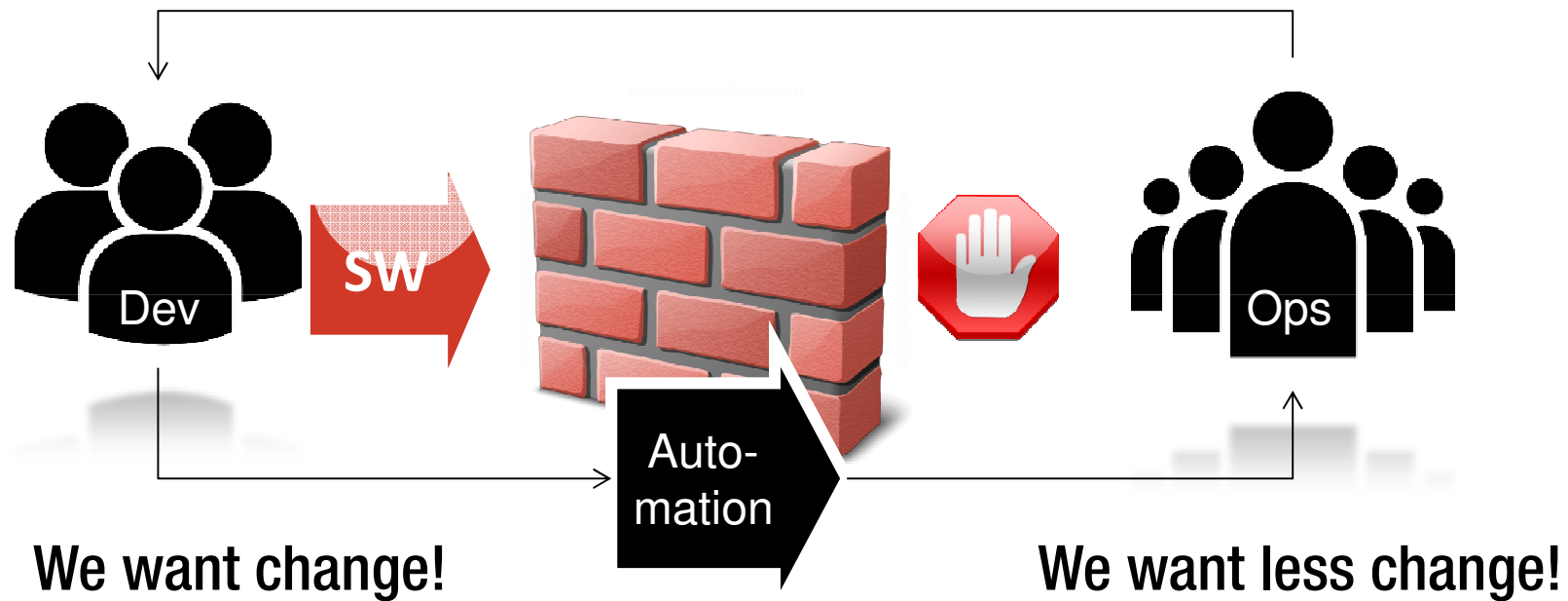


- **Virtualize** – turn network boxes into SW. Open up new vendor eco-systems
- **Consolidate** – centralize to DC and cut Capex /Opex. Enable scalability
- **Soft control** of connectivity & capacity in Network

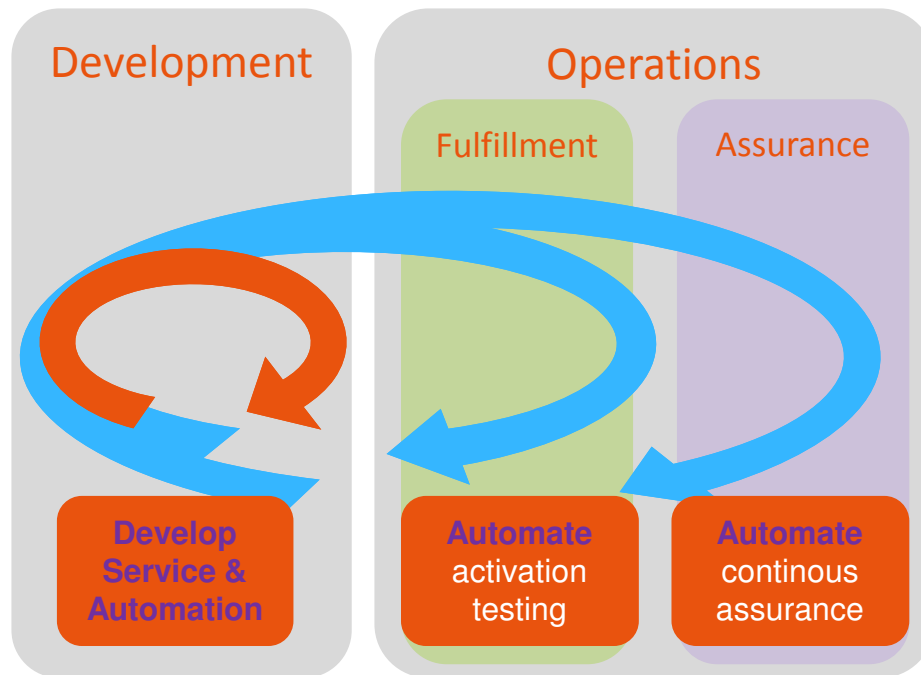
Towards Cloud Native. ■



The problem of Agility.



Test in DevOps Context.



- Automate **turn-up testing** of Services as part of **delivery** process
- Automate **continuous testing** during the life-time of the Service
- **Automation** needs to be considered at development-time

PoC participants.

Service Provider



Open Source



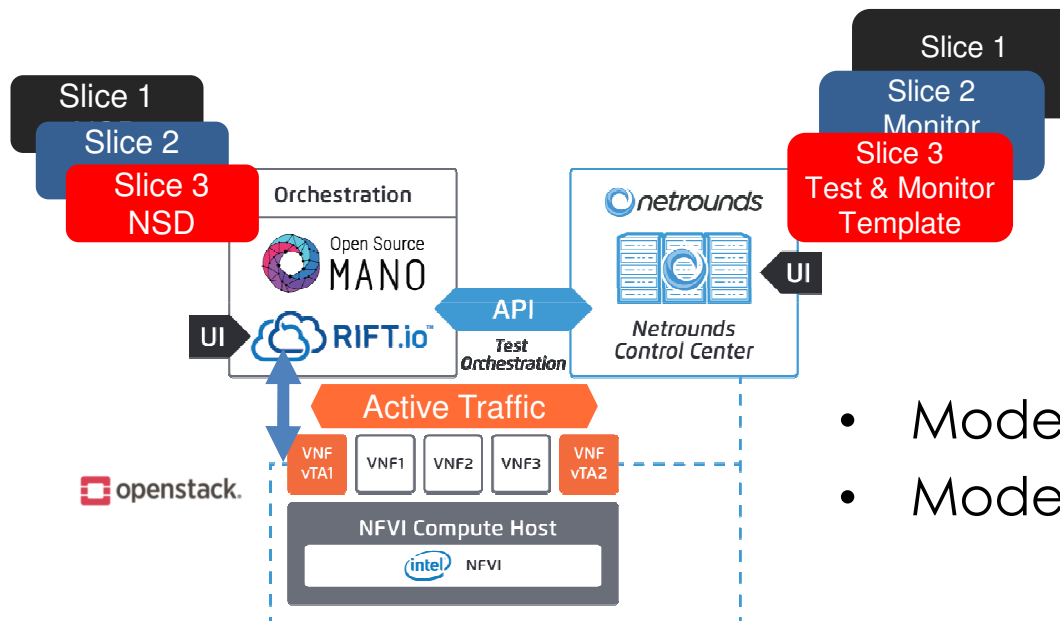
Vendors



System Integration

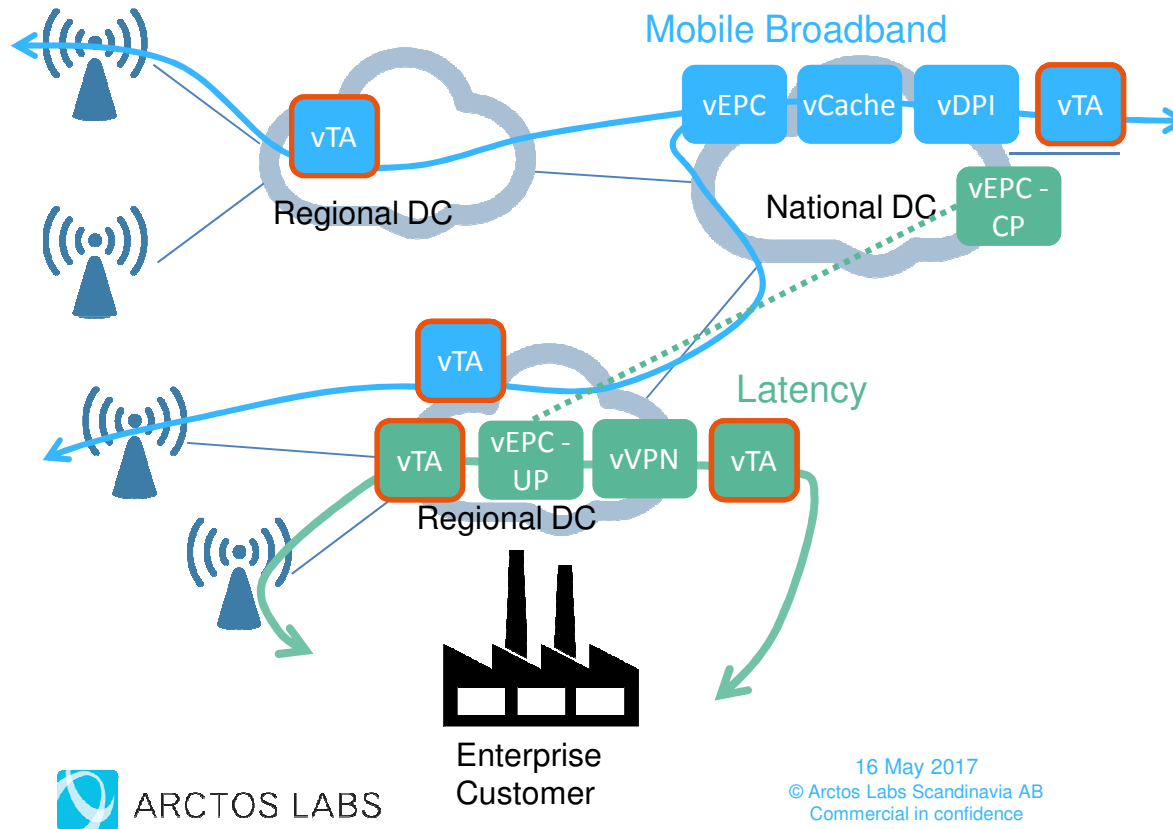


PoC Setup.



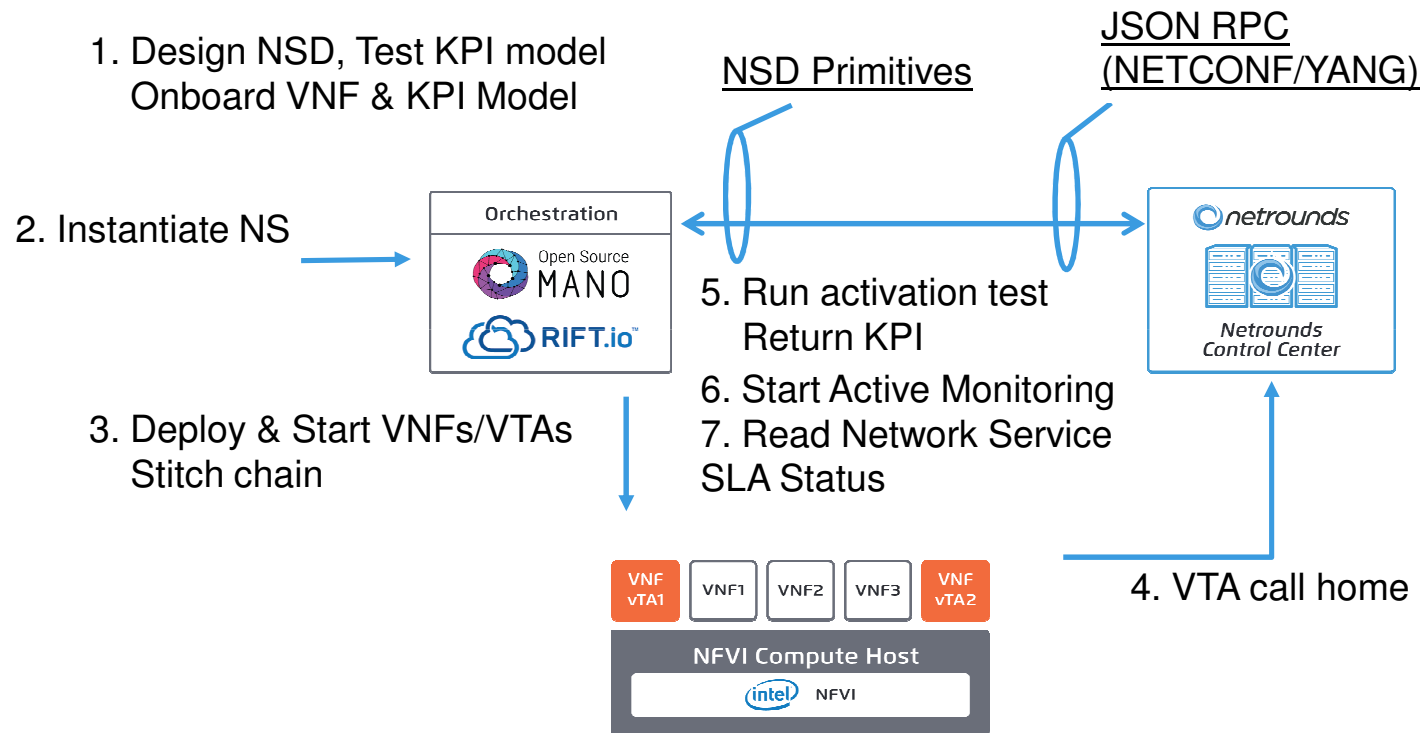
- Model driven orchestration
- Model driven KPI test

Outlining PoC Scenarios.

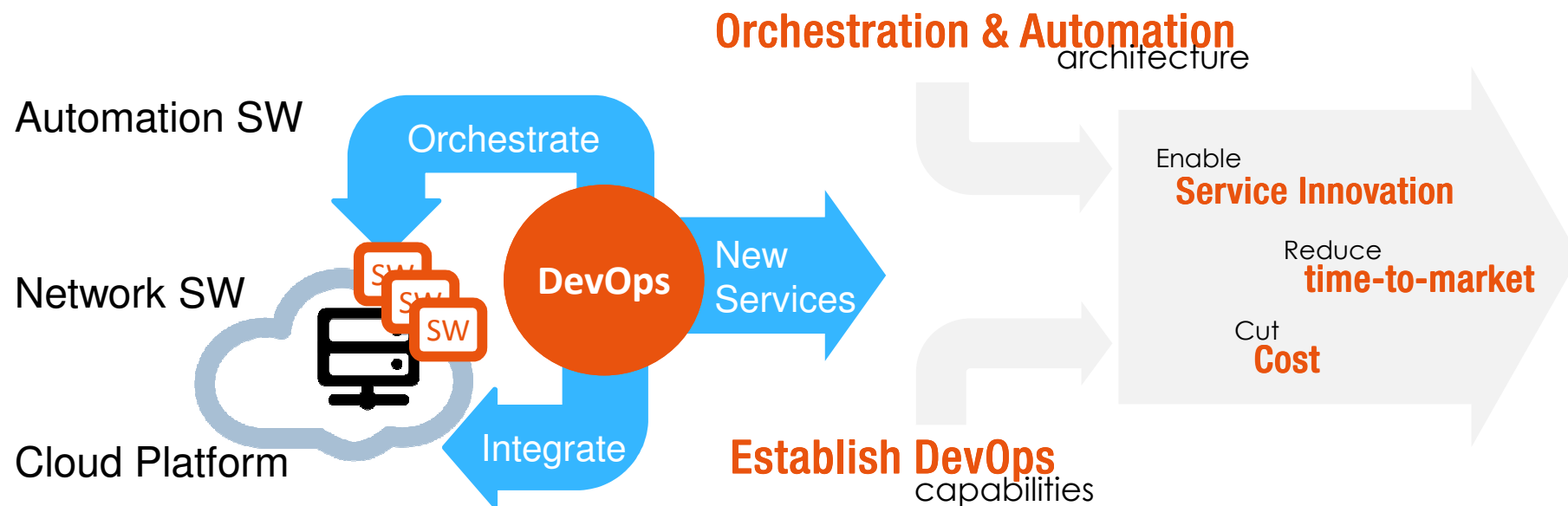


- Different slices have **different E2E KPI**
- Different slices are **deployed differently**
- Need for a **programmable test** solution that can be **dynamically deployed** in the network

Automation Flow.



Conclusion. ■



Validating VNFs on a Cloud infrastructure

1 Executive Summary

The document contains a comprehensive view on aspects related to testing and validating VNFs. Such testing and validation activities are vital for ensuring that the VNFs are ready for production use.

The document fully understands that aspects are critical to achieve the needed quality. VNFs need to be tested and validated in a way that is relevant to the target environment. There is no one-size-fits-all approach, and various validation methods can be used to achieve the required quality.

Ensuring the right balance between testing and validation is critical to achieving a more robust system and ensuring the level of resilience.

2 Introduction

NFV and SD-WAN have gained momentum over the last couple of years. The advantages of moving towards a software-defined approach, providing virtualized networking services running on the top of virtualized general-purpose hardware are significant.

The technologies provide a better, more flexible operation with respect to resource consumption, cost, scalability etc. Cloud-based services (PaaS) can assist in the operation of virtualized network services, allowing for software-defined networking (SDN) and virtualized network functions (VNFs). This further enables the operation of reducing time to market and increasing time to market, allowing for faster deployment. The above represents just a fraction of all possible benefits that can be realized.

As is often the case, if there are new opportunities, there are also new problems and challenges. This paper outlines some aspects of these challenges, and more specifically, considerations on how to test and validate VNFs (Virtual Network Functions) prior to their production deployment.

Thank you!

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