Evolution of connectivity in the era of cloud
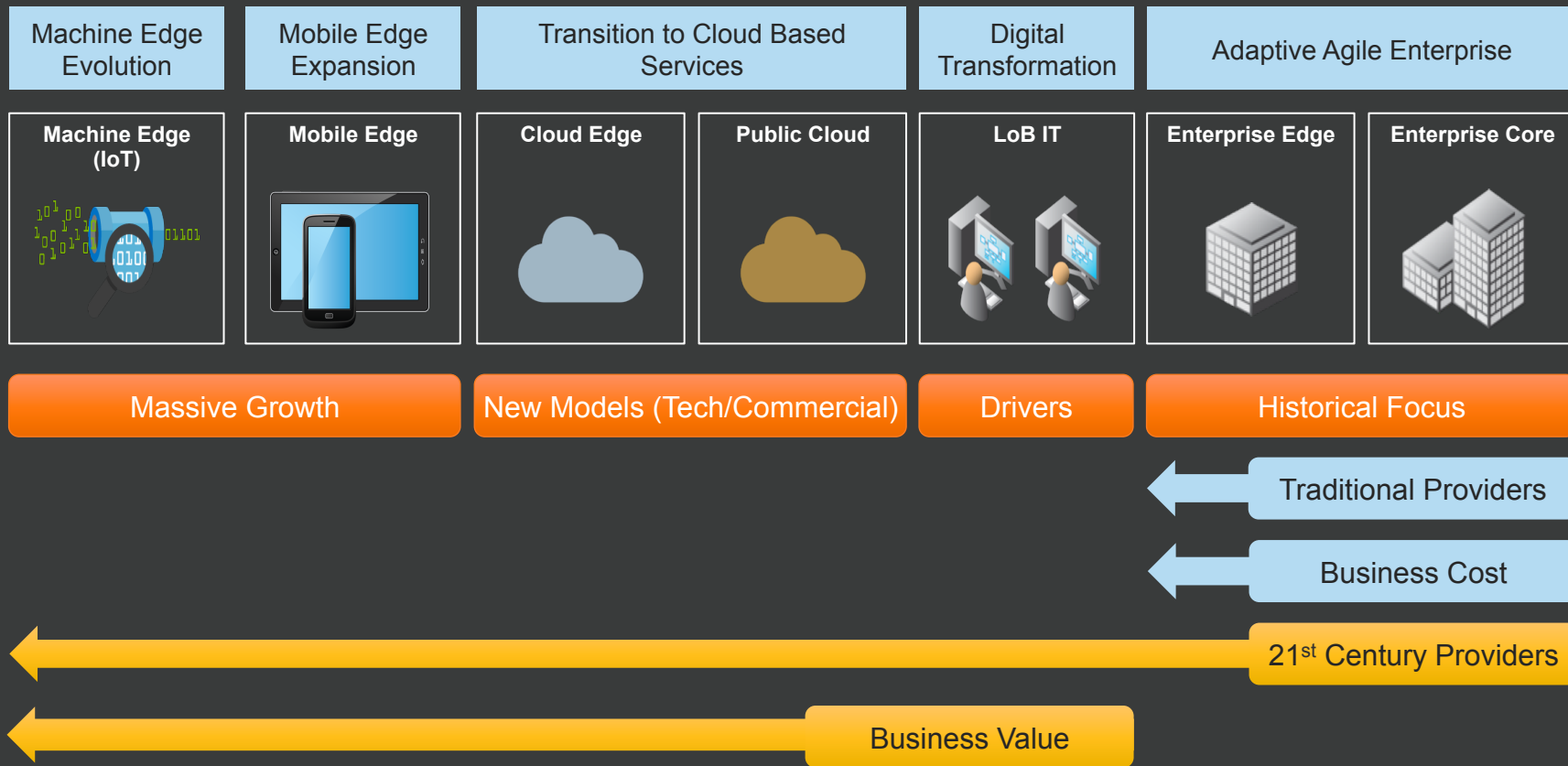
Phil Harris

SVP and GM SP Market Vertical

Riverbed Technology

riverbed

Transformational Services Span The Business & Technology Landscape

Machine Edge Evolution	Mobile Edge Expansion	Transition to Cloud Based Services		Digital Transformation	Adaptive Agile Enterprise	
Machine Edge (IoT)	**Mobile Edge**	**Cloud Edge**	**Public Cloud**	**LoB IT**	**Enterprise Edge**	**Enterprise Core**

Massive Growth	New Models (Tech/Commercial)	Drivers	Historical Focus

Traditional Providers

Business Cost

21st Century Providers

Business Value

riverbed

21st Century Service Providers Need to Shift Focus to Delivery of Business Transformational Services

Infrastructure Focused Services

Focus on implementation
Technology acquisition and availability

Infrastructure Planning

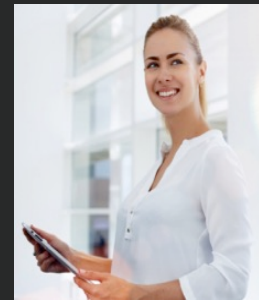Infrastructure Deployment

Infrastructure Optimization

The Past (and Today)

Vs.

Business Transformation Services

Focus on value
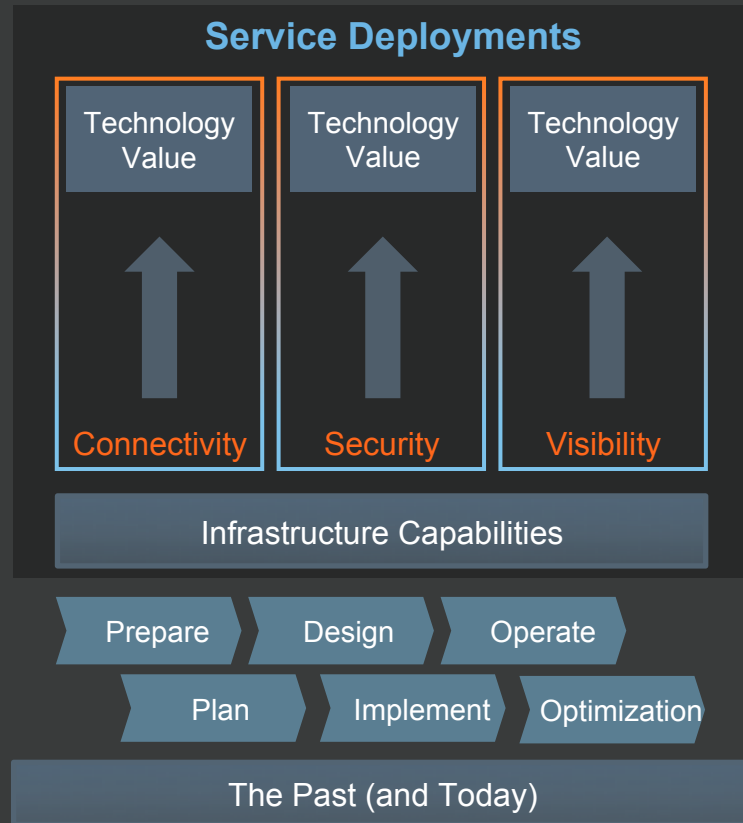Service creation, delivery and optimization

Service Experience

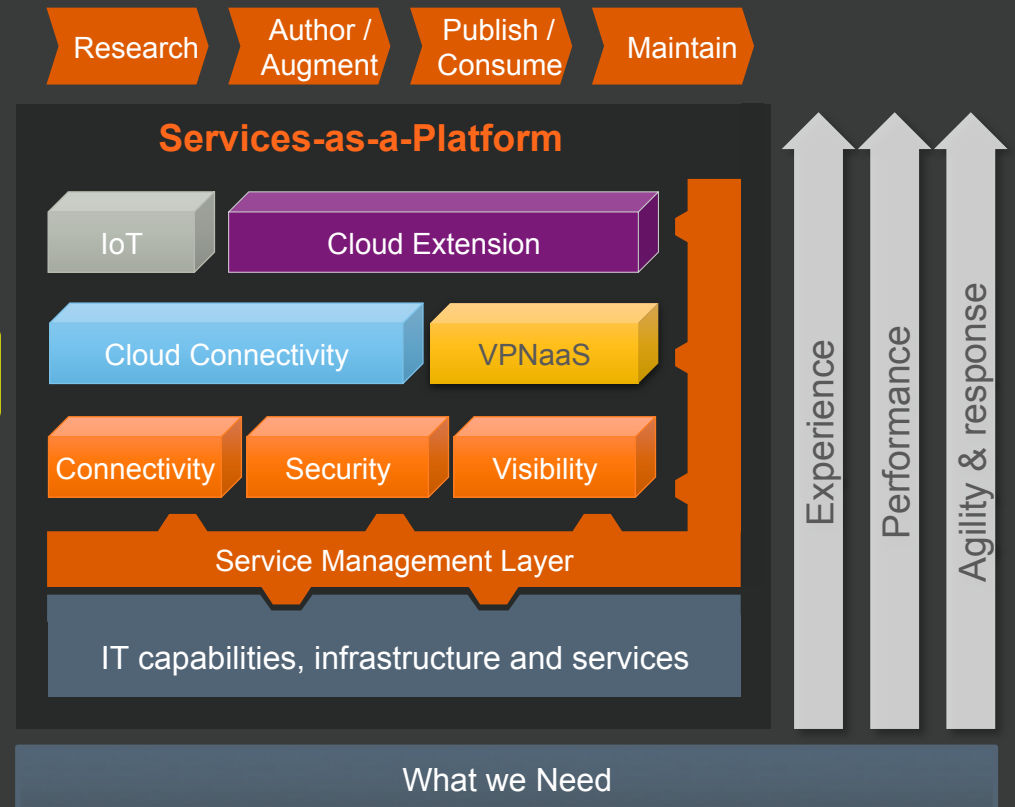Service Performance

Service Agility & Response

What we Need

riverbed

A Shift in Focus and Opportunity
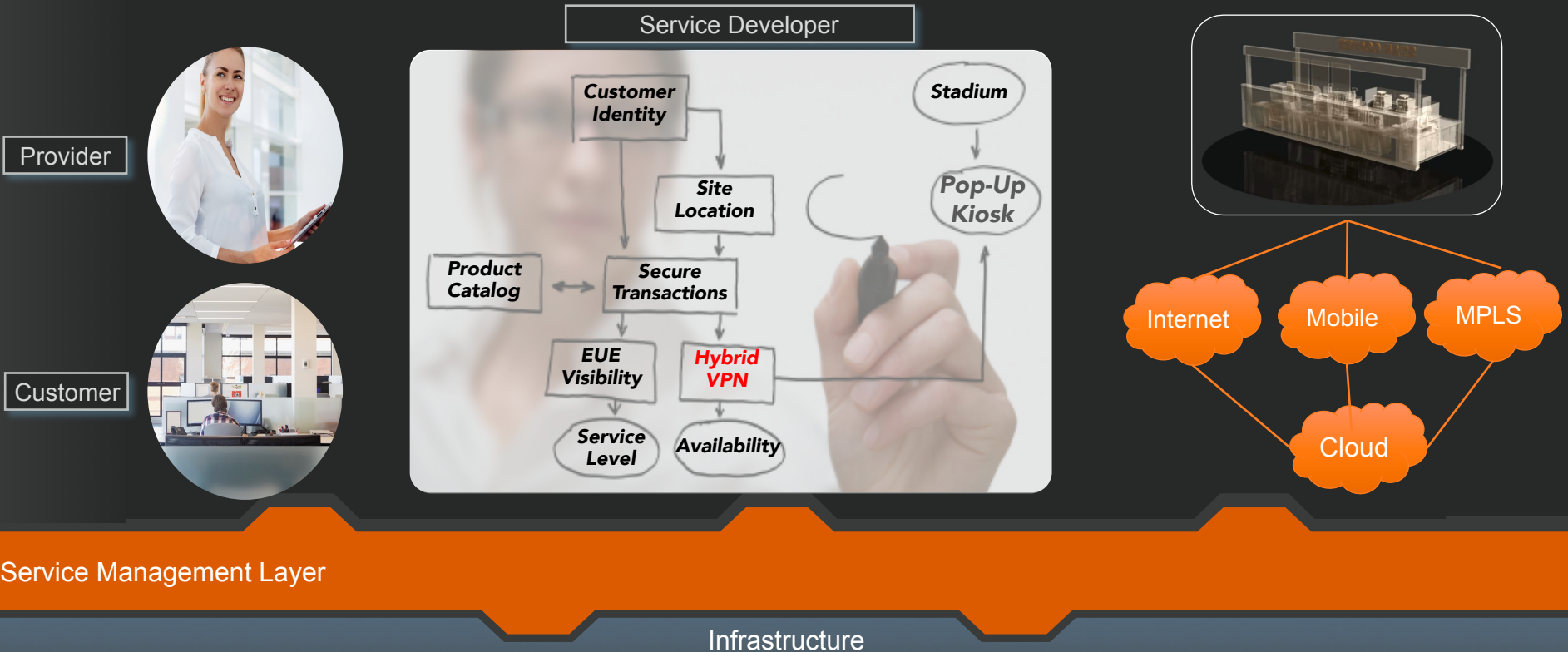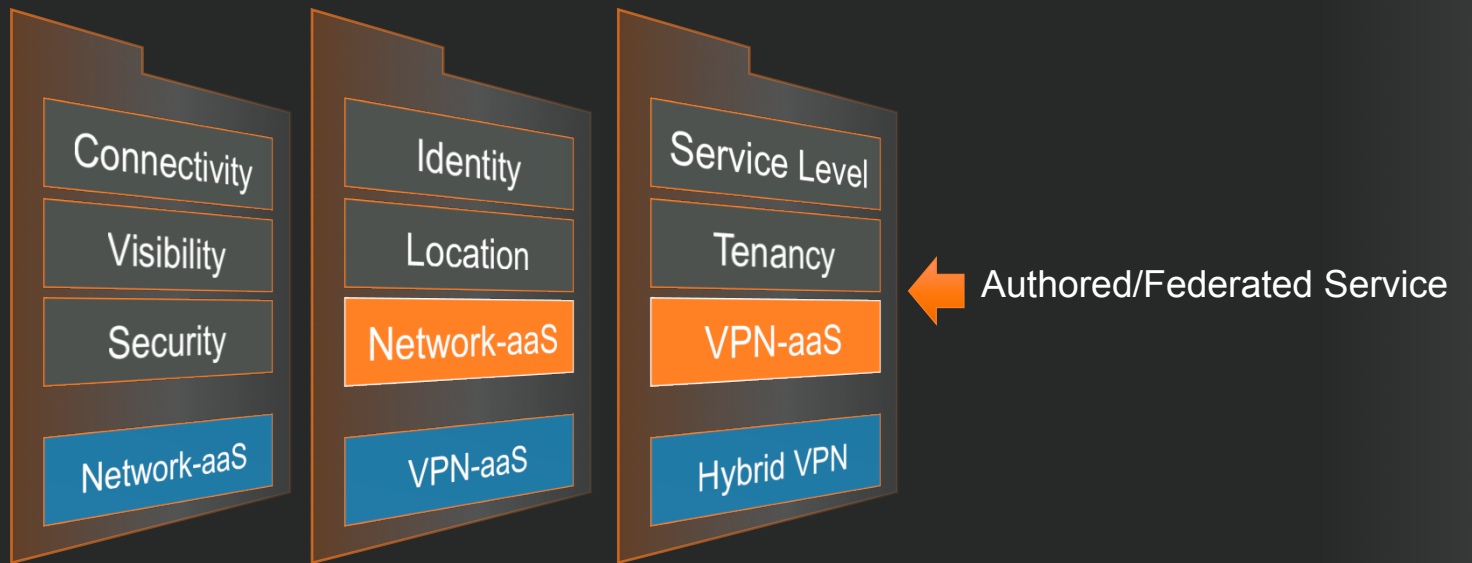## Abstraction to Enable Service-Centricity

Service Deployments

Technology Value	Technology Value	Technology Value
Connectivity	Security	Visibility

Infrastructure Capabilities

Prepare | Design | Operate

Plan | Implement | Optimization

The Past (and Today)

Vs.

Research | Author / Augment | Publish / Consume | Maintain

Services-as-a-Platform

IoT | Cloud Extension

Cloud Connectivity | VPNaaS

Connectivity | Security | Visibility

Service Management Layer

IT capabilities, infrastructure and services

What we Need

Experience

Performance

Agility & response

riverbed

Partnering to Develop Business Transformation

Leverage an Ecosystem and a Platform Approach....

Service Developer

Provider

Customer

Customer Identity

Site Location

Product Catalog

Secure Transactions

EUE Visibility

Hybrid VPN

Service Level

Availability

Stadium

Pop-Up Kiosk

Internet

Mobile

MPLS

Cloud

Service Management Layer

Infrastructure

riverbed

Turning Services into building blocks for innovation
Authoring and Augmenting Including Federation

Connectivity
Visibility
Security
Network-aaS

Identity
Location
Network-aaS
VPN-aaS

Service Level
Tenancy
VPN-aaS
Hybrid VPN

Authored/Federated Service

Library   Connectivity   Visibility   Security   Network-aaS   VPN-aaS   Hybrid VPN   Federated Service Management

Infrastructure

riverbed

Turning Services into building blocks for innovation

Realization of customer feedback in days and not on month

Connectivity	Identity	Service Level
Visibility	Location	Tenancy
Security	Network-aaS	VPN-aaS
Network-aaS	VPN-aaS	Hybrid VPN

Publish (API/uCLI)

Consumption

Feedback

Customer

Service Management Layer

Infrastructure

riverbed
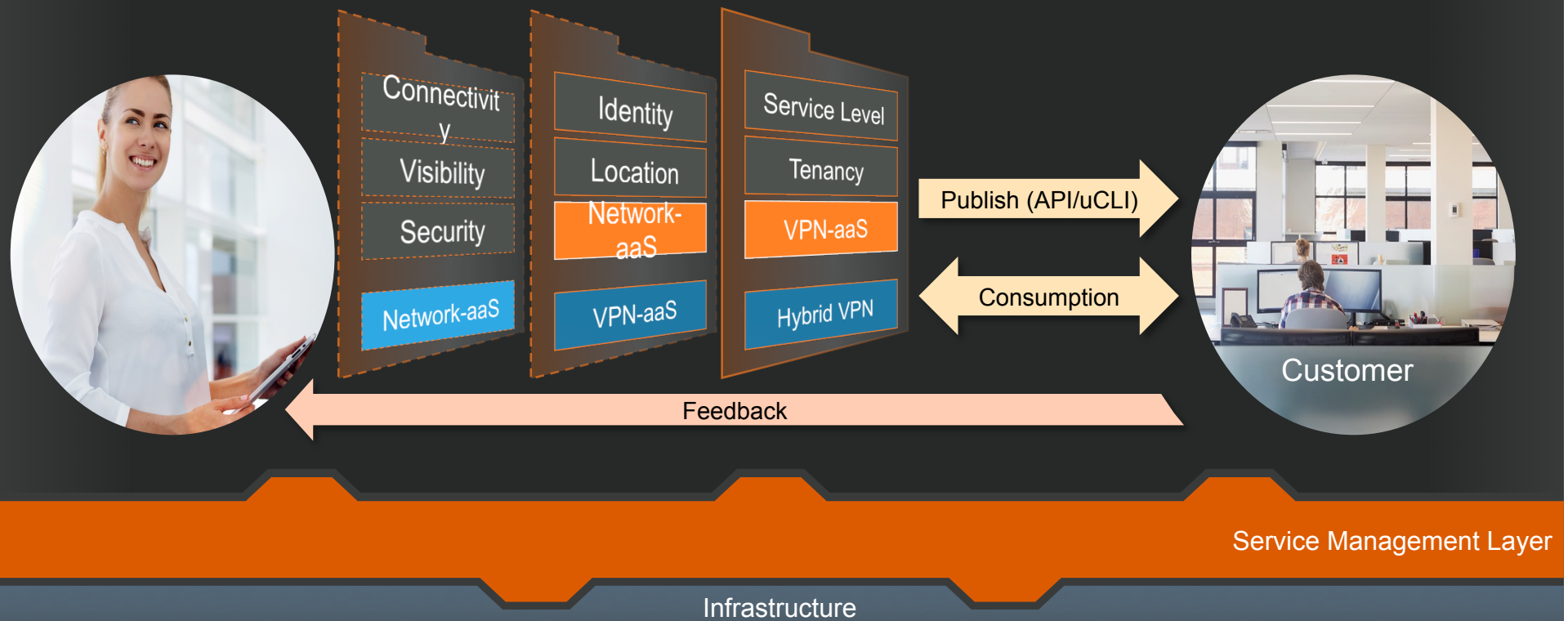
It's not only new technology but also methodology and tools

Bringing cloud-like agility to Service Providers

Develop

Publish

Improve
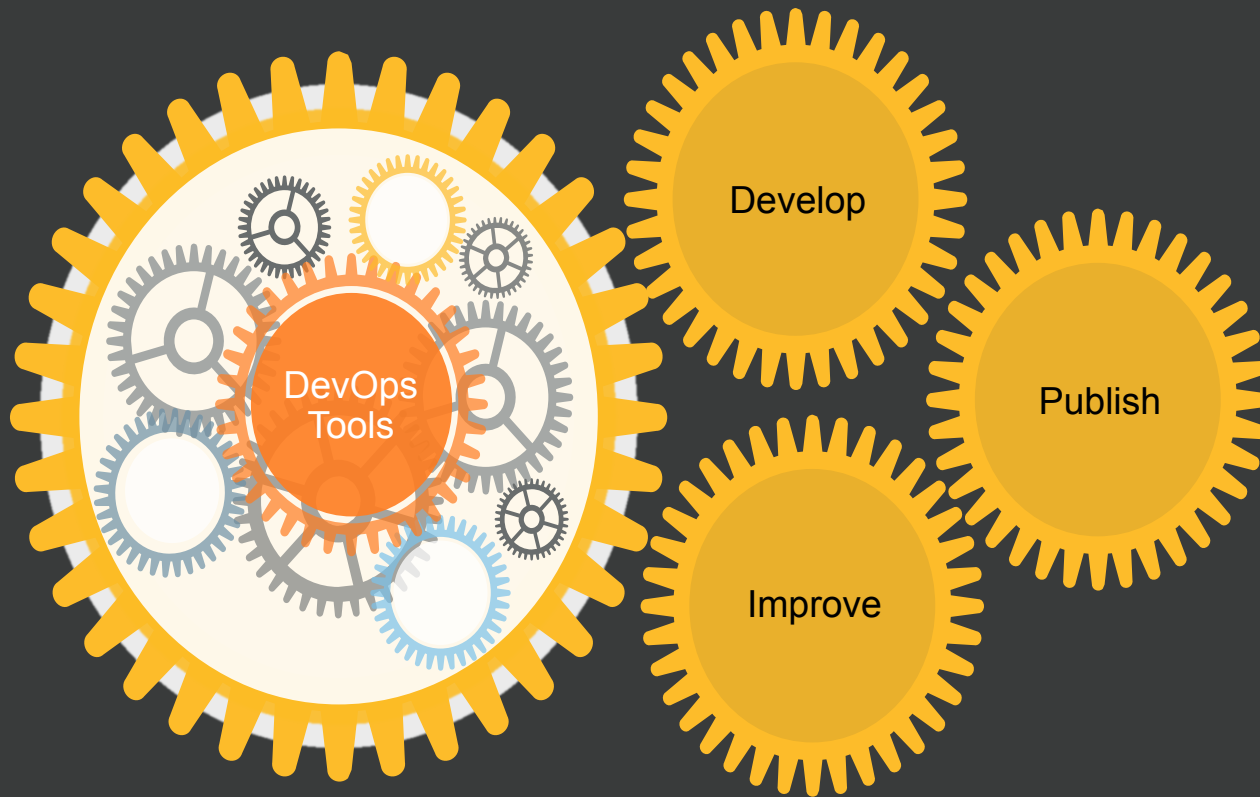
DevOps Tools

DevOps Toolset to enable rapid service design, deployment, and optimization

Service Definition can be done by business analysts/ product managers, not CCIEs

Designed for re-usability

Customer experience drives outcomes

riverbed

Orange Business Services

Orange Business Services: your worldwide digital transformation partner

We are more than a global leader in corporate telecommunications services:
- Professional services provider
- Solutions Integrator
- Major player in digital innovation

€6.4 billion in revenue in 2016

We help multinational companies worldwide:

2,200+ in Europe

800+ in America

700+ in Asia Pacific

200+ in Africa and the Middle East

21,000 collaborators dedicated to corporate activities

400 application developers and 700 IoT and Big Data experts

170 engineers and project managers in workplace infrastructure and transformation to cloud migration

1,200 cloud experts

1,000 cyber defense experts

Philippe Lannes

Network Solutions

Head of Business Development North America

The largest MPLS VPN in the world

orange

- ## 328,000+ sites

- ## 25,000 customers

- ## 3,750 MNCs

- IP MPLS VPN solutions in **180+** countries including challenging areas like Russia, China and Africa

Our customers' Cloud Service challenges

Capacity gap
"We need more network bandwidth to keep pace with digital demand at an affordable cost."

Bytes

Private WAN demand

IT network budget

$

50-80% of traffic is going to the Internet*
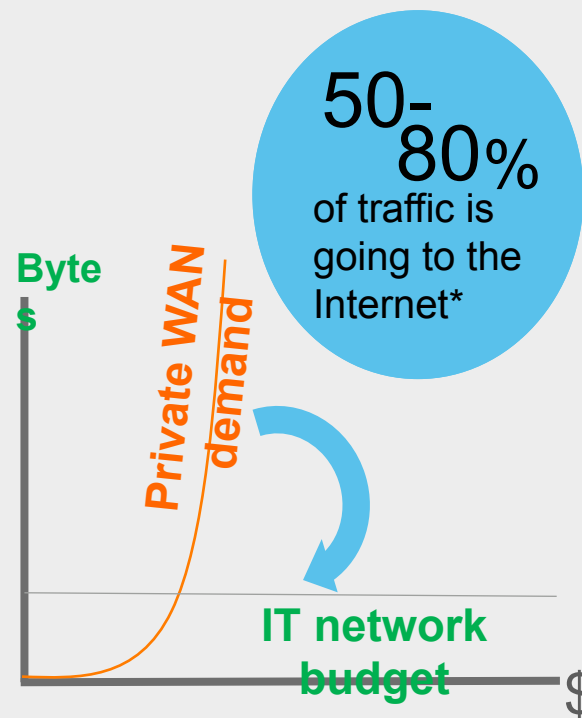
Poor end-user experiences
"Our employees and customers are frustrated by slow, unreliable cloud application experiences."

Security risks
"My attack surface has increased in the cloud and mobile era. I no longer have a secure network perimeter"

*Orange customer and media reports

The Hybrid Network Solutions
intelligent integration - private and public networks & services

remote (satellite)

leased line

EasyGo SDN/ NFV

Web Protection

@

Business VPN

Ethernet 180+ countries

Ethernet access network

Local ISP

Internet accelerate

mobile (3G or LTE)

BVPN Galerie

Orange cloud services
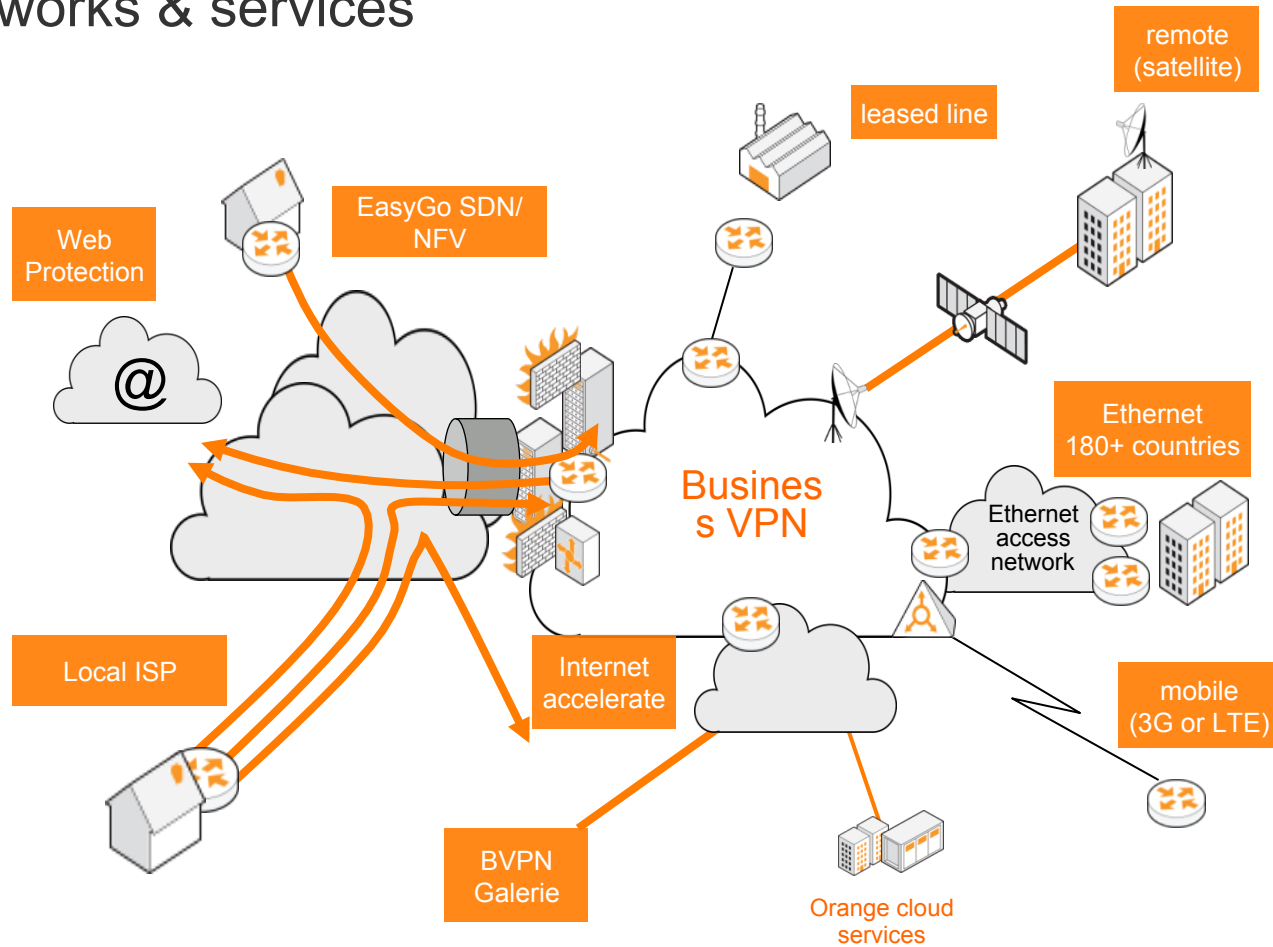
Managing complexity is not bring value:
What our customers really want?

AGILITY

- Zero-touch deployment and automation

- Minimization of network infrastructure at remote sites

- Transport agnostic, hybrid WAN: highly available, application aware, active/active, scalable and agile:

  - **intelligent application path routing**

  - **application visibility**

  - **acceleration**

- Multi-tenant data, control, and orchestration with operational independence

- **Pervasive security at all levels**: remote sites, Data Centers and Clouds
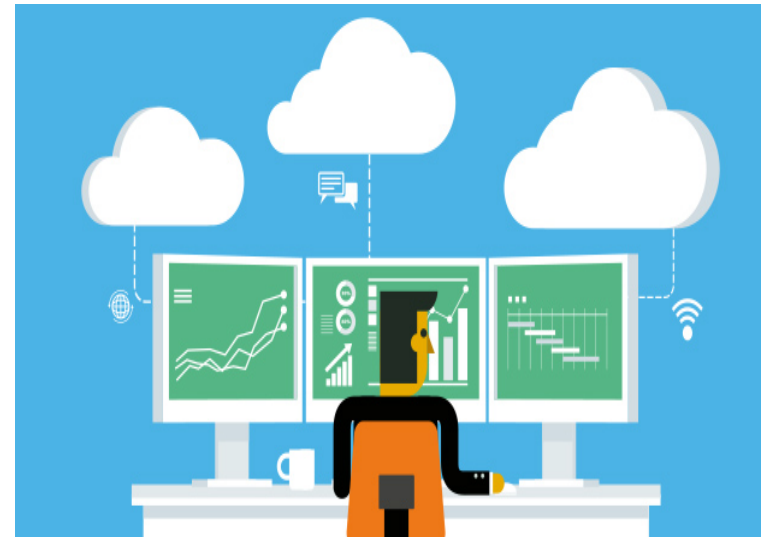
Our answer: the Hybrid network solution with SteelConnect
State of the art SD-WAN capabilities with Riverbed

Orange is strengthening its Hybrid Networks with SteelConnect SD WAN
This solution can be combined with Riverbed best of breed application performance management and optimization capabilities

SAP

FTP

Business VPN

Internet
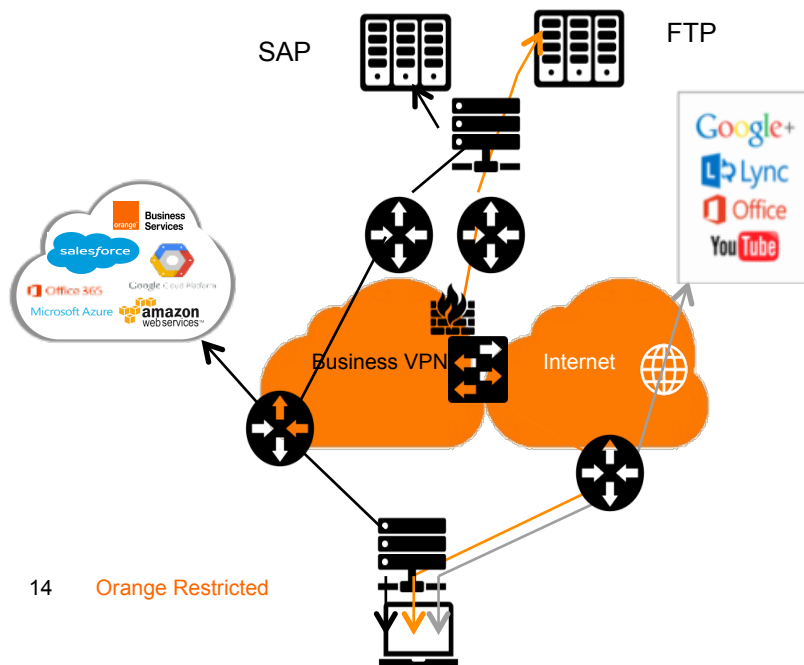
- **Easy to deploy**

  Compatible for existing hybrid network infrastructure

- **Smart**

  Path selection based on application performance requirements, Full Application Visibility (SteelCentral)

- **Secure by design**

  Local or distributed breakout, integration with Orange Security portfolio

- **Future Proof**

  Evolution towards uCPE and SDN orchestration

Next step: Network as a Service with Virtualized Steelconnect
Application Driven Network powered by best of breed Riverbed technology

Riverbed and Orange are working together to integrate a SteelConnect VNF in Orange uCPE and SDN PoPs
This VNF will be orchestrated by Orange, to allow online ordering in Orange portal and automated zero touch deployment by H1-2018

- **Flexible**
  Add and change services at the branch and in Orange gateways in minutes

- **Simplified maintenance and cost effectiveness**
  No need to add a new appliance to benefit from SD-WAN capabilities

- **Open**
  Combine Steelconnect and best of breed security functions on the same platform with consistent chaining

Orchestrate our customers' need
With open and flexible SDN/NFV WAN strategy

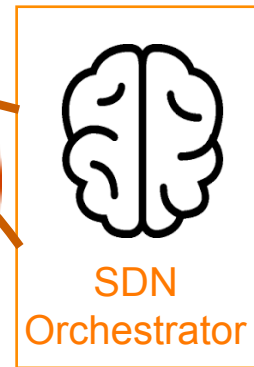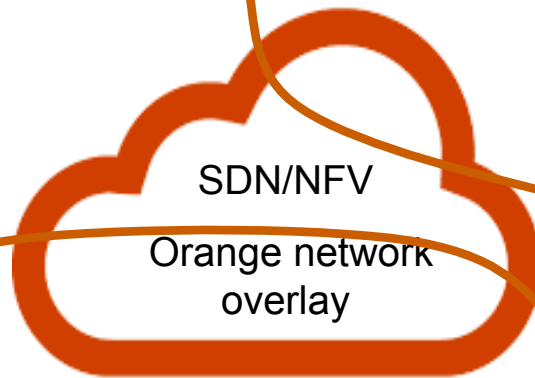Best-of-breed, multivendor virtualized services on-demand

Orange NFV POPs:
Consistent and quick application of global policies to every end-point

Customers' self-service portal

SDN/NFV

Orange network overlay

SDN Orchestrator

Order, activate, configure, monitor

Zero Touch Next gen CPEs:
Faster execution at the network edge

Global centralized control for better resource and service management across POPs and CPEs (virtualized and legacy)

16

The way to Network as a Service
A flexible business model to manage the transition

- Transition your Riverbed Steelhead appliances to as a service scheme (leveraging Riverbed subscription for full OPEX based model)

- Pilot the SteelConnect technology to add dynamic application routing and agile management capabilities in your network

- Upgrade your Steelhead to SteelConnect to deploy the technology in you network

- Deploy virtualized SteelConnect in Orange Cloud Galerie gateways to optimize your cloud traffic

- Migrate Steelconnect appliances to Universal CPEs to get additional flexibility in your branch office (adding new services…)

As part of a longer Journey

MPLS and enhanced Internet

Global Orchestration

Enriched VNF and APIs

Big data and machine learning

2016

2017

2018

2020+

Enriched hybrid network

Agile connectivity (SDN/NFV)

On-demand connectivity, security, performance

Self-adaptive connectivity

18

Thank you!