



*TOMORROW
starts here.*

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The Evolved Service Provider: Accelerating a New Class of Carrier Cloud Services

BRKSPG-2617

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Senior Manager, Service Provider Architectures

#clmel

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Agenda

- Introduction
- Industry Transitions
 - Lots of Opportunities
 - Many Challenges
- Cisco Vision for a Open Network Architecture
- Cisco Evolved Services Platform
 - It's All in the Economics
 - Use Cases and Experiences
- Summary and Conclusion



A long-exposure photograph of a city street at night. The foreground is filled with vibrant, multi-colored light trails from moving vehicles, creating a sense of motion. In the background, a modern pedestrian bridge with blue lighting spans the street. Tall buildings with illuminated windows and storefronts line the street, and several flags are visible on poles to the left.

Industry Transitions Opportunities and Challenges

Connecting the Unconnected

The Internet of Everything

Over 70% of humans are **NOT**
connected



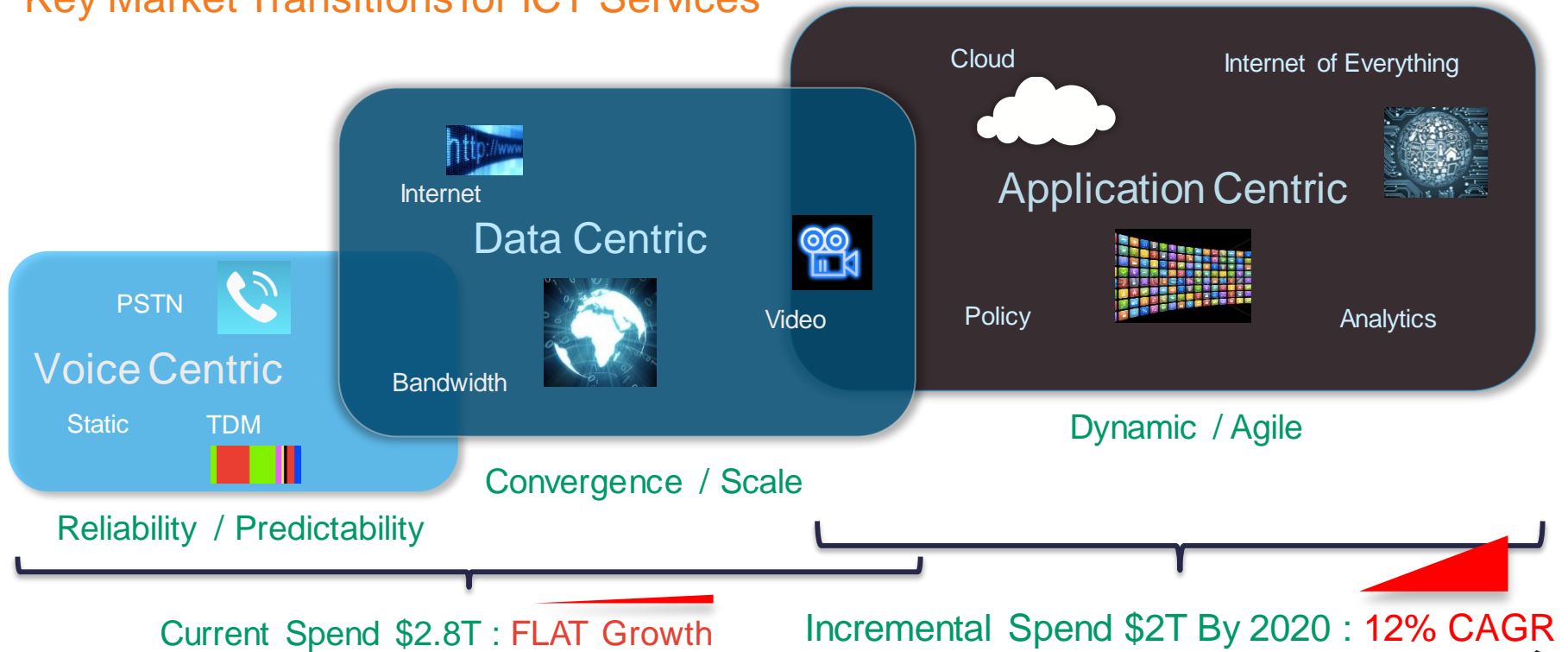
Of things are **NOT**
Connected

\$19T
*Value at Stake
over next decade*

>50B connected things before the end of the decade

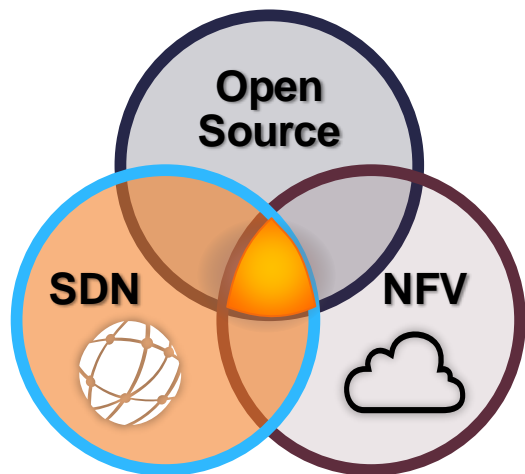
Catalyst For Change, Adaptation

Key Market Transitions for ICT Services



Several Industry Initiatives

Each Addressing An Aspect of the Challenges and Opportunities, Examples:



Open Source, Open APIs

Enabling Faster Innovation and Wide Participation

Network Functions Virtualisation, NFV

Transforming Network Architectures & Operations

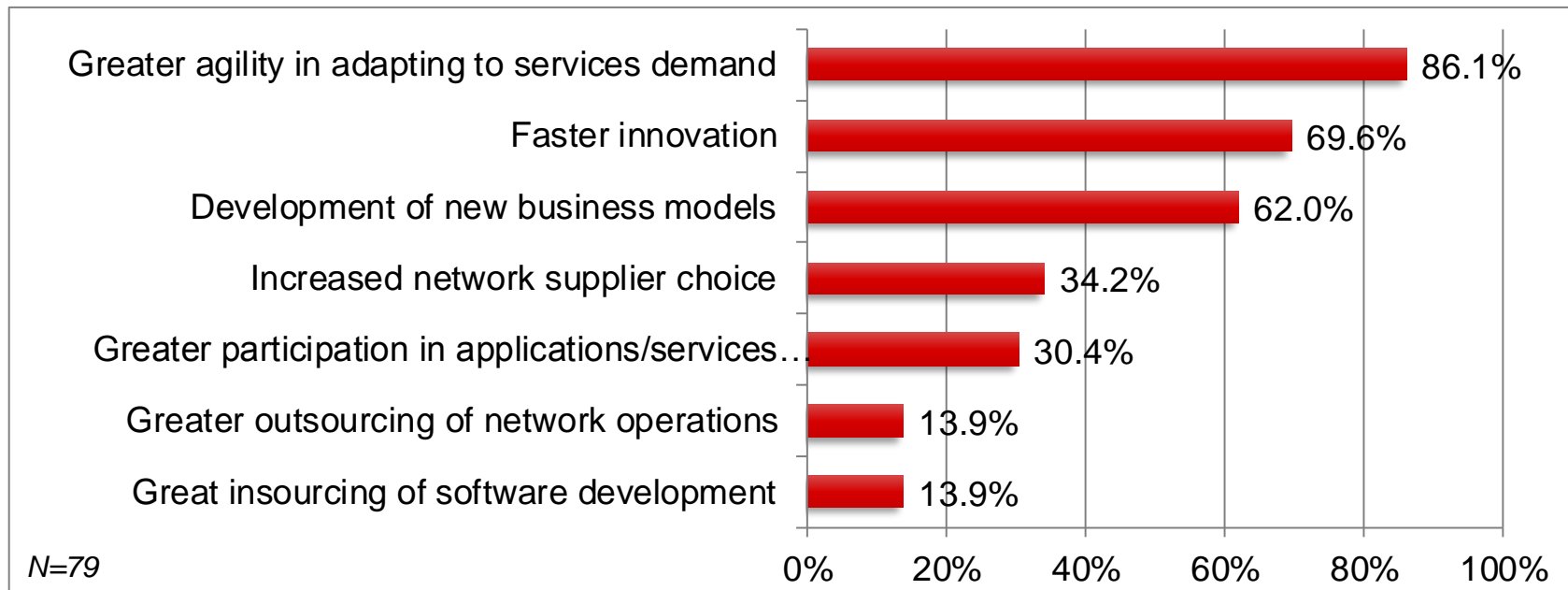
Software Defined Networking, SDN

Abstracting to Better Application & Network Interaction

Beware the hyperbole – Look for the proven experience

Perceived Benefits of Adding SDN/NFV to the Network

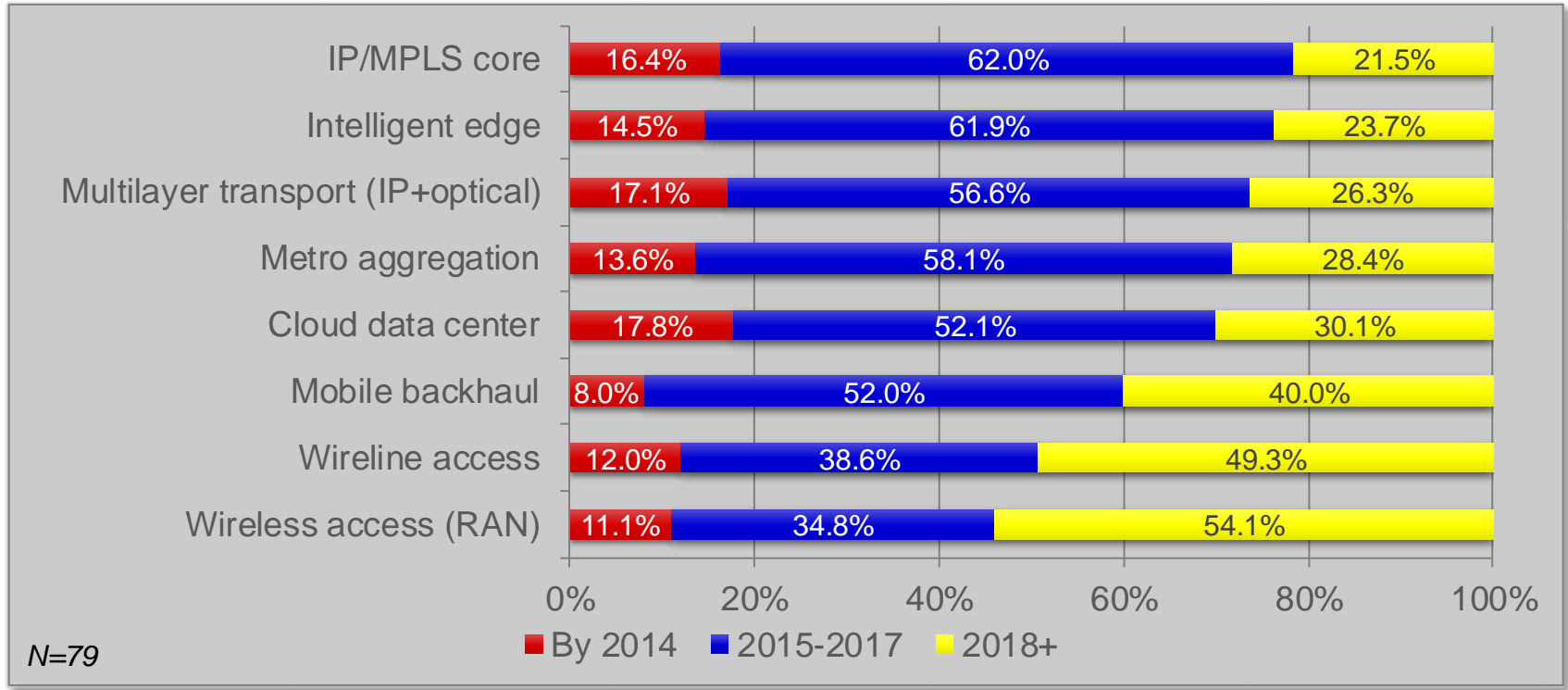
Service Providers Worldwide Survey



- Top benefits are tied to revenue generation – through speed, adaptability, new services

Source: Heavy Reading Multi-client Study 2014

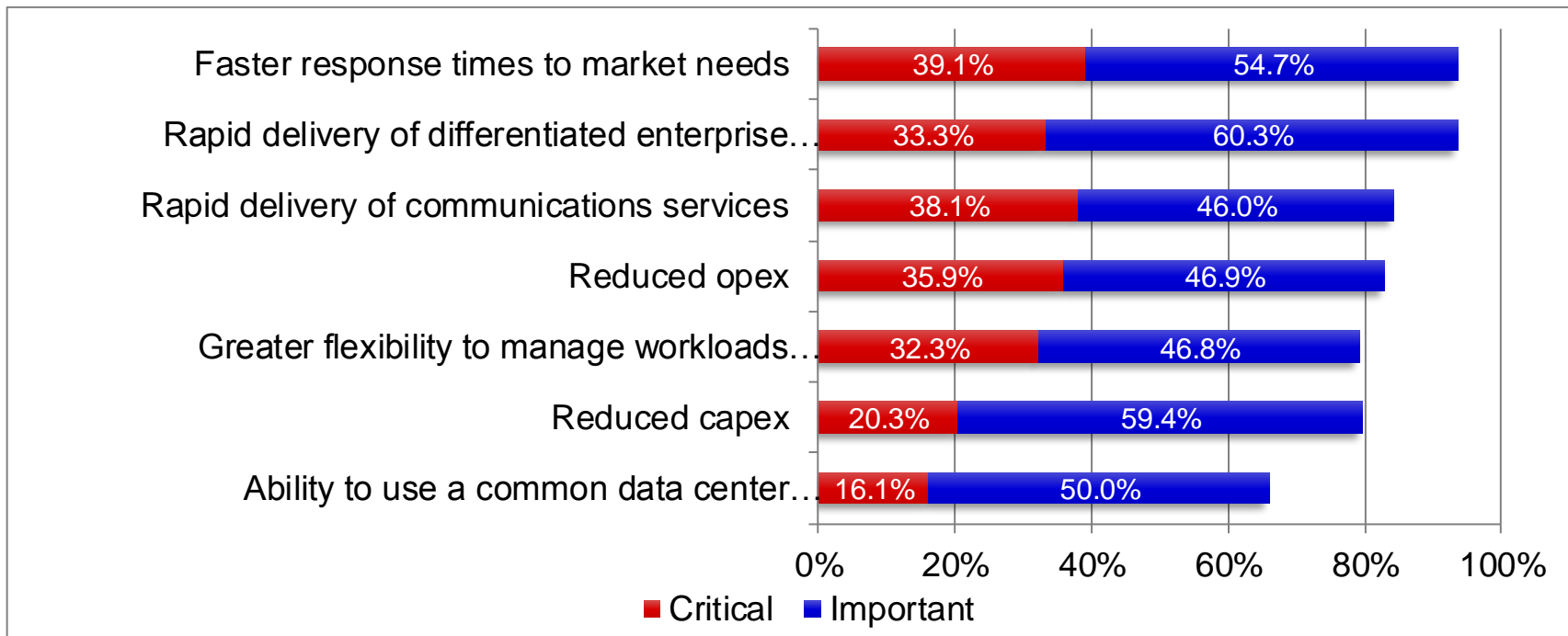
SDN Deployment Timelines by Network Segment



Source: Heavy Reading Multi-client Study 2014

Ranking of Potential NFV Benefits

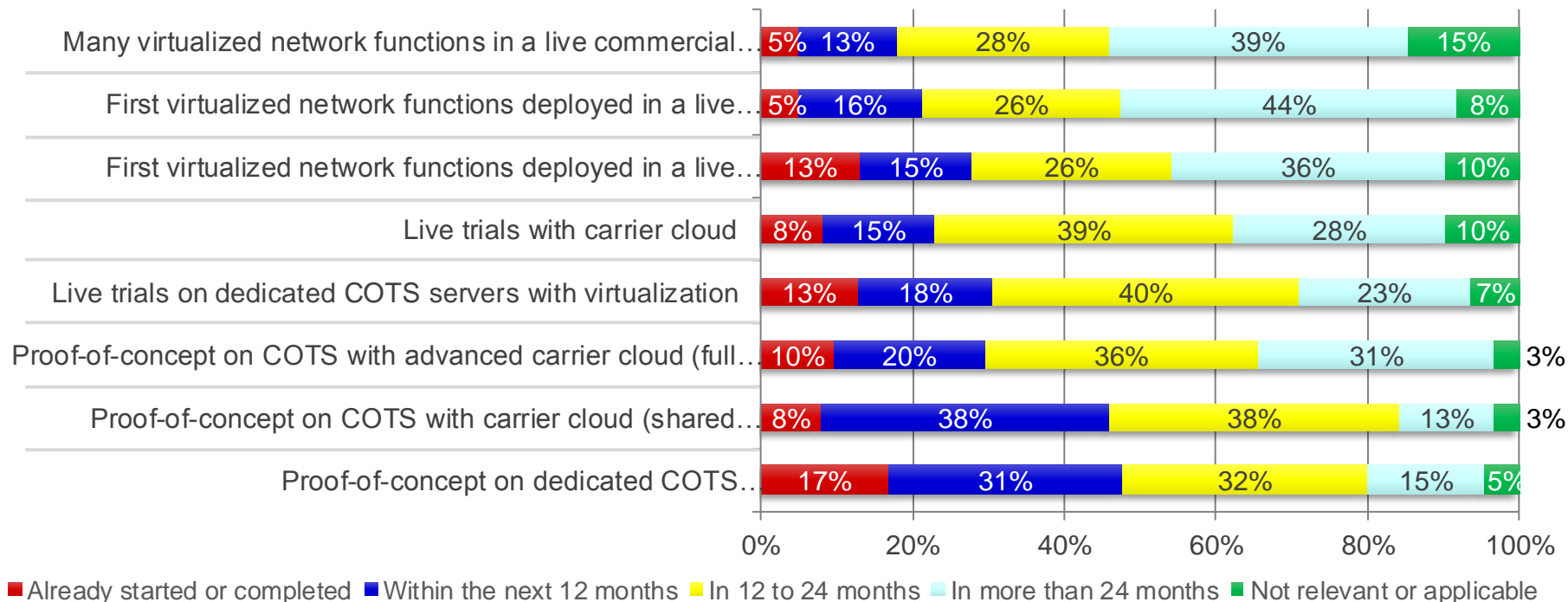
Q: Rate the importance of the following potential benefits of NFV to your company.



Source: Heavy Reading Multi-client Study 2014

NFV Data Centre Deployment Timetable

Most likely timetable for the following NFV data centre deployment stages?



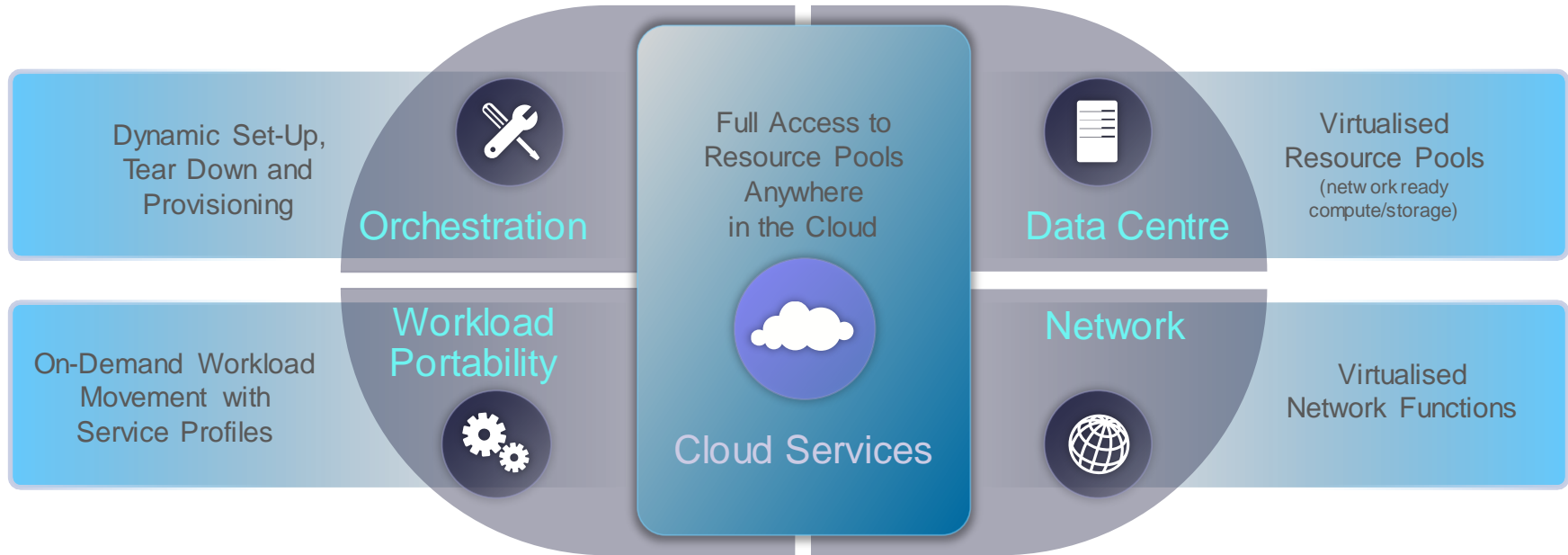
Source: Heavy Reading Multi-client Study 2014

A nighttime photograph of a city street. In the background, there are several tall buildings with lit windows. A pedestrian bridge with a glass railing spans across the street. In the foreground, there are long, colorful light trails from cars, primarily in shades of yellow, orange, and red, indicating motion. The text "Cisco SP Vision For An Open Network Architecture - A Framework For All Services" is overlaid in white on a dark horizontal band across the middle of the image.

Cisco SP Vision For An Open Network Architecture - A Framework For All Services

Our Mission: Business Transformation

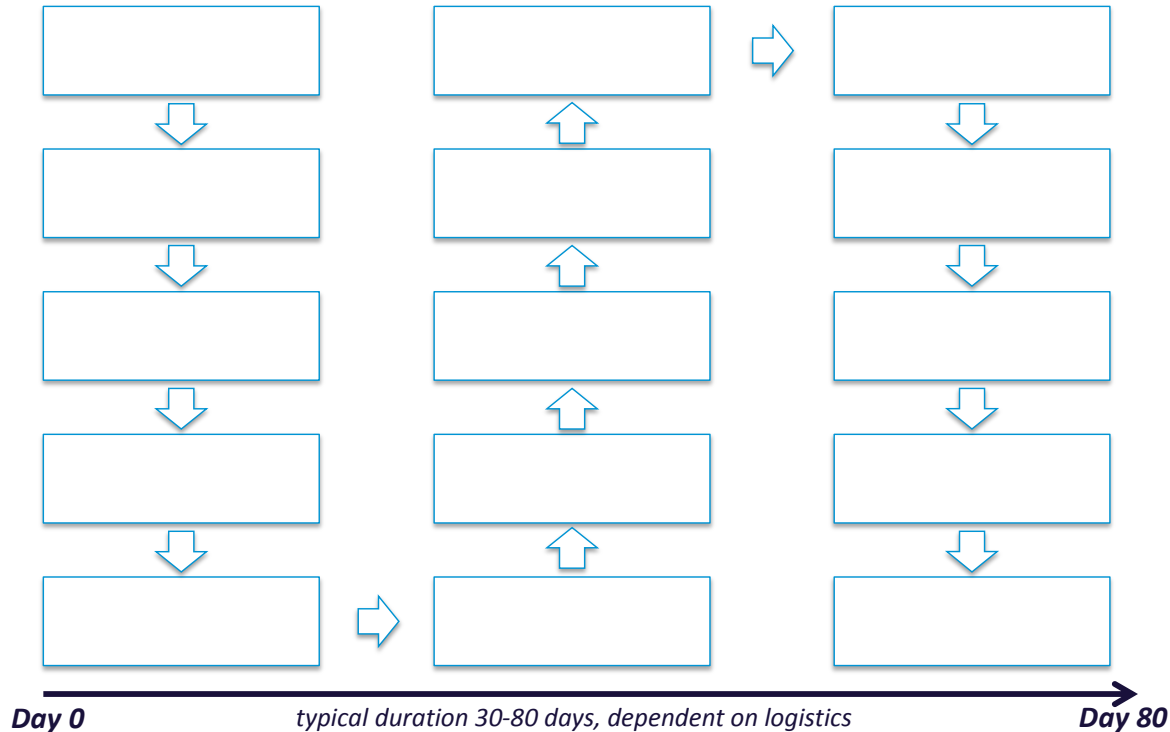
Cost reduction and agility leads to success for all



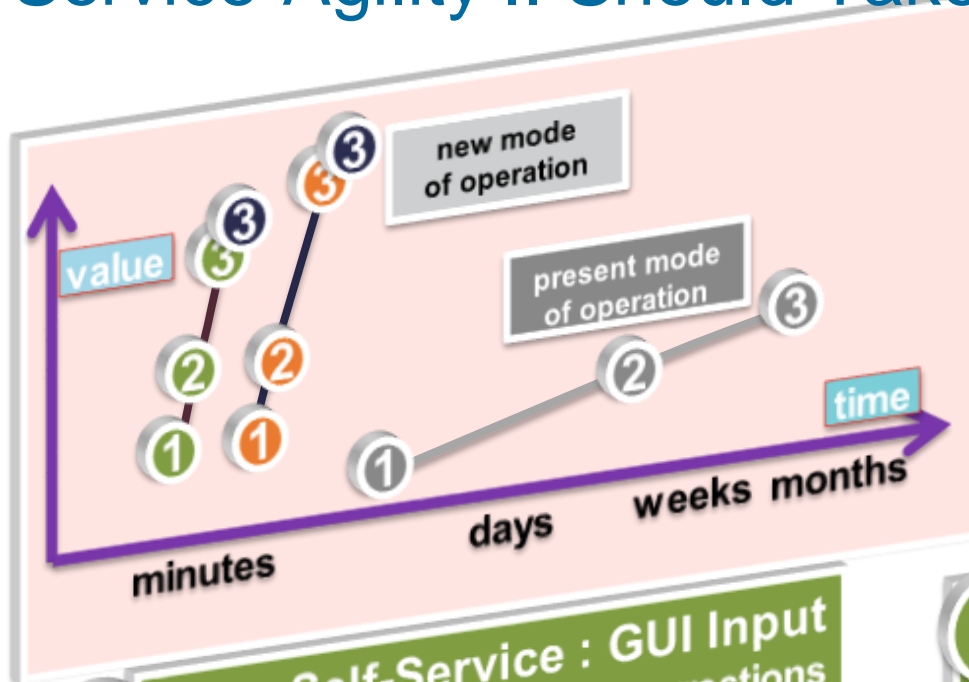
Automation, Virtualisation and Orchestration are required

Service Agility.. Hard in the Physical World

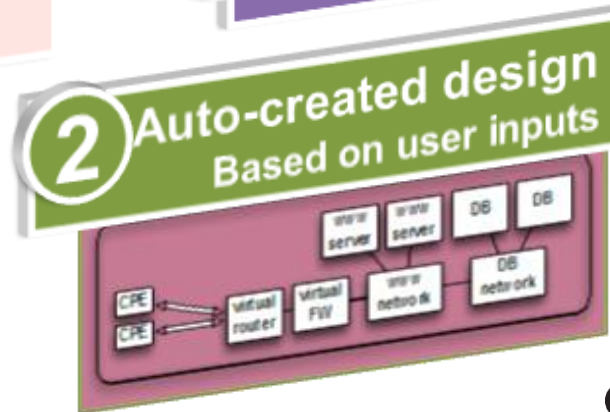
...Lots of Manual Processes Take Months!



Service Agility .. Should Take Minutes!



1 User Self-Service : GUI Input rendering & corrections



4 IT-light Service Control
Self-monitoring,
Self-maintaining
Elastic

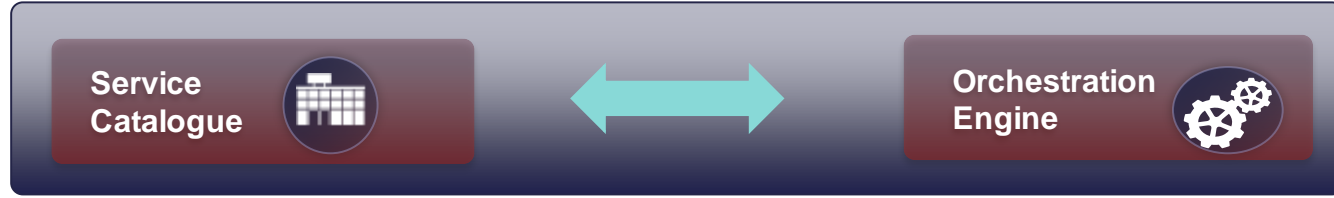
3 Order Auto-orchestrated
in Virtualised Multi-Service
Smart Infra Cloud

What is Needed to Deliver Cloud Services?

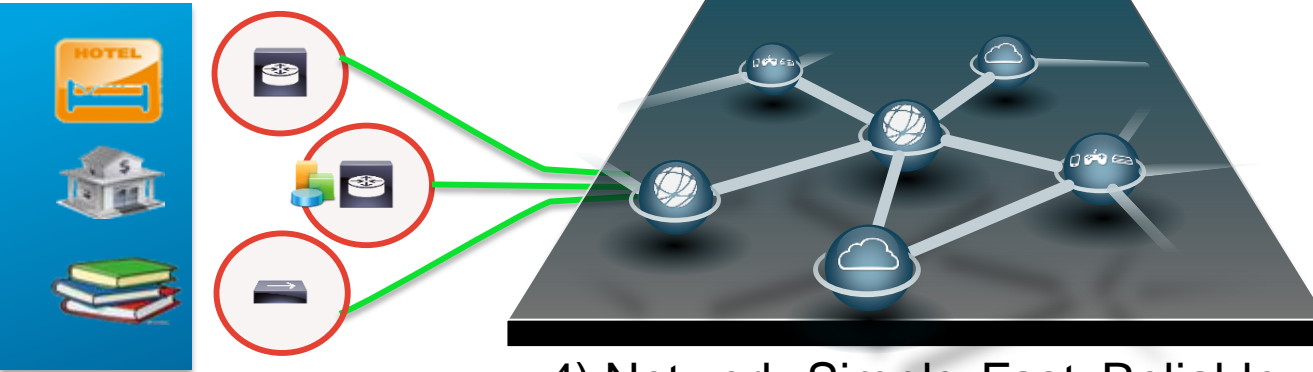
1) Self Service



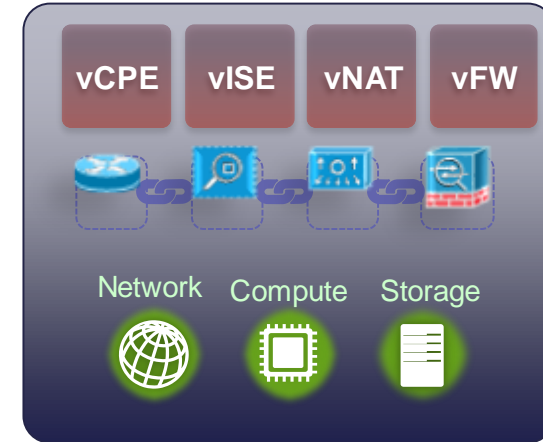
2) Orchestration



5) Flexible CPE – Zero Touch Provisioning



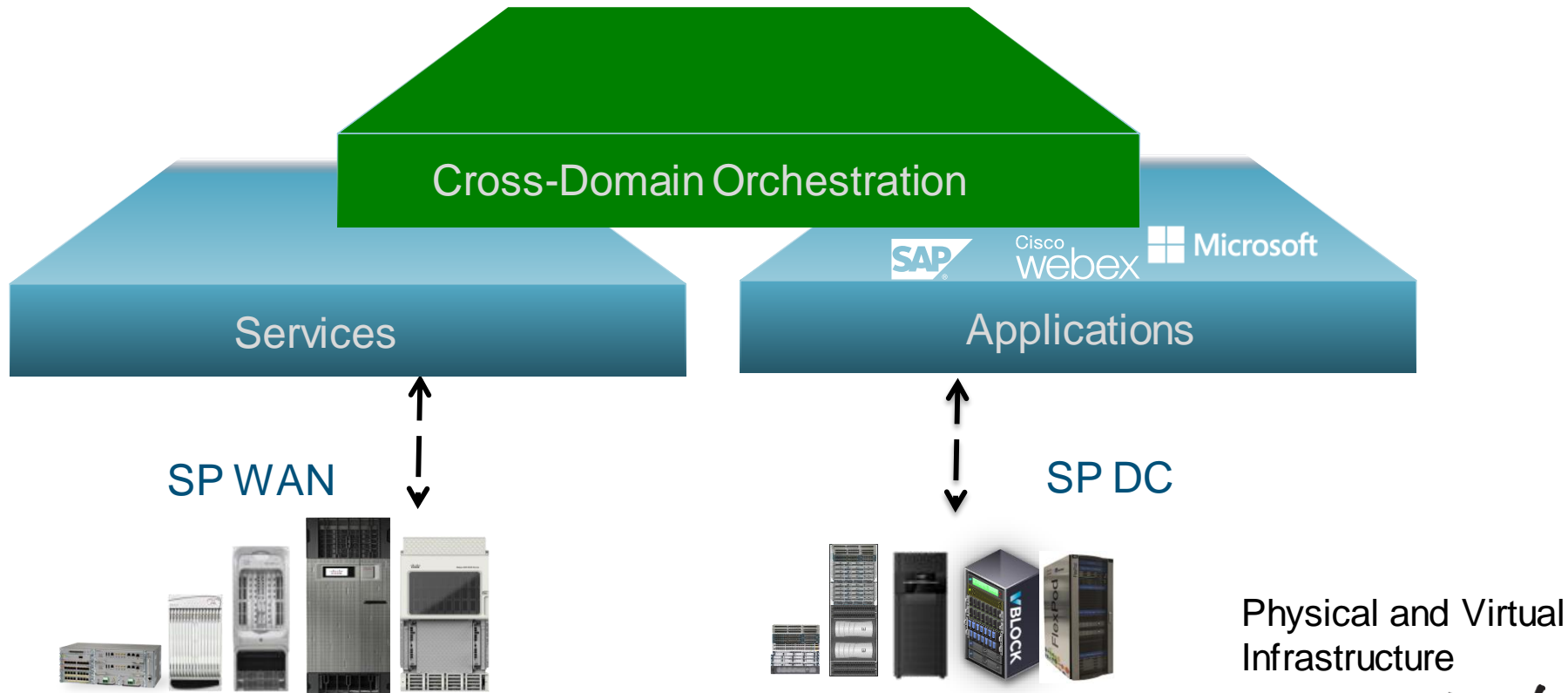
4) Network: Simple, Fast, Reliable



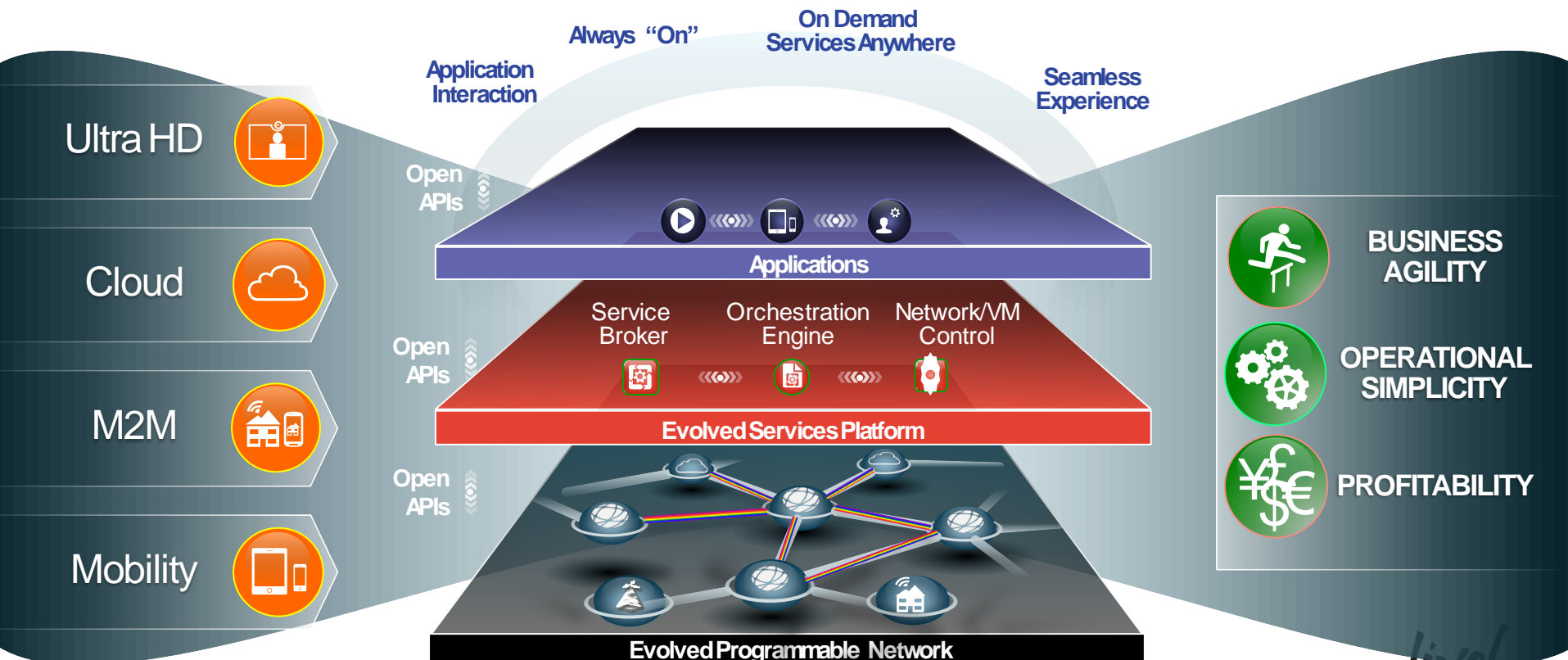
3) Virtualised Services

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Orchestration



An Open Network Architecture



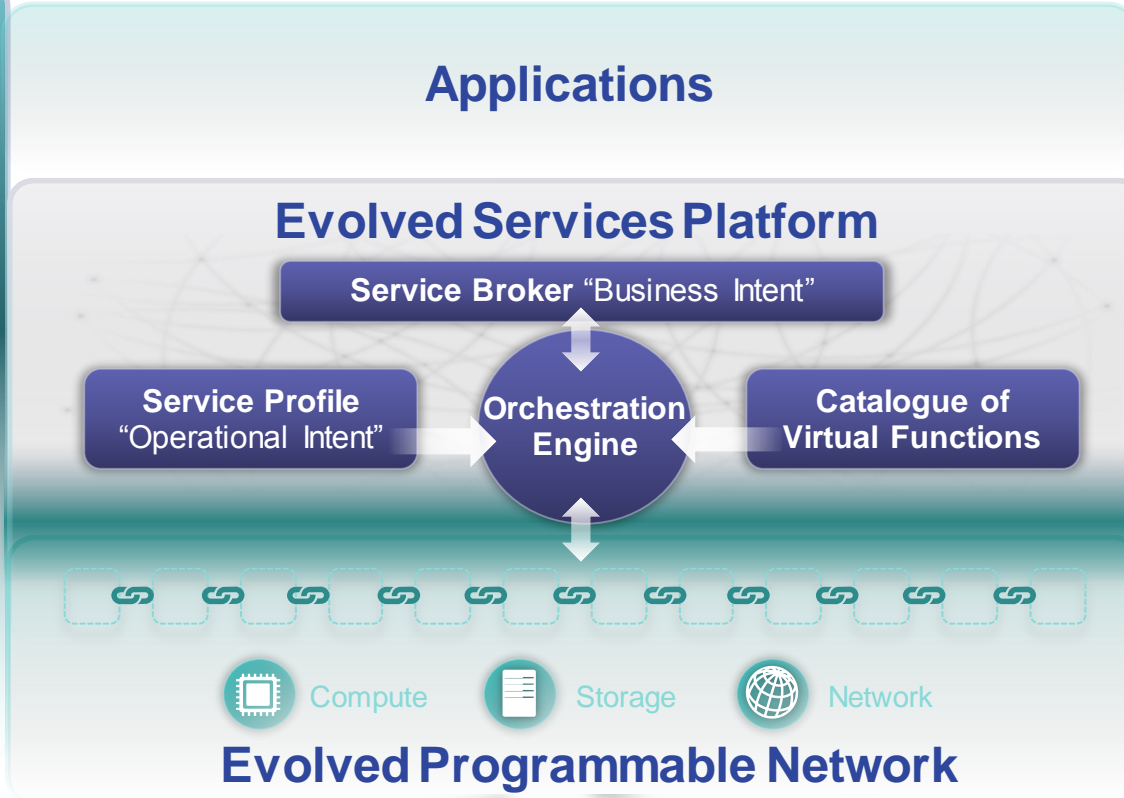
A long-exposure photograph of a city street at night. The foreground is filled with vibrant, multi-colored light trails from moving vehicles, creating a sense of motion and energy. In the background, a modern city skyline is visible with illuminated buildings and a pedestrian bridge spanning the street. The overall scene is a blend of urban architecture and dynamic light patterns.

Cisco Evolved Services Platform

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A Framework For All Services

- Enabling Service Providers
- Enabling Enterprise Private Cloud
- Enabling Cloud Providers
- Enabling Cisco Provided



Open

Extensible

Elastic

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Cisco Service Provider Open Architecture Strategy

Cisco
Services

Applications

Business

Mobility

Video

Consumer

Cloud

Automation
Management
Orchestration
Policy

Evolved Services Platform

Service Broker

Catalogue of
Virtual/Physical
Functions

Orchestration
Engine

Service
Profiles

Evolved Programmable Network

Physical
And Virtual
Infrastructure

VNFs



Network

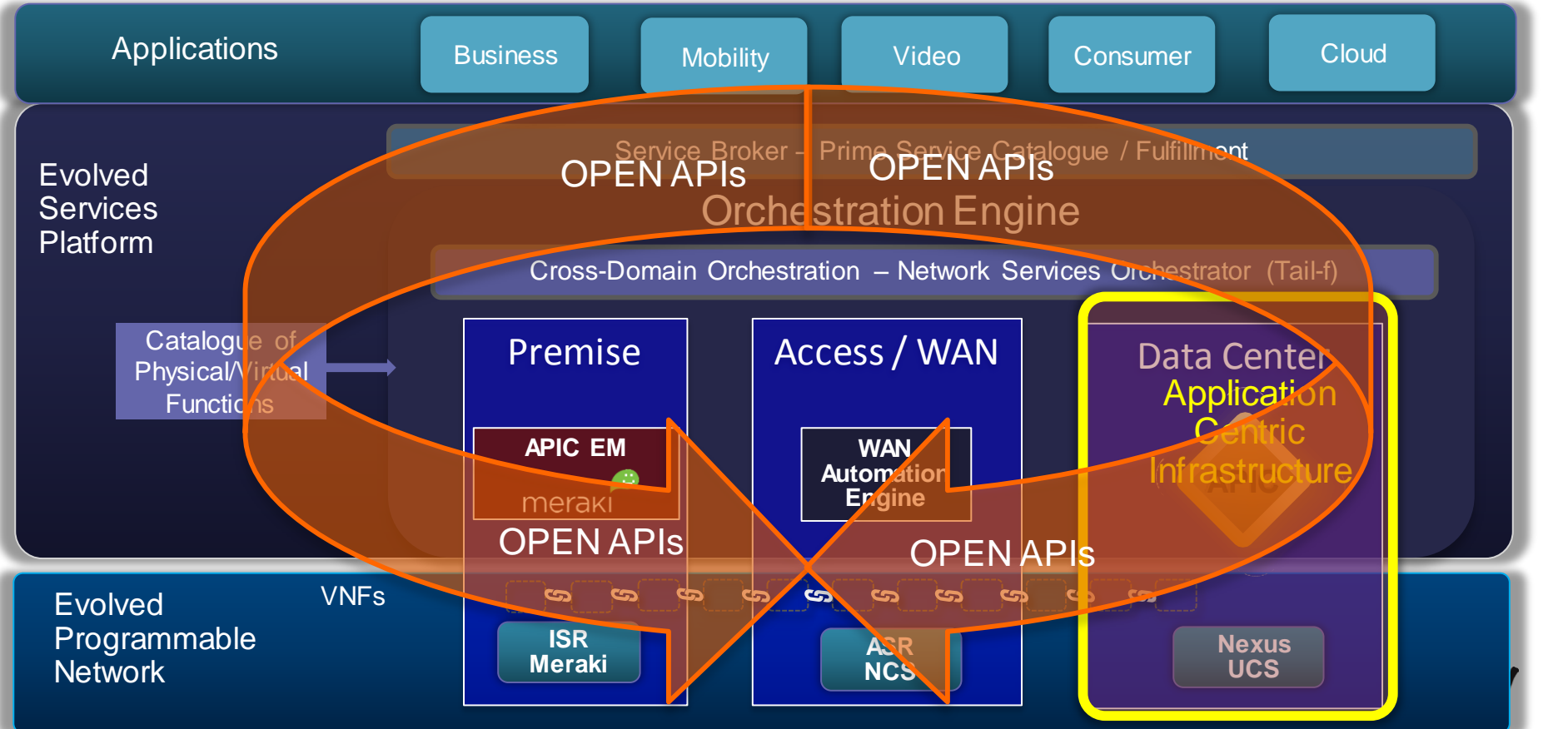


Compute

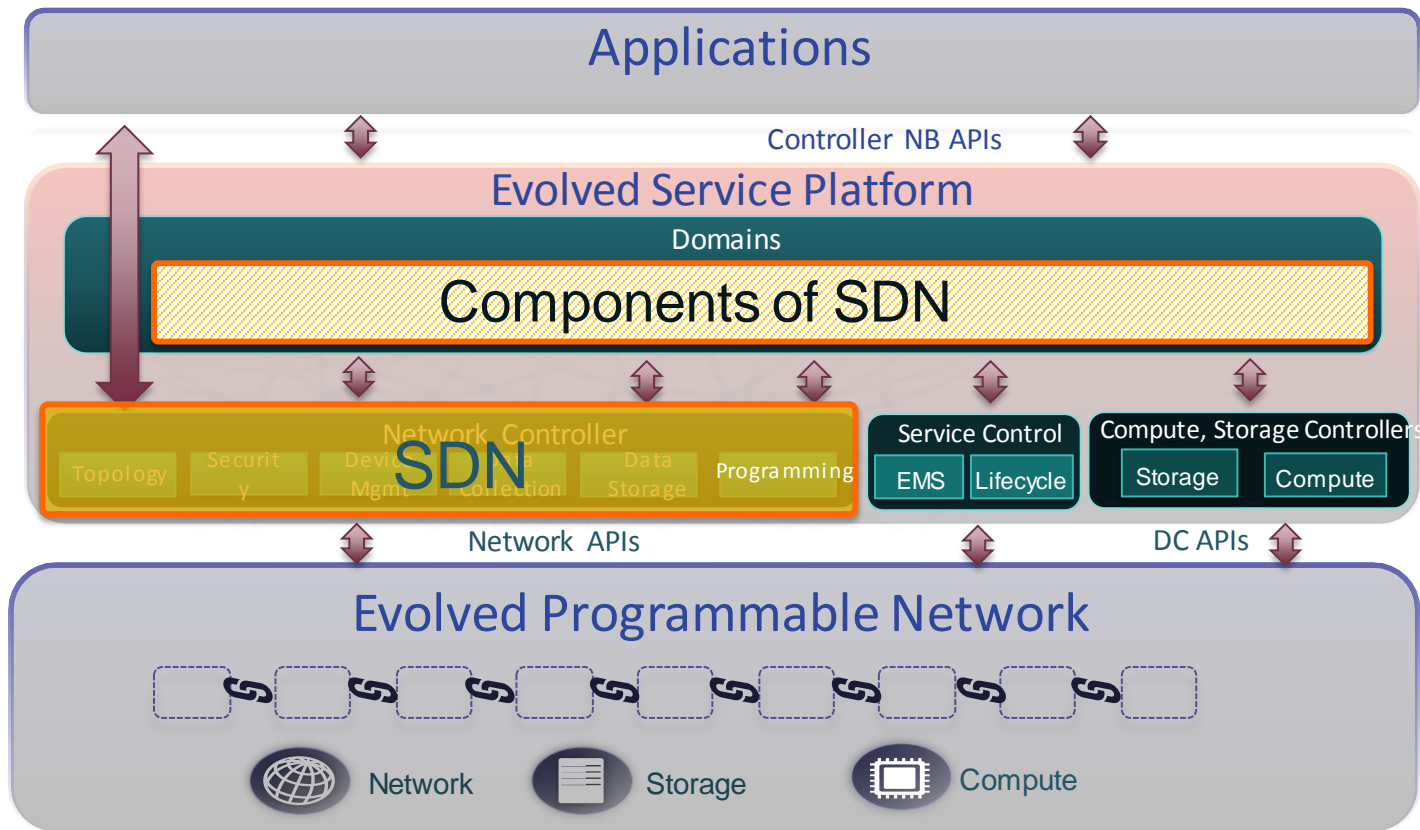


Storage

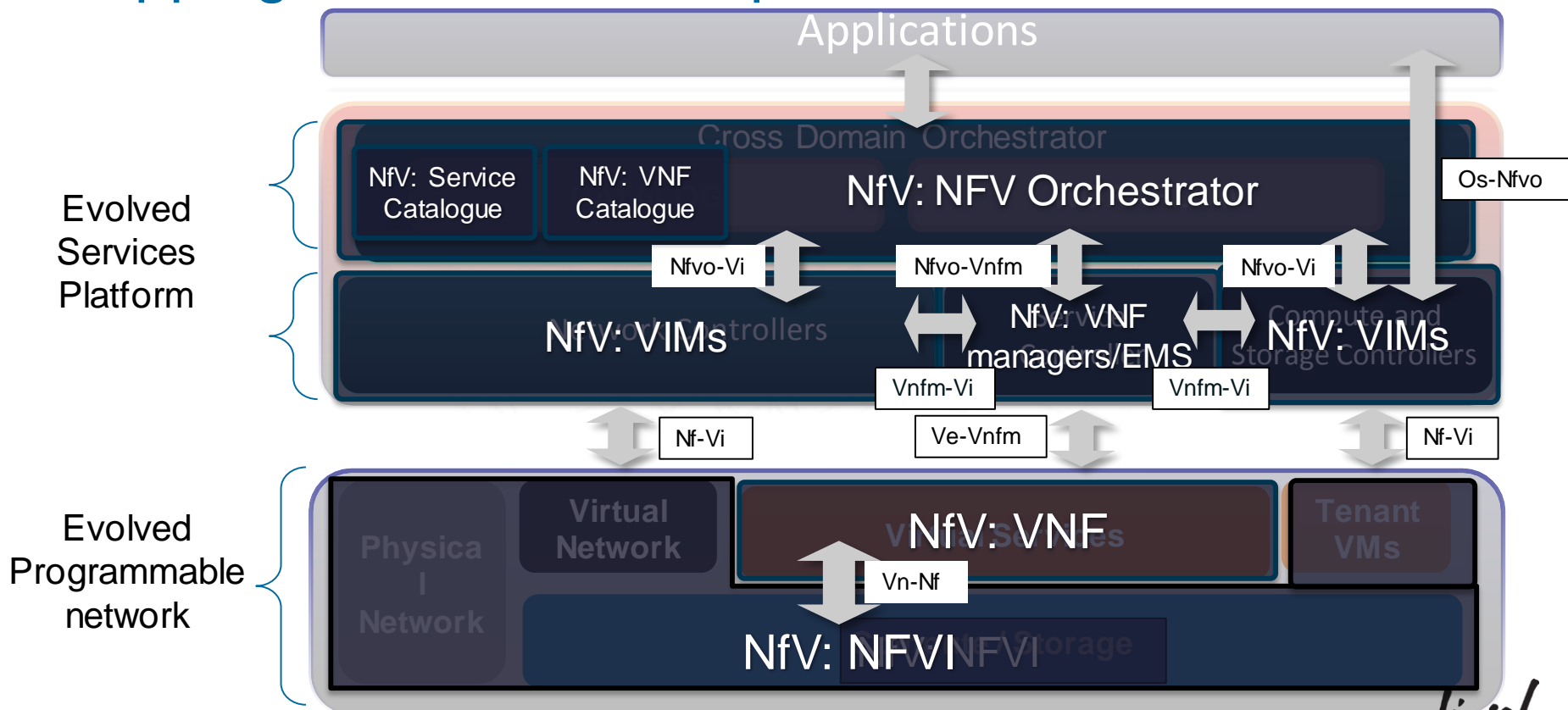
Open Network Architecture – Elastic, Application Centric



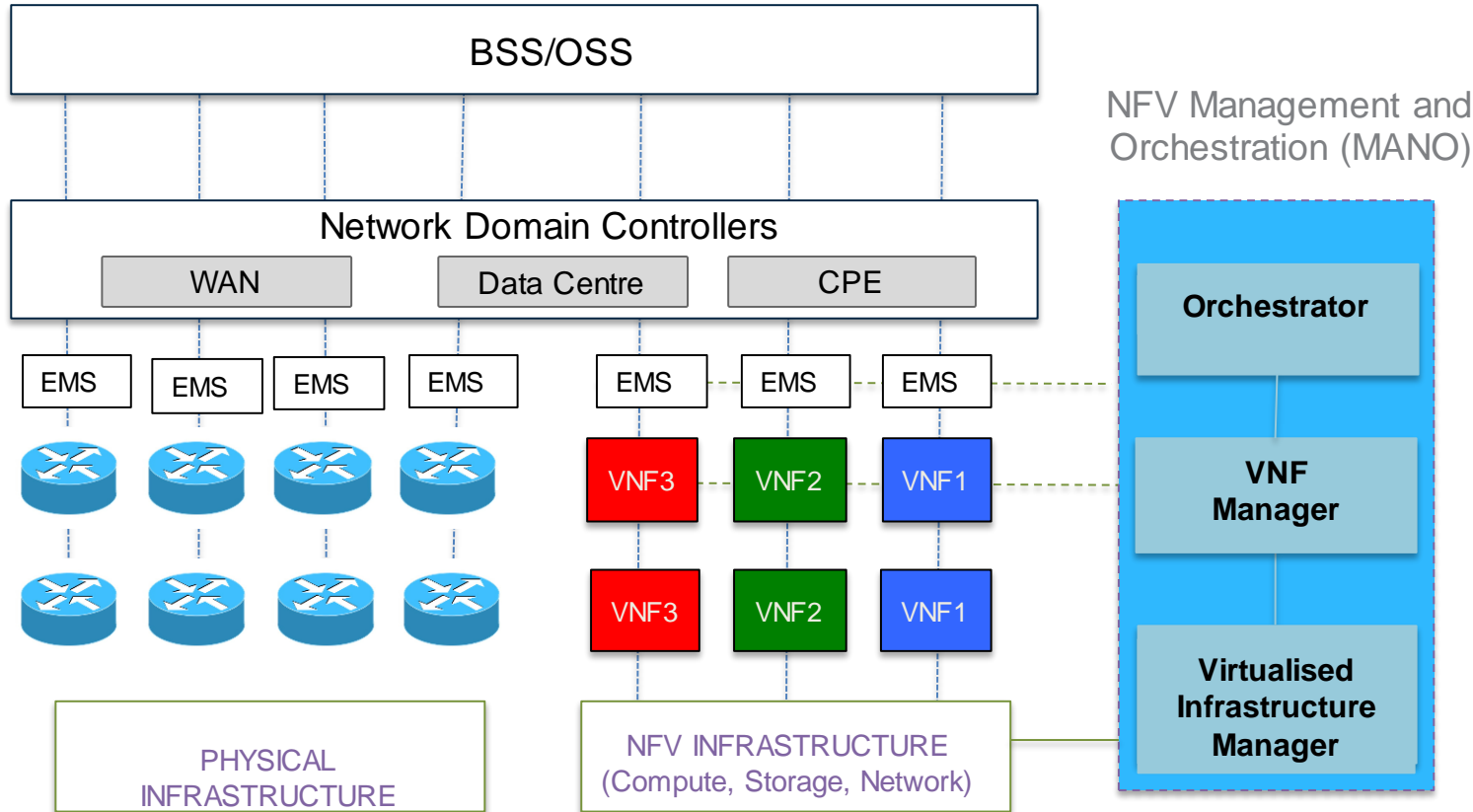
Mapping SDN to Cisco Open Network



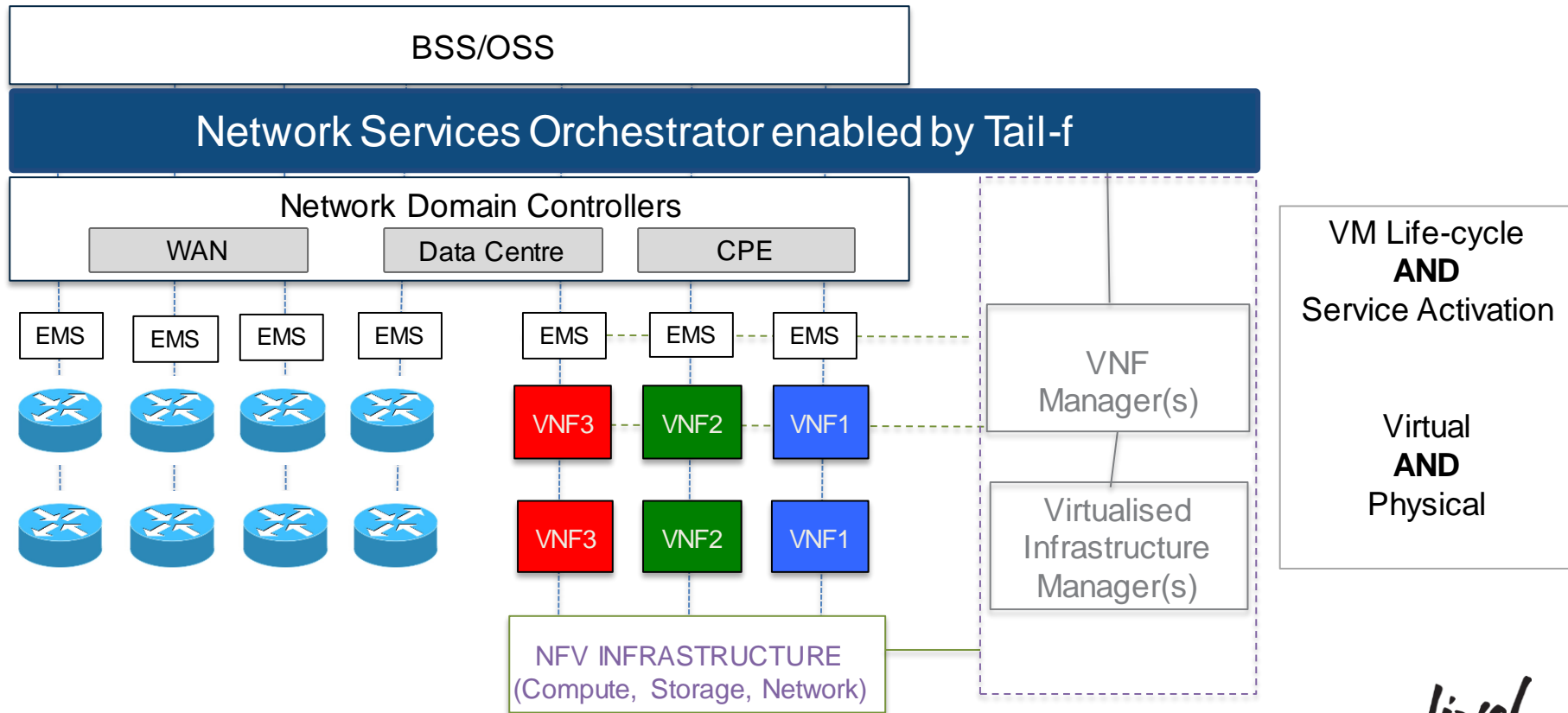
Mapping NFV to Cisco Open Network



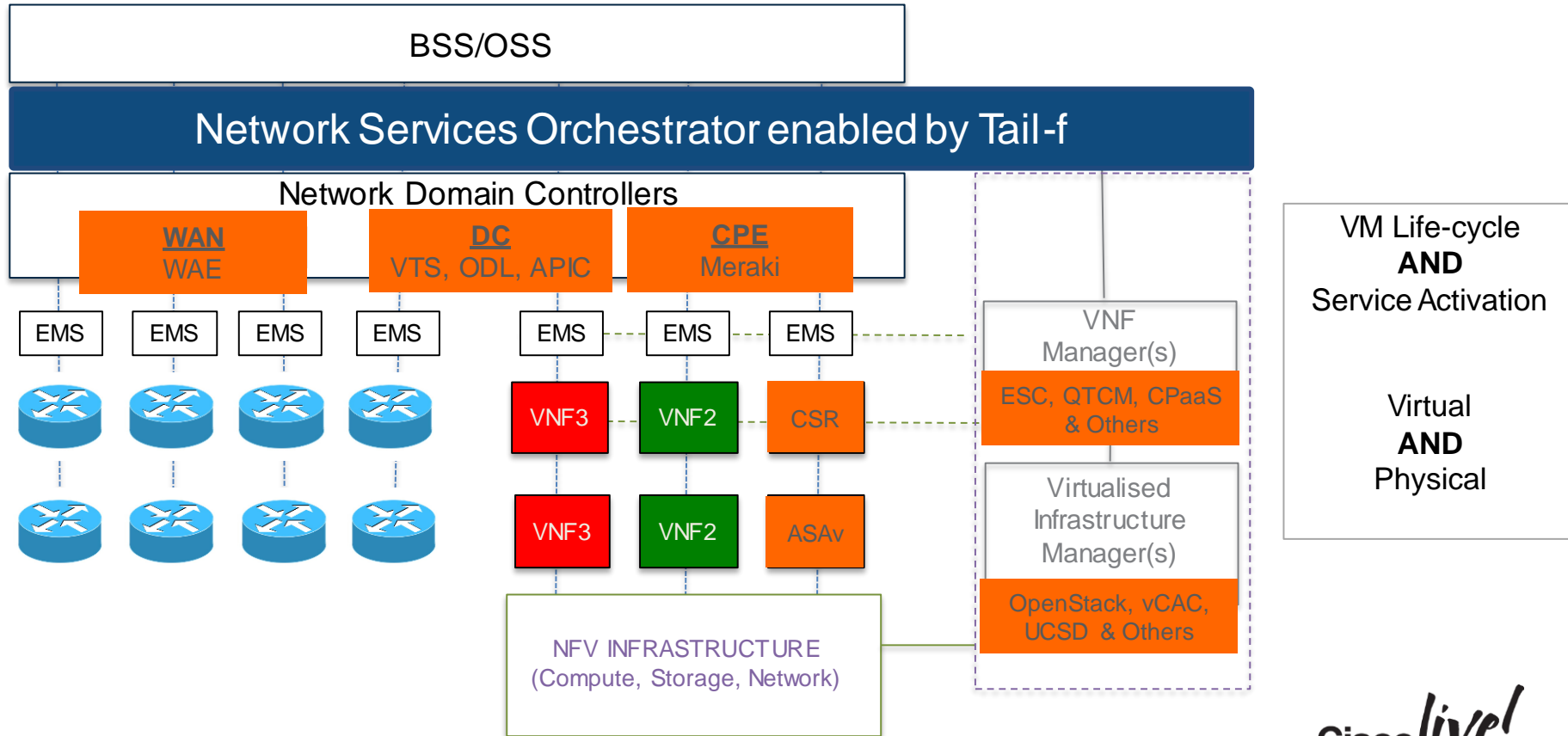
Physical and Virtual Network Function Orchestration



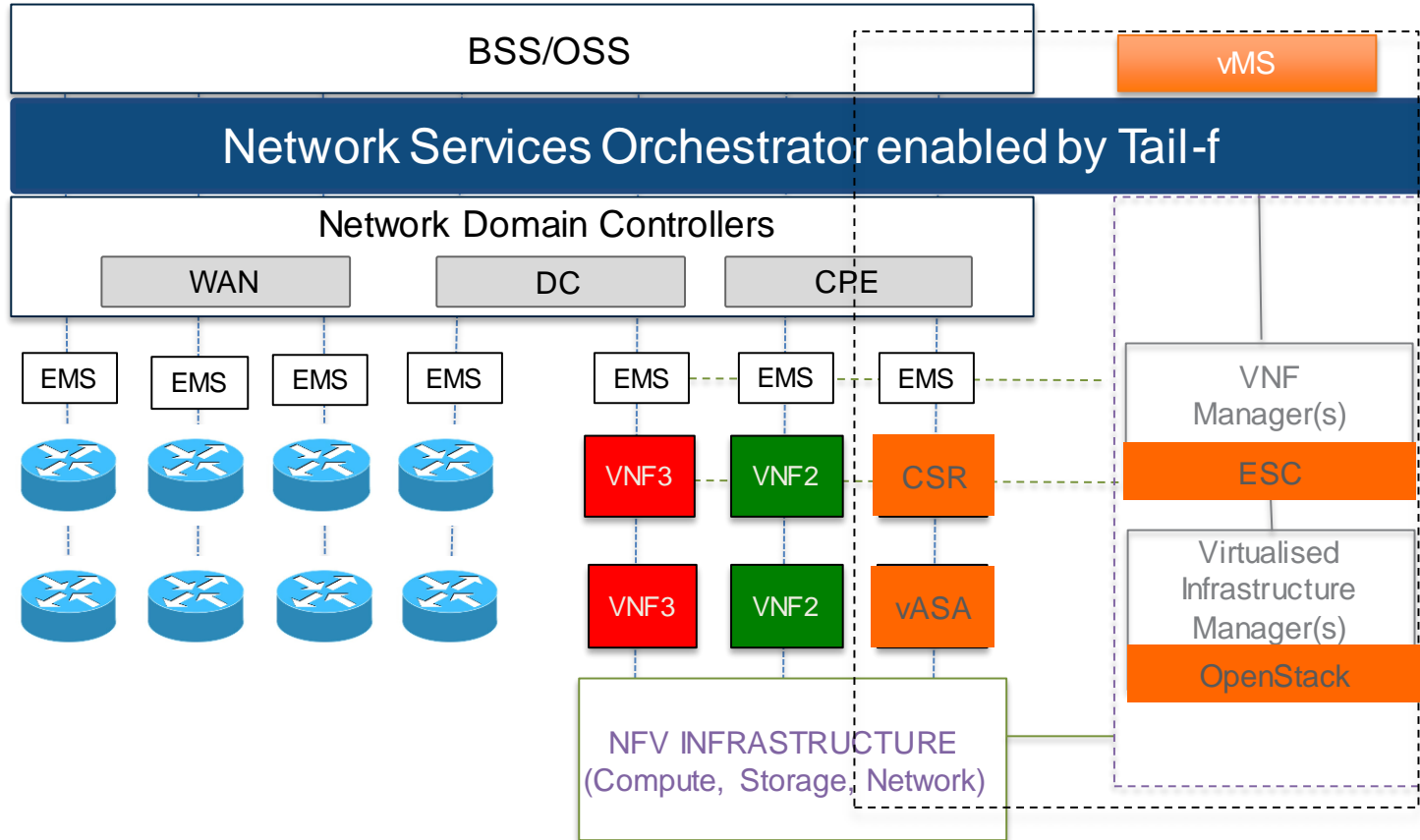
Integrated End-To-End Orchestration and Migration



Integrated End-To-End Orchestration and Migration



Integrated End-To-End Orchestration and Migration



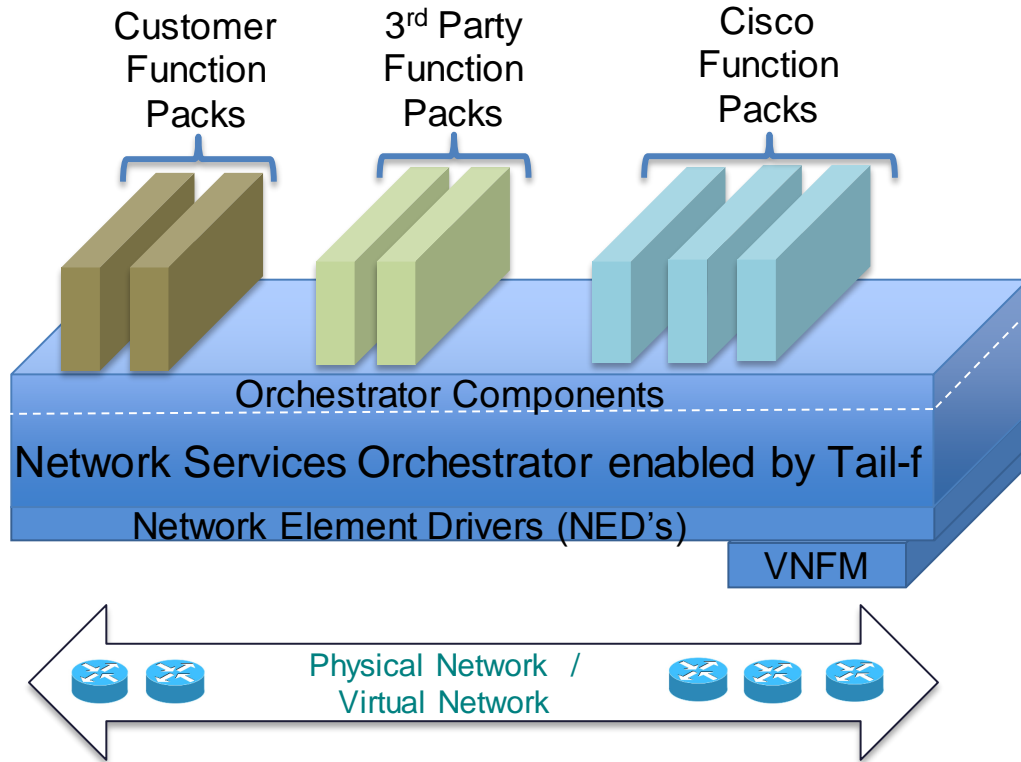
Horizontal

- Cross domain service orchestration
- a-la-carte stand-alone products
- Physical and virtual environments

Vertical Solutions

- Bundle of multiple products
- Addressing pre-defined use cases
- Shrink wrapped
- Single pricing & licensing across products & solutions

Network Services Orchestrator + Function Packs



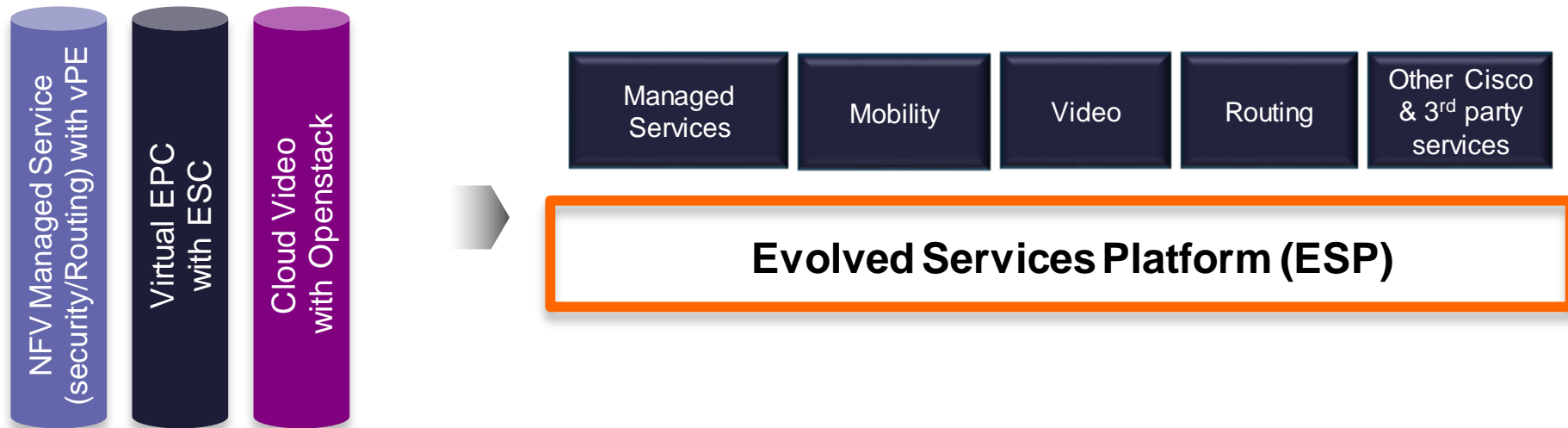
Function Pack:

- application that addresses a specific use-case
- built on top of the orchestrator
- can be added at run-time

VNF Manager (VNFM:

- Could be Cisco Elastic Services Controller (ESC)
- or could be 3rd party VNFM

Automating A New Class of Carrier Cloud Services

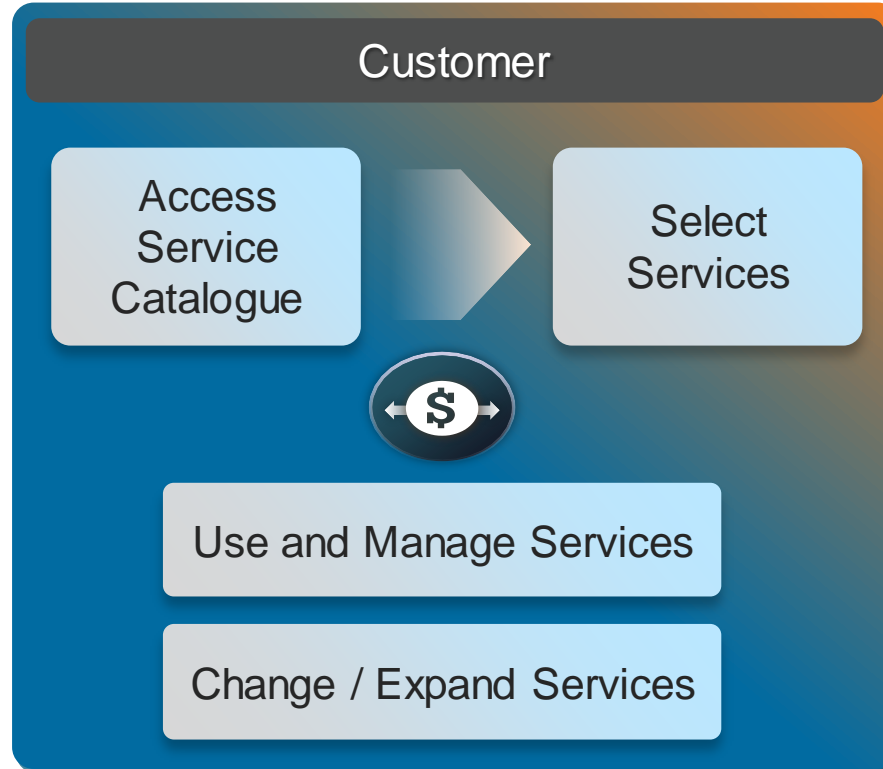


Individual Vertical Approach To A Single, Multi-app, Multi-tenanted Platform

Drives Service Chaining Between Apps And Connects Consumer, Enterprise, and (SP) Tenanted Enterprise Networks

Evolved Services Platform

Accelerating Revenue Growth

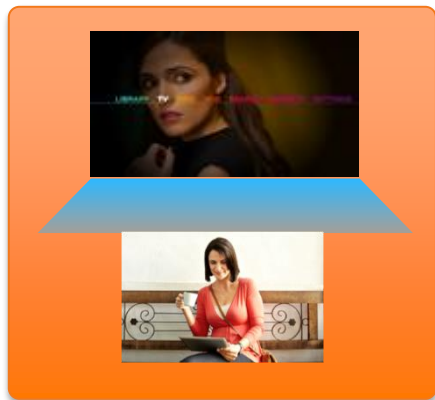




It's All In The Economics
.. Or why are we doing this

Cloud DVR Ramps Up ARPU, Streamlines Complexity

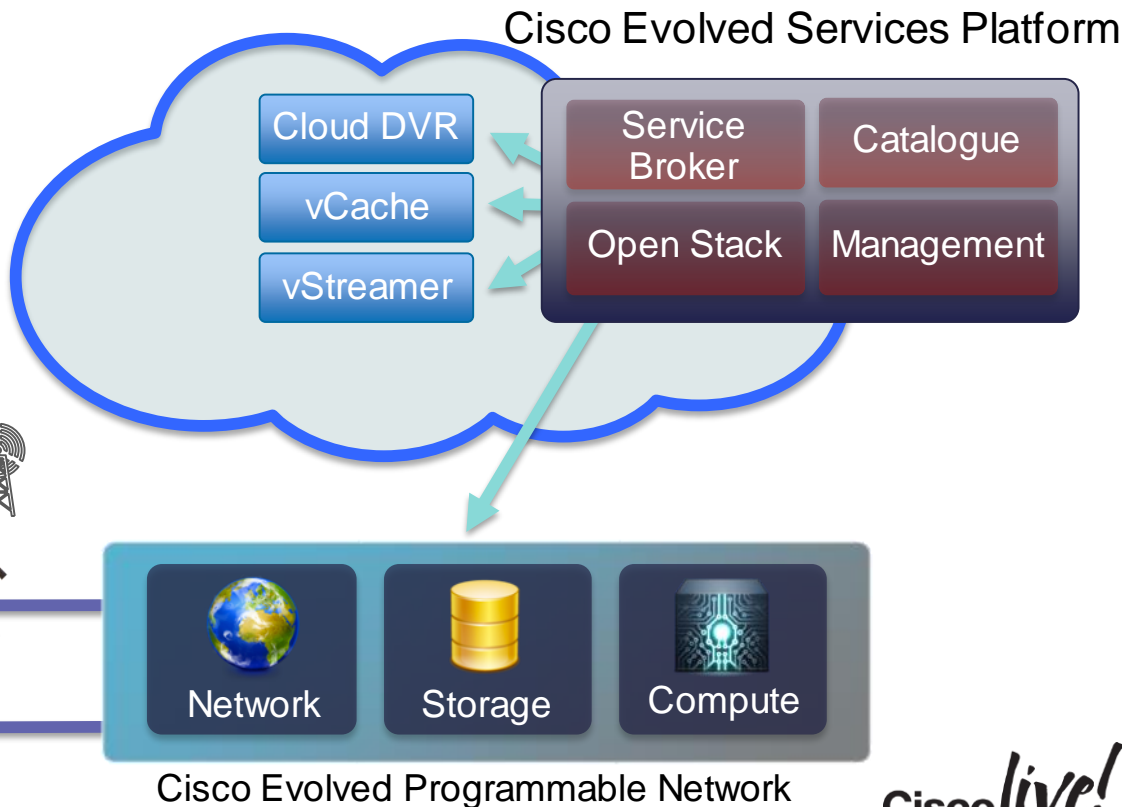
Subscriber Portal



Service Provider

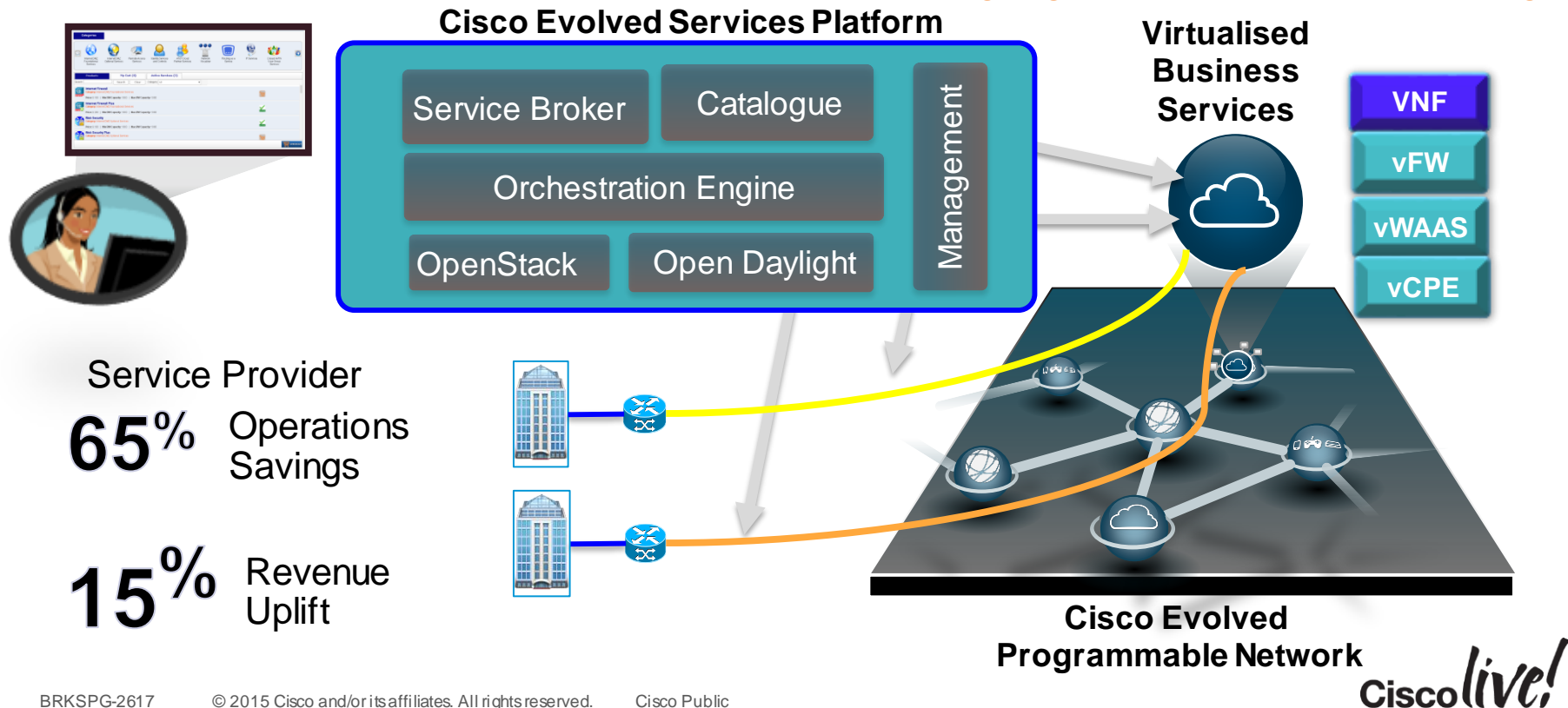
15% TCO Savings

15% Revenue Uplift



Virtualised Managed Services (vCPE)

Enterprises Focus on Business Innovation While Realising Significant Network TCO Savings

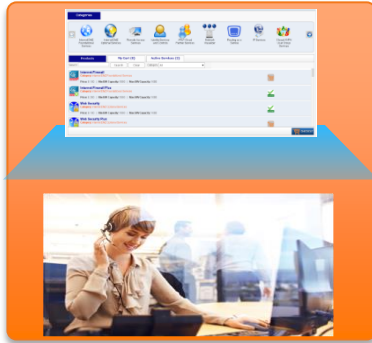


Virtualised Mobile Internet, Premium Mobile Broadband

Mobile Service Portal

Virtual Packet Core

43% TCO Savings
Up to 84% OPEX

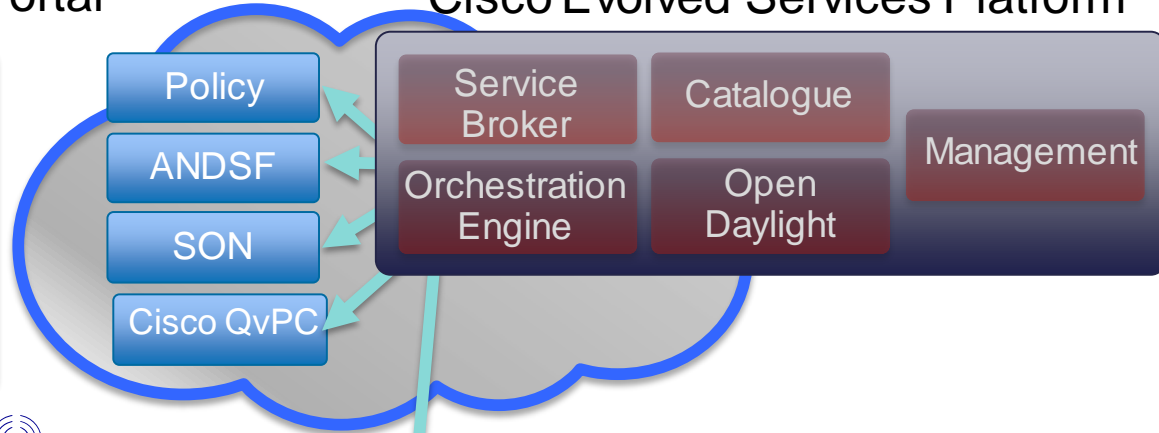


Services Platform (vGi-LAN)

44% TCO Savings



Cisco Evolved Services Platform

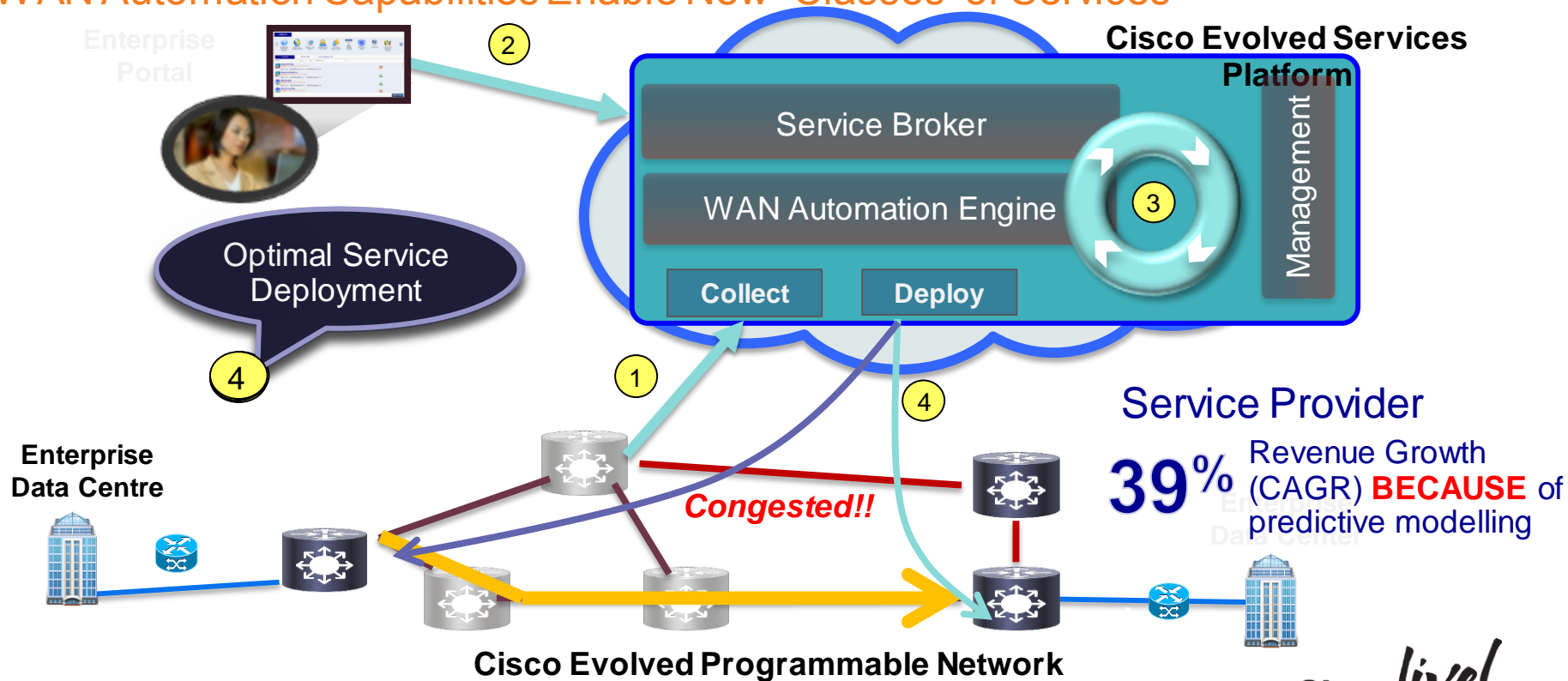


Cisco Evolved Programmable Network

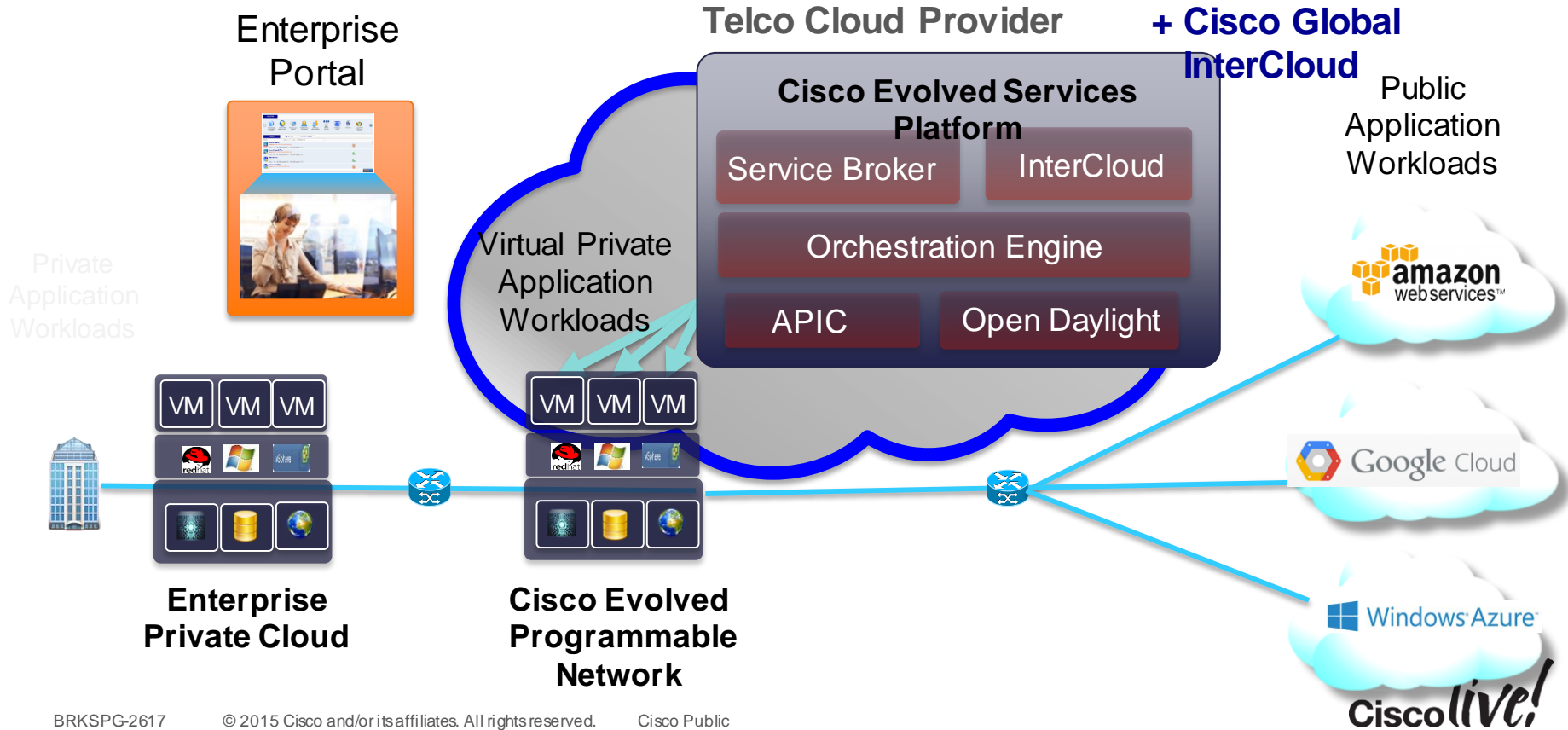
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Bandwidth Calendaring

WAN Automation Capabilities Enable New “Classes” of Services



Opportunity to Grow Virtual Cloud Services Business



Simplified Purchasing Models to Transform Business

Individual Virtualised
Functions
(Drop in Elements)

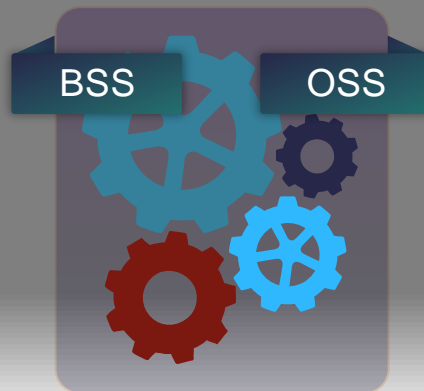


Term-based/Perpetual/Metered pricing

Virtualised Functions
with Service
Orchestration
(Integrated Capabilities)

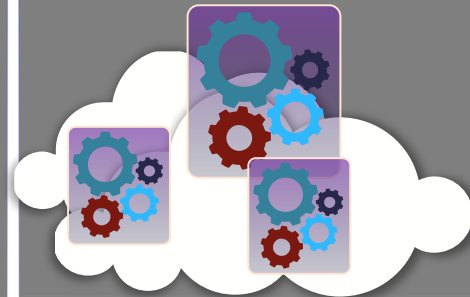


Virtualised Functions +
Orchestration + Element
Integration SLA certified
(Packaged Service Insertion)



Priced as integrated solution

As-a-Service
Cloud-based
Scale and Delivery



Pay-as-you-go

Elements that Plug n' Play

Repurposed on the Fly

Open Interfaces to 3rd Parties

A long-exposure photograph of a city street at night. The foreground is filled with vibrant, multi-colored light trails from moving vehicles, creating a sense of motion. In the background, a modern pedestrian bridge with blue lighting spans the street. Tall buildings with illuminated windows and storefronts line the street, and traffic lights are visible in the distance.

Service Provider Case Studies or What the Leaders are Doing

“There’s no army that can stop an economic principle
whose time has come”

John Donovan

Senior Executive Vice President, AT&T Technology and Network Operations
(During speech to SDN community)

Network Virtualisation Model Helping Telefonica Transform

Network Paradigm Change

- **Computing principles** used in IT world are beginning to be applied in telecoms by the means of **Network Virtualization**
- **IP** as common language for **all services**, included traditional Telco ones
- **Network virtualisation** enabling network re-programmability & agile service creation



Operation Model Change

Global E2E vision instead traditional silo model, not linked to monolithic OSS



Organization Model Change

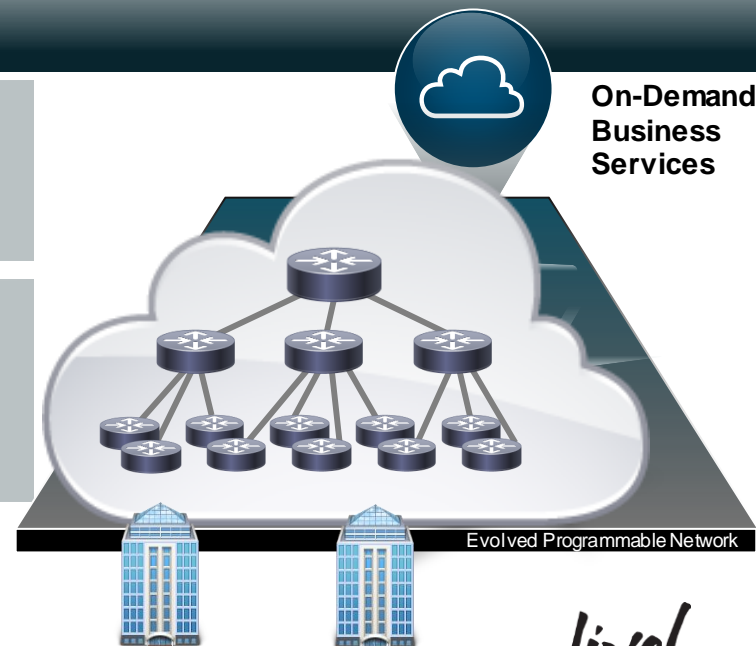
Breaking the traditional model mapping isolated network domains

Taking Your Business into Tomorrow

Enabling On Demand Business Services from the Cloud



- North American Premium Business Services by 2017
- \$15B >> 29% CAGR over 5 years
- #3 Business Ethernet Services Provider
- Simplify Network – Expand the Offerings
- Consistent Provisioning – Open API Across All Elements
- Dynamic Capacity Business Services
- Improved Customer Experience



Sources: Gartner, IDC, Cisco VNI

Cloud Based Video Services

Differentiated Offerings



Cloud Video Processing



Multi-Screen Video



Multi-Screen Cloud DVR

New Experiences



Videoscape Portfolio



Services Strategy - Life-Cycle Approach

SDN/NFV Framework - Process and Governance

Architectural
Services Approach

SDN/NFV Architectural
Deployment

Incremental Architectural
Change & Maintenance

Helping with “Why?”

(Business)
Strategy &
Analysis

(Technical)
Strategy &
Analysis

(Technical)
Assessment
Service

POC/Quick
Validation
Service

Design

Deployment/Mi
gration

Software
Development

Design and Deployment
for NFV Systems
Integration

Guiding with “How?”

Areas of Coverage in each service:

- Infrastructure (DC)
- Management (DC + VNFs)
- Network Function (VNFs)
- Operations
- Applications

Global Technical Support and Training

Summary

It's all about the business and transforming it successfully



- ☐ Imperative to understand where to focus immediate attention for business benefit to you and your customers
- ☐ Cisco and its Partner community can uniquely help you in your journey to overcome the business challenges and seize the opportunities.
- ☐ The time to act is now but choose your path thoughtfully





For More Information, Please Visit:

www.cisco.com/go/sp

www.cisco.com/go/esp

www.cisco.com/go/sdnforosp

www.cisco.com/go/nfv



Other Interesting Sessions

Evolution of Service Provider Edge Architectures

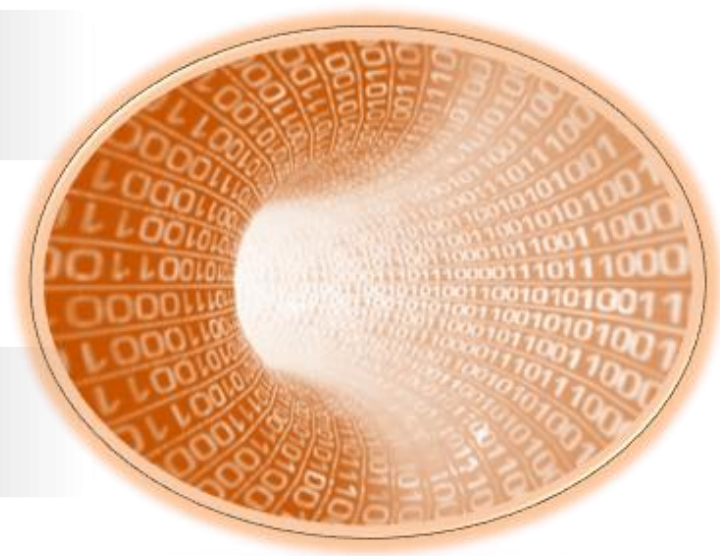
Session ID: BRKSPG-2051

Thursday 19 Mar, 2:45PM–4:15PM

OpenStack for Service Providers and Enterprise

Session ID: BRKSPG-2644

Friday 20 Mar, 8:45AM–10:45AM



Continue Your Education

- World of Solutions: This evening's reception at 6:00PM-7:30PM
- Walk-in Self-Paced Labs
- Meet the Expert 1:1 meetings



Q & A

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T-Shirts can be collected in the World of Solutions on Friday 20 March 12:00pm - 2:00pm



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Thank you.



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