Transformation through Innovation

Strategic Vision for Service Providers

Victor L. Castillejo

Cross-Architecture & Messaging

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Agenda

Service Provider Business Challenges

Driving Profitable Business Outcomes

Cisco Open Network as the Differentiator

Benefits of the Cisco Open Network

New Opportunities for Service Providers

Transform and Innovate with Cisco

Service Provider Challenges
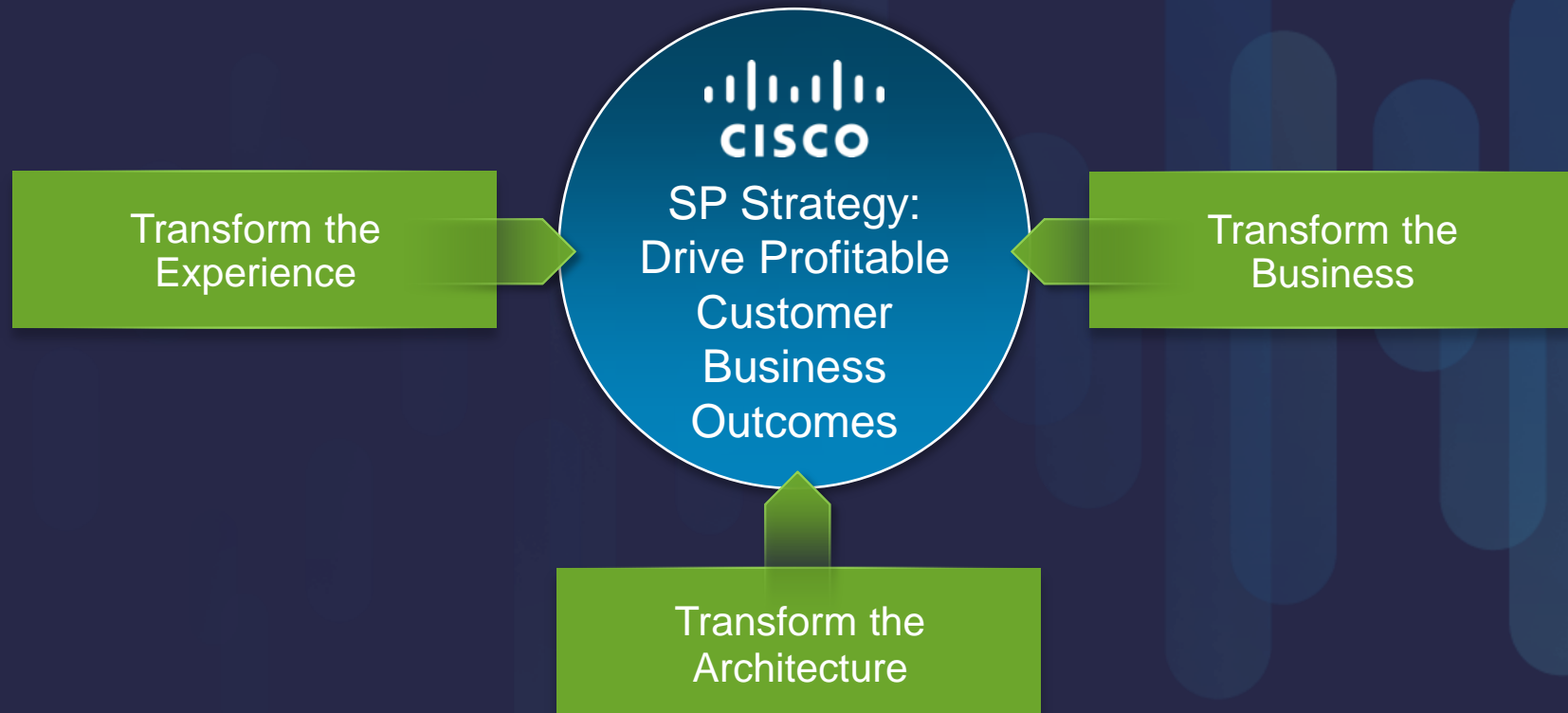
Increase Revenue

Reduce Operating Expenses

Enhance Agility

Cisco Answers these Challenges

Transformation through Innovation

Transform the Experience

Transform the Business

SP Strategy: Drive Profitable Customer Business Outcomes

Transform the Architecture

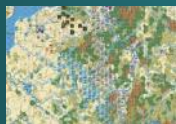# Watch How Cisco Drives Transformation through Innovation

[Click Here](#) to Play

Internet of Everything Brings Huge Opportunities
Service Providers Play Key Role in Connecting People, Process, Data and Things

M2M
- Remote Site Monitoring Service
- M2M Commerce
- Intelligent Diagnostics
- Targeted Advertising

M2P
- Personalized Traffic Report
- Hyper Location Presence
- mHealth Order Refills
- Home Security Energy Control

P2P
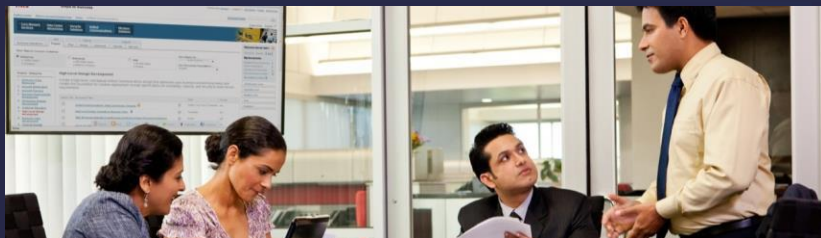- Collaboration as a Service
- TelePresence as a Service
- Smart Health

$1.7T

Value of IoE for Service Providers over Next Decade

Market Demands Bring Opportunities for **YOUR** SP Business

ENTERPRISE	**CONSUMER**

- Moving investment from IT to core business
- Consumerization of IT
- New business models
- ~~ting to leverage cloud models~~

- Anywhere, anytime, personalized services
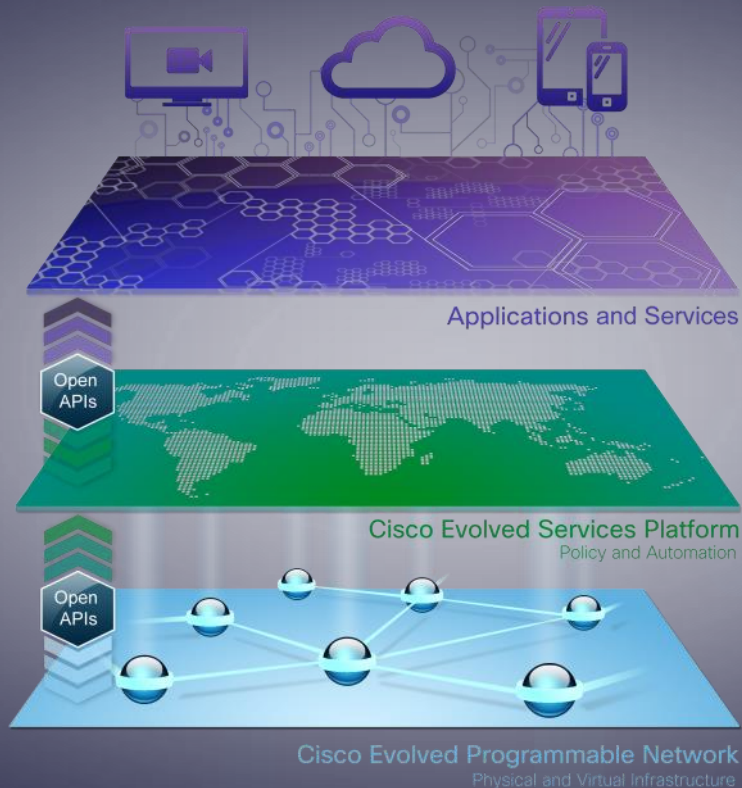- Increased expectations for consistent experiences
- New applications

BARRIERS TO MOVING AT WEB SPEED

Network Rigidity	Soaring Integration Costs	Complexity

The Cisco Open Network Architecture is the Enabler

Applications and Services

Open APIs

Cisco Evolved Services Platform
Policy and Automation

Open APIs

Cisco Evolved Programmable Network
Physical and Virtual Infrastructure

- End-user and system applications
- Delivers new services (B2B/B2C)

- Open, standards-based SDN and NFV solution
- Automation, security and orchestration
- Interoperable with multiple vendor VNFs

- Compute, network and storage
- Cisco SP core networking, video, cloud and mobile assets

Distinguishing Capabilities of the Cisco Open Network

Integrated Approach

- Vertically integrated ETSI-defined elements across the stack
- Horizontally integrated across all network domains for enhanced experiences
    - Analytics
    - Policy
    - Service chaining
- Integrates WAN, orchestration, data center assets for workload portability

Multiple Vendor Support

- 50+ Ecosystem of technology and business partners
- Expansive 3rd party applications support
- Best-in-class open ecosystem interoperable with any vendor
- Widest choice of business models and cost management

Advanced Capabilities

- Broad software-defined networking (SDN) and network functions virtualization (NFV) capabilities
- Cross-architecture automation
- Comprehensive security
- Expansive orchestration

New Service Provider Opportunities by Cisco Solution

	Cloud $142B Globally	Mobile $76B Globally	Video $88B Globally
Services to Monetize	• IaaS • SaaS • PaaS	• Sponsored data • Targeted ads • Machine-to-machine	• Cloud DVR • TV everywhere • Subscription VOD
Key Revenue Outcomes	39% Higher Revenue/Enterprise	• $8.31/mo/M2M Connection • +$5.48 New Services ARPU	• $8.54/mo Cloud Video ARPU • $2.04/mo Cloud DVR ARPU
Cisco Savings/ Optimization	Up to 19% TCO Savings	Up to 16% TCO Savings	Up to 16% TCO Savings

Source: Cisco SP Monetization & Optimization Index, June 2014
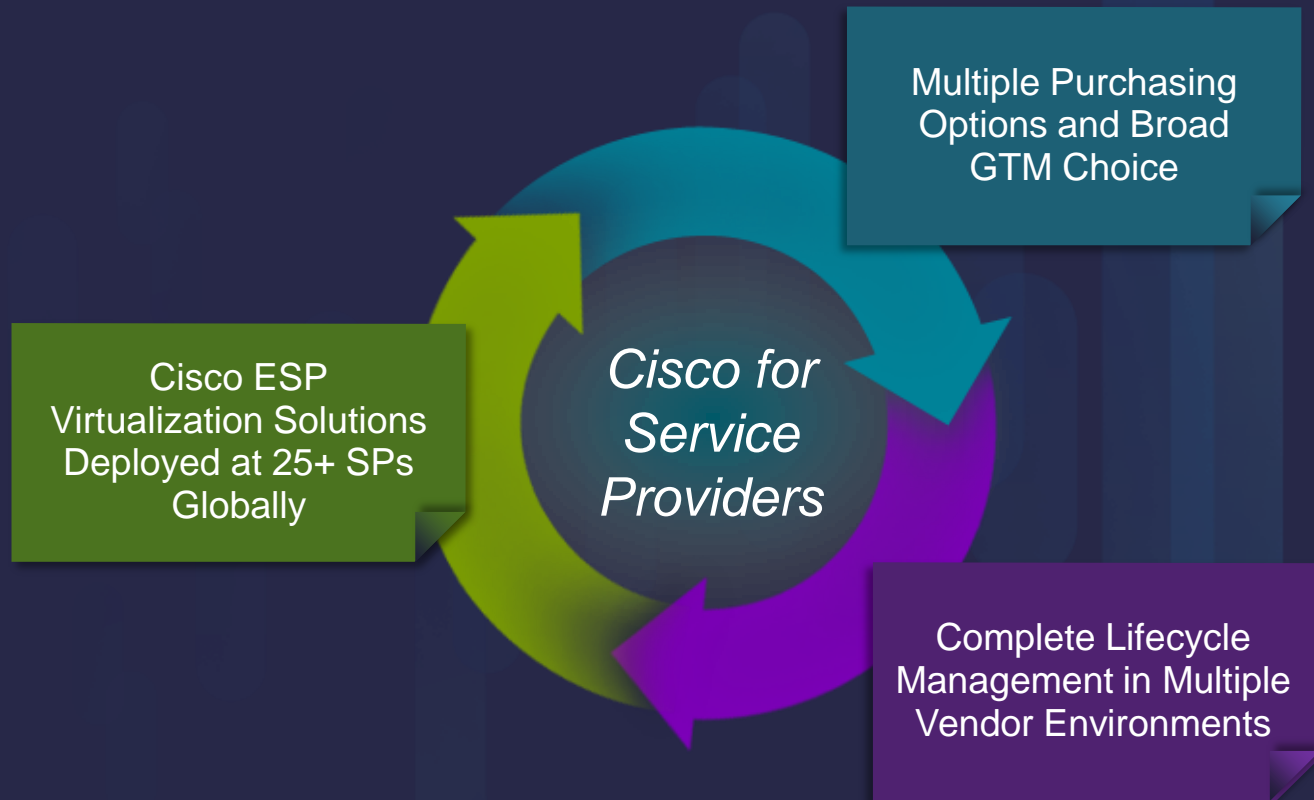
Transform and Innovate with Cisco

Globally Proven SP Architecture and Solutions
Across Segments; across Continents

Exceptional, Trusted and Reliable

Multiple Purchasing Options and Broad GTM Choice

Cisco ESP Virtualization Solutions Deployed at 25+ SPs Globally

Cisco for Service Providers

Complete Lifecycle Management in Multiple Vendor Environments

Simplified Deployment Models to Transform Business

Individual Virtualized Functions
(Drop in Elements)

Virtualized Functions with Service Orchestration
(Integrated Capabilities)

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

As-a-Service Cloud-based Scale and Delivery

BSS   OSS

Pricing based on term-based licensing

Priced as integrated solution

Priced based on # users and functionality

Elements that Plug n' Play   **Repurposed on the Fly**   **Open Interfaces to 3rd Parties**

Cisco is the Leader in Networking Innovation

Modularity and Interoperability

✓ Reusable and flexible; interoperable components; consistent APIs and open interfaces
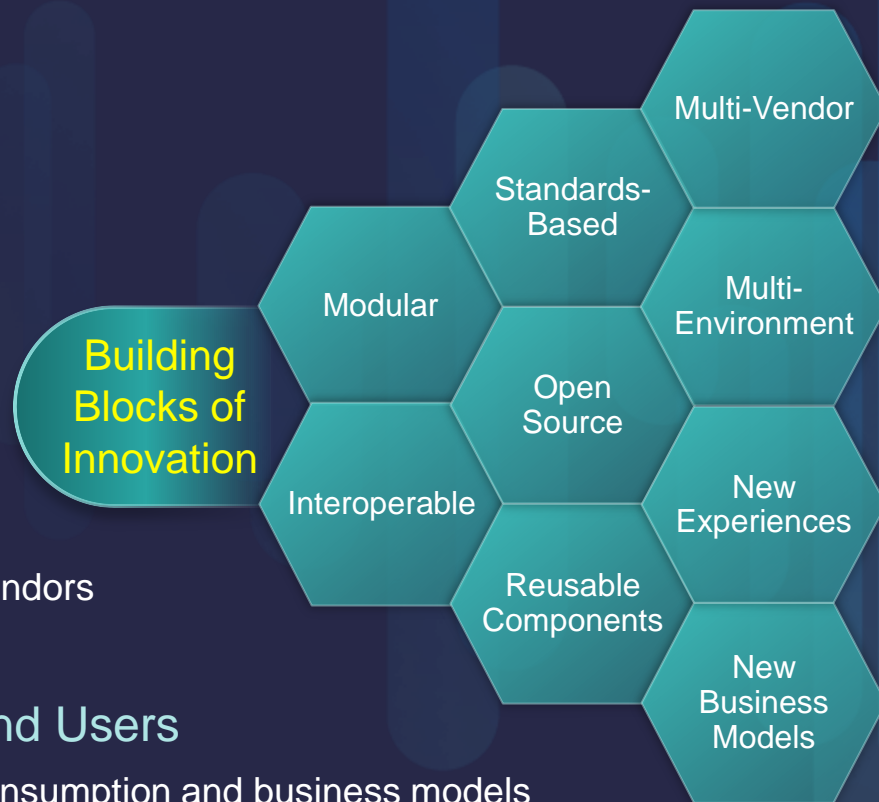
Open Source, Standards Based, Reusable Components

✓ Standardization and development of open and reusable components

Scale and Simplify the Network

✓ Virtualization and programmability across multiple vendors and multiple environments

Increase Value for Partners, Customers and Users

✓ New user experiences, faster time to market, new consumption and business models

Building Blocks of Innovation

Multi-Vendor

Standards-Based

Modular

Multi-Environment

Open Source

Interoperable

New Experiences

Reusable Components

New Business Models

Proven in Driving Profitable SP Business Outcomes

Revenue

ATT: $30-$75 average increases in ARPU

Cox: 1M+ incremental cross-platform streams

UPC: €8 average increases in ARPU

OpEx Reduction

Vodafone: 100x Mobile Internet capacity growth with 28% reduction in TCO

Portugal Telecom: Integrated fixed/mobility

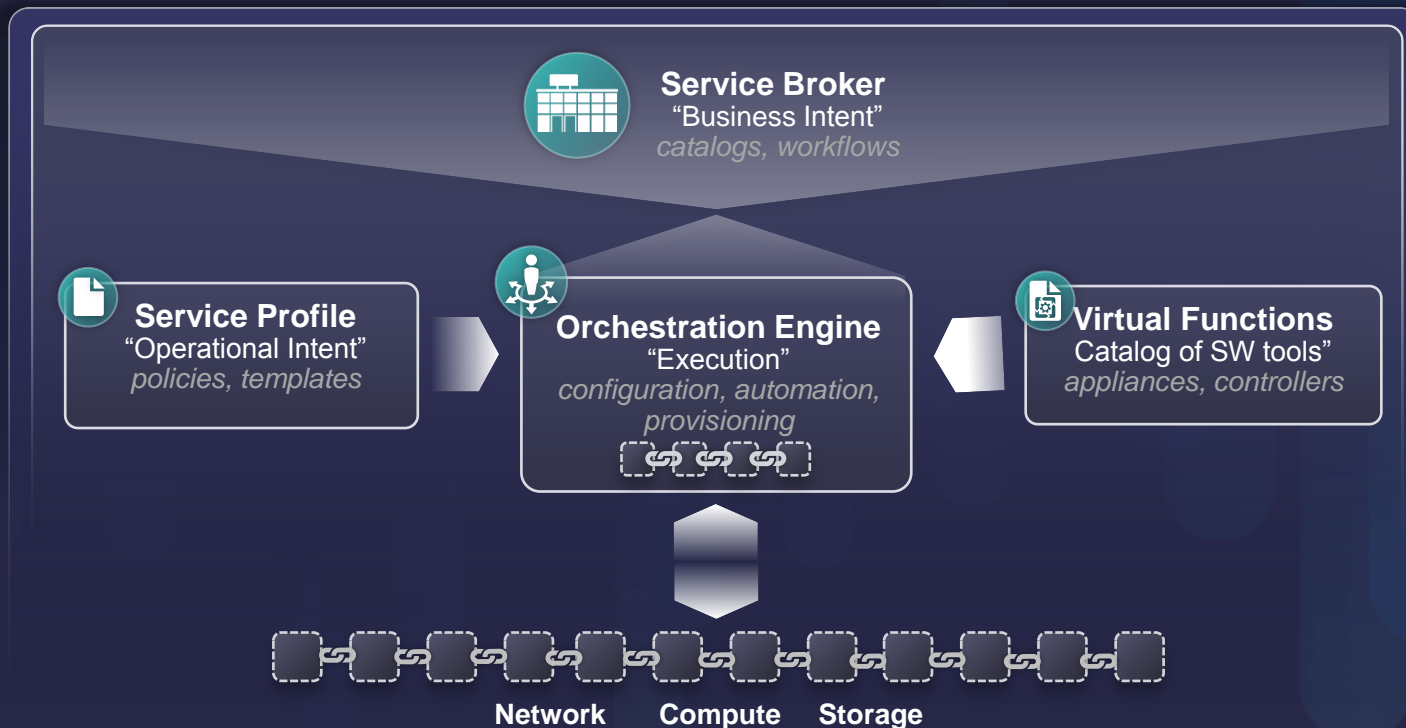## Agility

NTT: Provisioning lead-times reduced by 50%+

KPN: Deployment times cut from weeks to minutes with a 30% savings in energy use

Cisco SP Solutions Portfolio

Cisco Evolved Services Platform

Service Broker
"Business Intent"
catalogs, workflows

Service Profile
"Operational Intent"
policies, templates

Orchestration Engine
"Execution"
configuration, automation, provisioning

Virtual Functions
Catalog of SW tools"
appliances, controllers

Network   **Compute**   **Storage**

OPEN

Multi-vendor and based on open standards & API

EXTENSIBLE

Comprehensive modular capabilities spanning entire SP architecture—cloud, video, mobile and fixed

ELASTIC

Seamlessly and dynamically scale services and resources whenever and wherever needed.

New

Virtualized Managed Business Services
New Cisco Evolved Services Platform (ESP) components for SP

Intercloud-ready Infrastructure
Cisco Integrated Infrastructures

NetApp VCE EMC² HITACHI redhat openstack + ...

New

Cisco Hybrid and as-a-Service Offers
- **New** Intercloud Services Bundles
- OpenStack Private Cloud as a Service
  metacloud

Workload Portability in the Hybrid Cloud
Cisco Intercloud Fabric

Enterprise Private Clouds

Intercloud

Partner Clouds

CISCO Powered

CISCO Cloud Services and Applications

Public Clouds

New

Cisco Intercloud Partner Ecosystem Expansion
New Cisco Powered Intercloud Providers
BT and more…
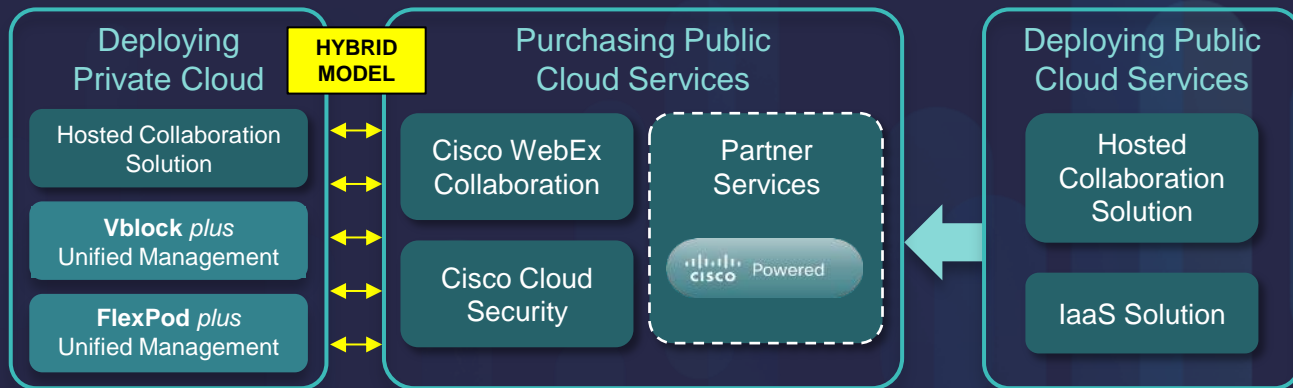
New

Cloud Interconnect Expansion
New Cisco Partnership with Equinix
EQUINIX

Cisco Cloud Portfolio

Smart Solutions for the Enterprise
(incl. Public Sector, Midmarket, SP Internal IT)

Smart Solutions for Cloud Providers
(incl. Hosting Providers)

Deploying Private Cloud

HYBRID MODEL

Hosted Collaboration Solution

Vblock *plus* Unified Management

FlexPod *plus* Unified Management

Purchasing Public Cloud Services

Cisco WebEx Collaboration

Cisco Cloud Security

Partner Services

cisco Powered

Deploying Public Cloud Services

Hosted Collaboration Solution

IaaS Solution

Unified Management

SecureX

Cloud Connectors

Network Management

Product Portfolio

Cisco UCS™ Family

Cisco Nexus® Family

Open Network Environment

Unified Data Center

Cloud Intelligent Network

Cloud Enablement Services

CRS Family

NCS Family

ASR Family

ISR Family

Cisco EPN Portfolio Deeper Dive (Core, Edge, Agg)

Core/Optical

CRS

12000

ONS 15454 M2/M6

Edge

ASR 9000 Family

ASR 5000

7600

ASR 1000

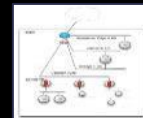**Agg/Access**

ASR 900 Series 901/903

ME Series 3400/3600/3800

Catalyst 4500E/4900
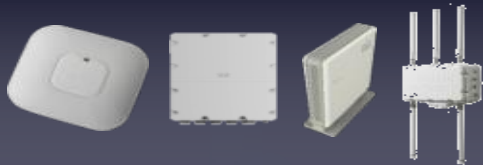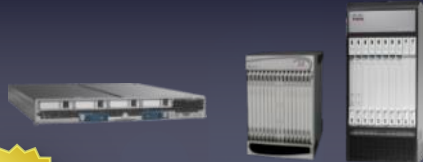
CPT 50/200/600

Prime NGI

Prime Optical

Prime Analytics

Cisco SP Mobility—Agility, Innovation for IoE

SON for Integrated Small Cell, Macro

Universal Small Cell Solution

NEW Quantum Virtualized Packet Core (QvPC)

Quantum™
• vGi-LAN
• Service Bus

Cisco Mobility with Orchestration & Service Control

Heterogeneous Access

Intelligent Network

Cloud Services

Differentiated Solutions = Videoscape Products and Services

Differentiated Solutions

Cloud Powered Olympics
Cloud Video Processing

Professional Services

Videoscape Suites & Products

Media	Advertising	Security
Acquisition	Origin	Control

Distribution Suite

User Experience Suite

Clients Software Suite

Ecosystem Partners

Videoscape Open API Framework

Cisco SP Success Stories

Increasing SP Revenue

UPC – Europe

Cisco Cloud, Videoscape, Snowflake

Increased ARPU by €6 through new, personalized any-screen experiences

Cox Contour – US

Cisco Videoscape

Incremental services subscriptions yielded 1M+ cross-platform video streams within 8 months of launch

AT&T Digital Life

Cisco In-Home Controller, Mobility, Videoscape

$30-$75 average increases in ARPU over 10 months and across 52 cities

Telstra – Australia

Cisco Cloud, Videoscape, CRS

Strengthened IP and 3G/4G networks to offer increase video service packages across screens

Reducing SP Operating Expenses (OpEx)

Vodafone – India

Cisco Unified RAN Backhaul

Expanded Mobile Internet capacity by 100-fold with a 28% reduction in TCO

Portugal Telecom

Cisco Unified RAN Backhaul and Mobile Packet Core

Integrated fixed/mobility connections improving QoE and TTM

AT&T w/Fernbank – US

Cisco Connected Mobile Experience

Leveraged existing Cisco Mobile Network to expand portfolio with specialized, location-based experiences for end users

Vectra – Poland

Cisco 100G Solution

Increased density and bandwidth capacity across CRS-X routers, data center switches (Nexus 7000) and optical transport; reduced space and power requirements

Enhancing SP Agility

NTT – Japan

Cisco E2E Cloud Platform

Server-provisioning lead-times reduced by more than 50%

Steria – France

Cisco Prime, UCS, Nexus

Reduced customer administration by 30%

NBC Olympics

Videoscape Cloud, Media Solutions, Clients

Expected to reduce production and distribution times across media platforms via virtualized cloud capabilities

KPN – The Netherlands

Cisco Services, UCS, Nexus

Server deployment times cut from weeks to minutes with a 30% savings in energy use