White Paper

Transformation through Innovation: A Strategy for Service Provider Success

Executive Summary

Service providers can capitalize on $1.7 trillion in incremental value over the next 10 years through the Internet of Everything (IoE). The opportunity for service providers is to create value for consumers and enterprises. However, operational complexity can stifle the service provider's ability to reduce costs and become more agile when bringing new capabilities to market. Today most new applications take months to roll out. Upgrades and migrations often take just as long. Service providers seek technology partners that can transform their businesses, helping them to move faster, with more security, greater flexibility, and less risk.

Cisco offers a comprehensive strategy that creates an environment for services providers to advance innovation while enhancing profitability. Cisco helps to make service provider transformation possible in three ways:

- **Transform the experience:** We deliver capabilities that help service providers develop new experiences for consumers and businesses, as people, things, processes, and data are connected in the IoE. For example:
  - Fraud protection applications connected to locations through mobile phones
  - Sensors connecting a basketball with a IP television services
  - Healthcare applications tracking vital signs from wearables
  - Public safety services that synchronize ambulances with traffic lights
- **Transform the business:** We engage with service providers to create new business models and new revenue streams, estimated to be $1.7 trillion over the next decade. Cisco delivers solutions that provide the agility to bring services to market faster.
- **Transform the architecture:** With the Cisco® Evolved Programmable Network (EPN) and Evolved Services Platform (ESP), we use both physical and virtual technology that offers open, flexible programmability. The network becomes the services platform using the latest automation, orchestration, and virtualization capabilities. Cisco allows many solutions to work together as one open architecture to create a platform of possibilities.

What differentiates Cisco's service provider strategy is our proven ability to drive tangible business outcomes by using a holistic approach. The strategy joins network and data center resources, while offering advanced orchestration and management that can support rapid repurposing of resource pools to meet dynamic service needs. This powerful combination allows service providers to:

- **Increase revenue** by up to 20 percent [1] in select cases through creating exciting and captivating user experiences at "web speed".

[1] Figure based on select use cases of service providers that use Cisco capabilities to implement virtual managed services, expand target markets, and upsell or cross-sell additional value-added services (firewalling, email security, WAN acceleration and connectivity, VPN, and others), targeting down-markets, improving time-to-revenue, using customer portals and automated provisioning.

- **Decrease operating expenses (OpEx)** by up to 65 percent [2] in select cases by improving operational efficiency with leading innovations in programmability and virtualization.
- **Enhance agility** by building open, modular, multivendor solutions driven by business objectives.

The Need for Business Transformation

Four external market drivers are pushing service providers to evolve and change their traditional business practices. These are:

- The adoption of new business models
- The rapid pace of change created by new technologies
- The proliferation of new market competitors
- Faster innovation through cloud-based services

Changing customer dynamics, among both enterprises and consumers, are also putting new pressure on service providers. Increased traffic demands, the movement toward connected events, rate of carrier churn, and exponential IP-device adoption are just a few of these new pressures (Source: 2014 Cisco Visual Networking Index™).

An Open Network Is Essential

The Cisco Open Network Architecture for service providers supports new software-driven applications, cloud capabilities, and new business models for success. Cisco creates its products and solutions in an Open Network using standards-based, industry-accepted protocols. This approach has allowed Cisco to build a service provider ecosystem with over 50 technology and business partners, including applications support. The strength of the Cisco Open Network Architecture is its easier multivendor and multiprotocol integration that allows service providers to author and deploy new services faster, with higher security.

Cisco takes a holistic approach to its Open Network Architecture that empowers service providers to create innovative network solutions at “web speed.” Our multivendor, vertically and horizontally optimized solutions help transform the way service providers create, manage, and deliver exceptional user experiences for their customers. The Cisco Open Network Architecture plays a fundamental role by bringing together the capabilities service providers need for success:

- **Dynamic orchestration capabilities** that accelerate and automate the setup and teardown of services and allow service provisioning on the fly.
- **Self-optimizing and autonomic networks** that consistently provide outstanding performance for applications.
- **Virtualized pools of network, compute, and storage resources** across the data center, WAN, and mobile networks, which are network-ready and can be scaled and reallocated on demand.
- **Smooth interoperability between the data center and the WAN**, where functions are virtualized, highly secure, and automated, and workloads can move wherever they’re needed with service profiles intact.

[2] Figure based on select use case analysis across sales cycle, ordering, fulfillment, installation, customer support, management, and service upgrades, incorporating assumptions about reducing truck rolls and achieving other operational efficiencies.

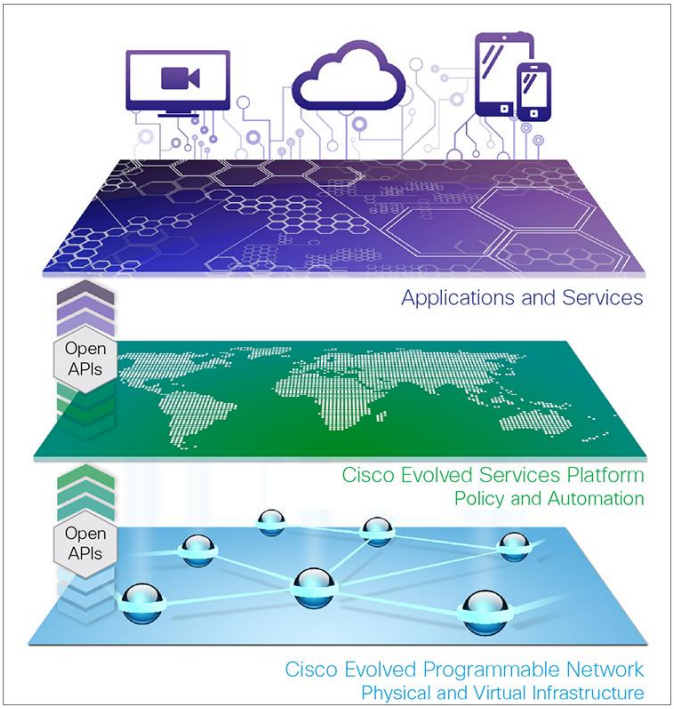
The Cisco Open Network Architecture fuels innovation across core, mobile, video, and cloud, empowering service providers to achieve profitable business outcomes across enterprise and consumer markets. Cisco's modular architectural approach and array of orchestrated services enablers include a large collection of in-house, flexible, and integrated virtual network functions (VNFs) such as cloud digital video recorder (DVR), virtualized mobile Internet, elastic access, and WAN automation.

Innovate Service Delivery

The Cisco Open Network Architecture for service providers converges physical (hardware) and virtual (software) technologies smoothly. It gives service providers the flexibility to choose an optimal mix of physical and virtual assets for building and deploying advanced network services. It also makes the network easier to program, access, use, operate, and manage. The Cisco Open Network Architecture consists of the following three distinct layers (Figure 1) working together to promote innovation and transformation.

1. **Applications and services:** This refers to end-user and system applications, which service providers can use to provide additional business value.
2. **Cisco ESP:** Cisco ESP is the industry's most comprehensive standards-based solution for network functions virtualization (NFV), automation, and orchestration. It will operate with VNFs from multiple vendors, giving service providers the virtualization toolkit they need to create innovative, differentiated services and deliver them faster.
3. **Cisco EPN:** The foundational layer of the Cisco open network provides compute, network, and storage functions. It integrates the physical and virtual, NFV network and data center infrastructure across a flexible and elastic fabric. It includes Cisco core networking, video, cloud, and mobile internet assets.

Figure 1. Cisco Open Network Architecture for Service Providers



Working together, the Cisco ESP and Cisco EPN can help service providers to quickly create and deploy new personalized offerings for both enterprise and consumer customers through prepackaged services modules. Examples include:

- **Enterprise customers:** Offer prepackaged tiers of enterprise services with default features, security, and service-level agreements (SLAs) that customers can select from an online portal and activate with a click of a mouse.
- **Consumers and subscribers:** Allow consumers and subscribers to add new managed network services, upgrade to cloud DVR in their home, or activate services using a self-service platform that automatically provisions these services at web speed.

Capitalize on Innovation

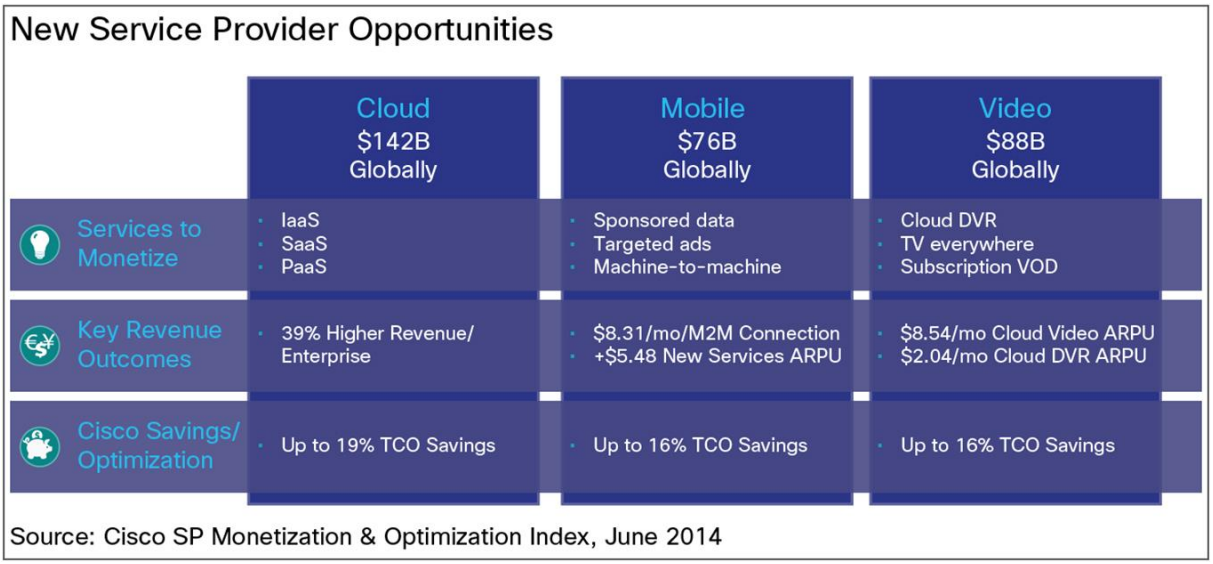
Cisco innovations are helping service providers transform their businesses, right now, in real-world deployments around the world. Many service providers have taken advantage of Cisco Services to manage each phase of the implementation from program and project management, design, proof of concept, and end-to-end solution, systems integration, and lifecycle management. Here are just a few ways Cisco has advanced profitable business outcomes for service providers all over the world.

- **Increasing revenues:** AT&T worked with Cisco to launch AT&T Digital Life, new integrated in-home and mobile services that increased average revenue per user (ARPU) by approximately $30 to $75 in 10 months, across over 60 U.S. cities. Telstra used Cisco cloud platform and collaboration solutions to create a business-to-business (B2B) offering in Australia that led to 125,000 new business users and grew year-over-year revenues by 11 percent. UPC worked with Cisco to unify the headend and deploy new cloud and multiscreen video services in the Netherlands that spurred an €8 average increase in ARPU.
- **Reducing OpEx:** Vodafone used a Cisco unified RAN backhaul solution that increased its mobile capacity 100-fold in India, while reducing TCO by 28 percent. Portugal Telecom worked with Cisco to integrate fixed and mobile infrastructures to simplify operations and build new services.
- **Improving agility:** NTT Data, based in Tokyo, used next-generation Cisco data center solutions to deliver personalized business solutions to global customers in half the lead time, at half the TCO. Dutch service provider KPN's Cisco data center architecture cut deployment timelines from weeks to minutes, with 30 percent energy savings.

Reaping Untapped Financial Opportunity

The possibilities for service providers are just beginning. The 2014 Cisco Monetization and Optimization Index (MOI) predicts that, by 2018, there will over $600 billion worth of incremental revenue and value for service providers to earn across cloud, mobile, and video technologies. This is a function of significant new revenues and costs savings across the cloud, video, and mobile services. Figure 2 highlights select and incremental service provider financial opportunities that can be captured based on today's Total Addressable Market (TAM).

Figure 2. Cisco MOI Forecast for Global Service Provider Opportunities



Cisco can help service providers develop a customized plan to capitalize on these opportunities today and into the future. The Cisco Service Provider Consulting Practice works with service providers worldwide to analyze, quantify, and recommend the best technology evolution path to help organizations benefit from the cloud, video, and mobility opportunities and business benefits identified in the Cisco MOI.

Why Cisco?

- **Our proven service provider product and solution capabilities:** Cisco offers the industry's most extensive, integrated, and open portfolio of solutions across core networking, cloud, video, mobile video, software-defined networking (SDN), and NFV. Cisco provides a broad range of "build or buy" purchasing solution options, including:
  - **Individualized** functions purchased independently as a separate module and run in a network.
  - **Orchestrated**, which includes virtualized functions and orchestration, allowing the benefits of different capabilities to work in a "networked" or "service chaining" approach to deliver expanded functionality and address even wider market opportunities.
  - **Pod**, defined as virtualized service functions and orchestration combined with a hardware package - where Cisco leads deployment of the ESP, offering service-level agreements and guaranteed performance, working atop of Cisco infrastructure and including Cisco integration consulting services.
  - "**As-a-service" (aaS) model**, where complete services, including virtualized functions and orchestration, are combined and delivered through a hosted or third-party cloud for faster time to market. It uses a pay-as-you-go business model. Cisco Powered for Cloud and Managed Services is one example of an aaS implementation model.

- **Cisco is a trusted and reliable partner:** More than 25 leading service providers have already deployed Cisco ESP services modules, including several Tier-1 customers, such as AT&T, Comcast, Telstra, DT Telestream, Sunguard, NBC, and Yes (Israel).
- **Cisco's demonstrated success delivers business outcomes in real-world deployments:** Cisco works every day with service providers around the world. And leading service providers worldwide are using Cisco cloud, mobility, and video capabilities right now to bring differentiated experiences to their customers, lower costs, and increase revenues.

Through our effective collaboration with partners and commitment to open standards, Cisco provides the best platform for service providers to capitalize on the IoE. We have one of the industry's most extensive and open portfolio of solutions to deliver transformational virtualization, orchestration, automation, visibility, and security capabilities. This portfolio is anchored by world-class, standards-based multivendor solutions. Cisco has the track record to turn service provider vision into concrete business reality.

For More Information

To learn more about the Cisco open network, please visit our site.

For more information about how Cisco can help you innovate and transform your business, visit http://www.cisco.com/go/serviceprovider.

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Printed in USA C11-732692-00 10/14