



Automation for SP Transformation

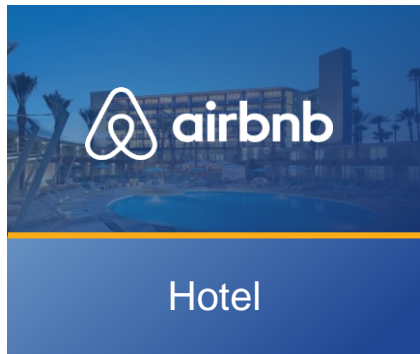
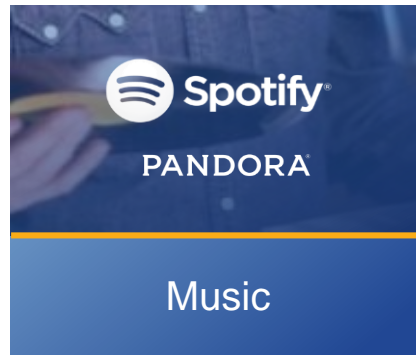
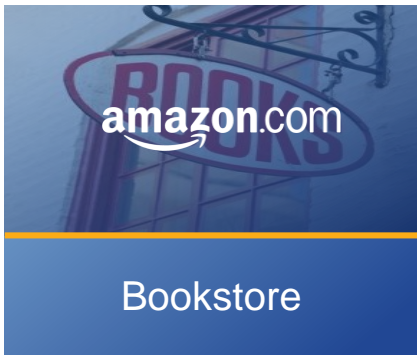
Anastassios Lilakos

Auto

October 2017



Digitisation Changing Businesses and Industries



The Mobile Landscape Keeps Growing

By 2021

Mobile
Momentum
Metrics

More
Users



2016

4.9
Billion

2021

5.5
Billion

More
Connections



8
Billion

12
Billion

Faster
Speeds



6.8
Mbps

20.4
Mbps

More
Video

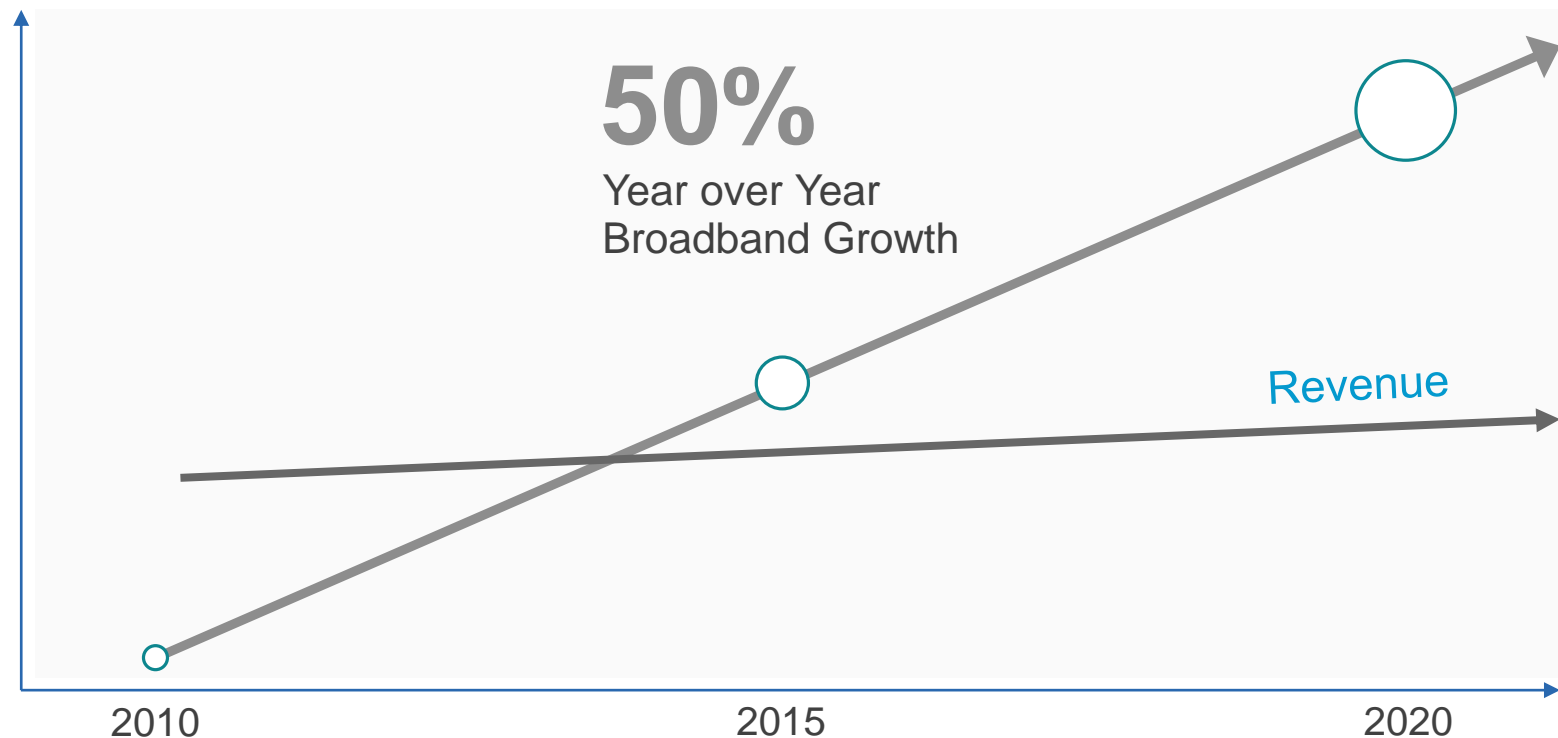


60% of
Traffic

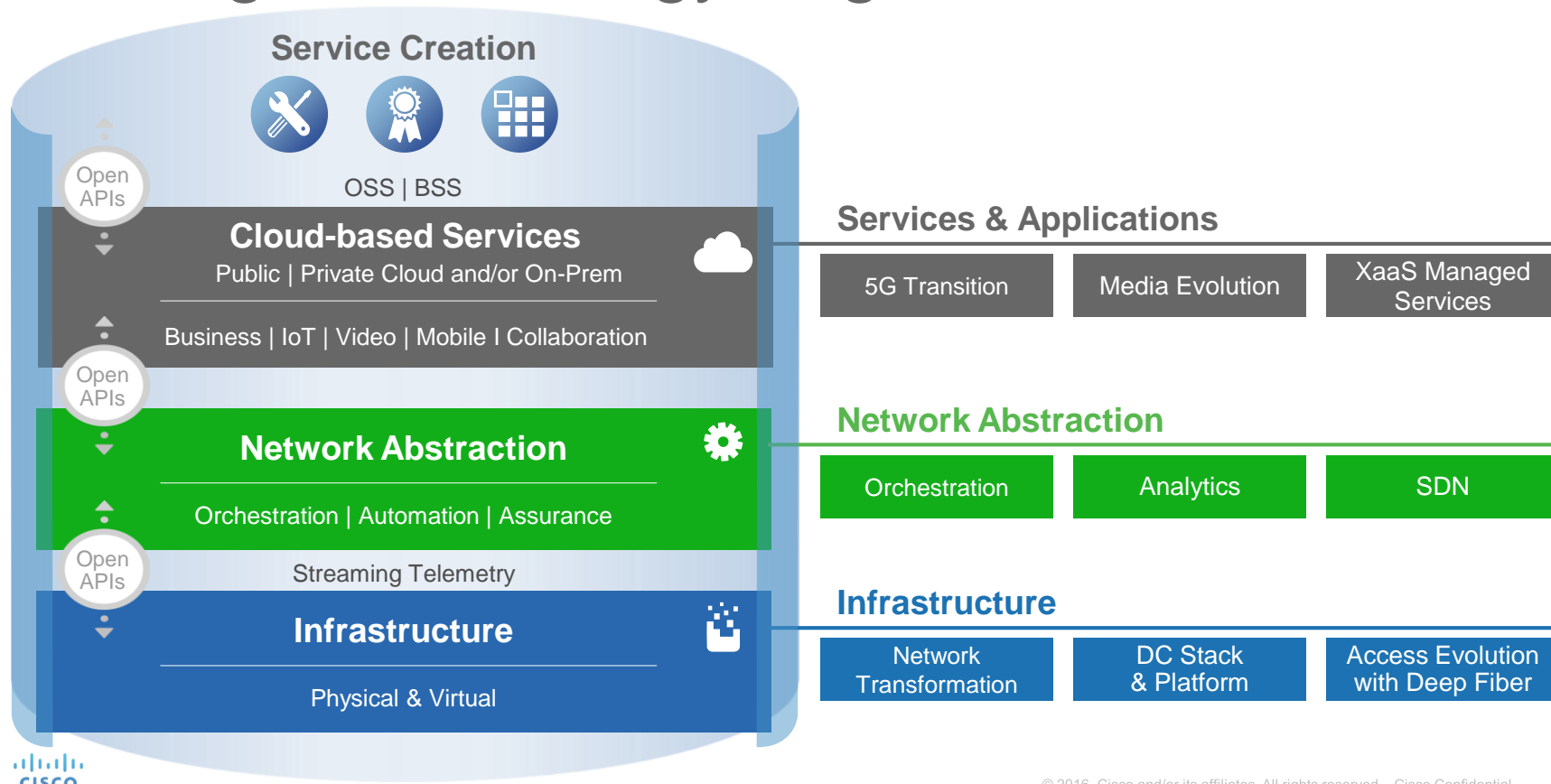
78% of
Traffic

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2016–2021

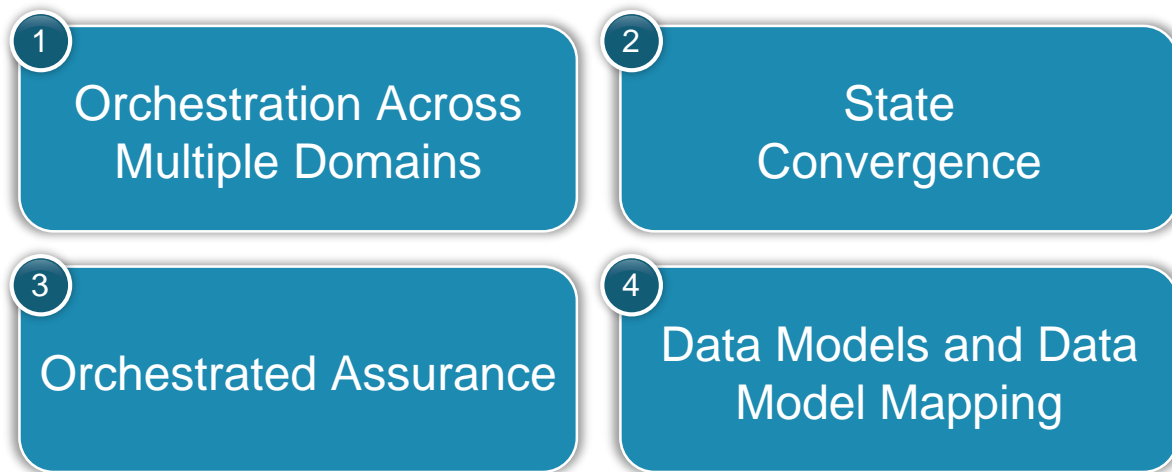
Broadband Growth vs. Revenue Growth



Strategic Technology/Organization Transition



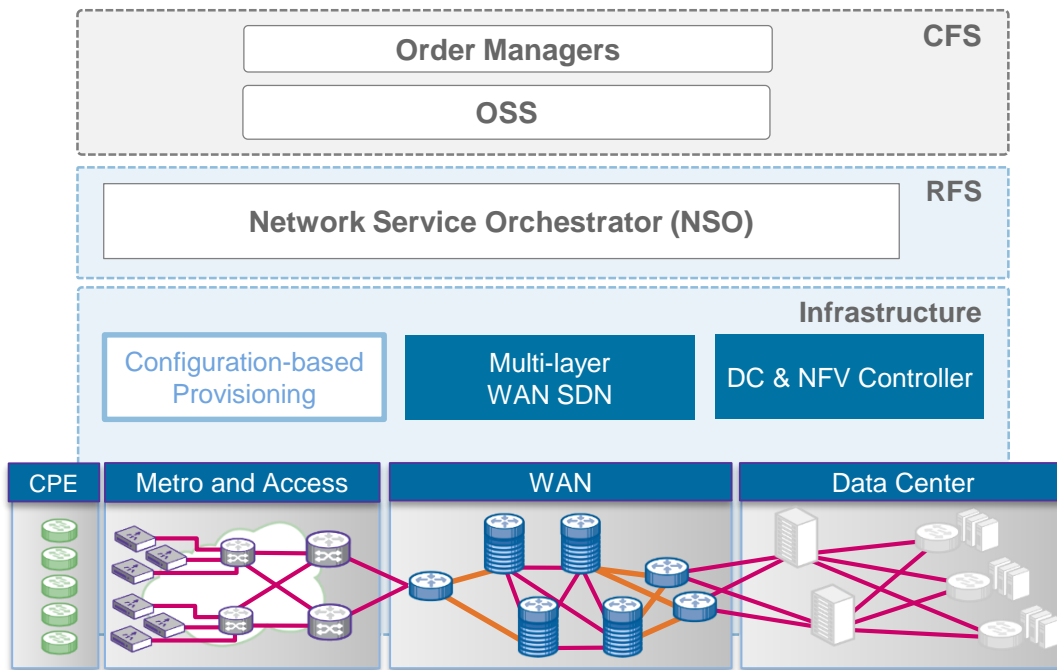
The Four Pillars of Orchestration



Foundation for Full Lifecycle Service Automation

Cisco Orchestration Architecture

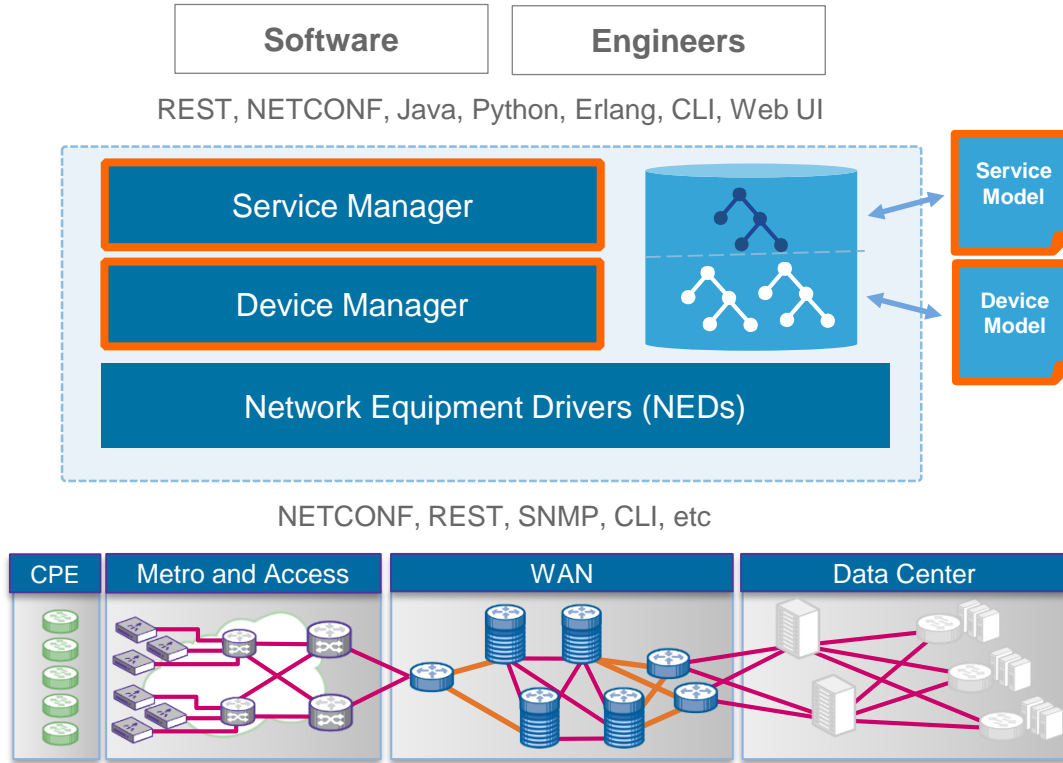
High Level View



- Model-driven end-to-end service lifecycle and customer experience in focus
- Seamless integration with existing and future OSS/BSS environment
- Loosely-coupled and modular architecture leveraging open APIs and standard protocols
- Orchestration across multi-domain and multi-layer for centralized policy and services across entire network

NSO Main Feature

#1 Model-based Architecture



- No hard-coded assumptions about:
 - Network services
 - Network architecture
 - Network devices
- Instead:
 - Data models written in YANG (RFC 6020)

The Intangible Benefits

Intangible
Benefits

Intangible Benefits

Organizational Expertise

Network Integrity

Service Assurance

Increased Collaboration

Tangible Benefits - OpEx & Time to X Savings

Service Automation

Change Request from Existing Customers

Add New Customers

Service Disconnect

Incident Resolution

Introduction of New Service or Capabilities

Time to Revenue Gain

Network Automation

Maintenance Window (MOP)

ACL Management

Device Migration

Config Audit/Validation

Network Refresh/Regional Rollouts

Device Provisioning

Business Impact of Automation

Improve OpEx & Reduce IT Investment



Network and Service Operations

- Time to deployment
- Time to activation



IT Investment

- BSS/OSS update
- Integration



Improve Revenue & Avoid Costs



Revenue Uplift

- FTTR*
- Churn Reduction



Cost Avoidance

- 3rd party Fees
- Truck Rolls



Hybrid Approach To Automation & Orchestration

Start with Operation Efficiency for Legacy and Expand into Virtual Services Monetization

Optimization

OpEx Efficiency
Time to Market
Time to Revenue

Phase 1

Orchestration and Automation

Legacy Services

Physical Network
Elements

Monetization

New On Demand Services
Dynamic Scale up and down
Lower Opex and Capex

Phase 2

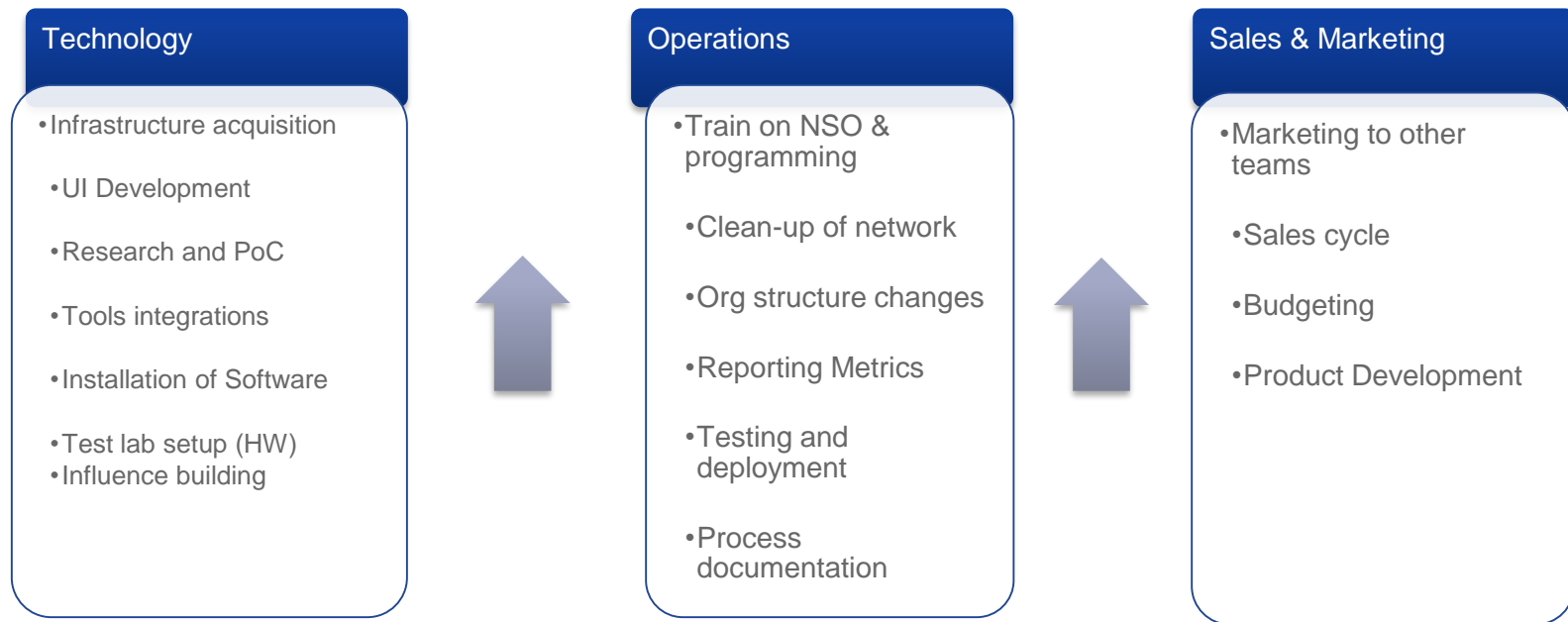
Virtual Services

Virtual Network
Elements

Long Term Automation Journey

Other
considera
tions

Alignment for full, end-to-end automation to take root:



Parallel execution will lead to success in reasonable time frames

