SD-WAN and The Enterprise Cloud Transformation

Driving the convergence of Cloud, Network and Security

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What is driving the Enterprise IT?

OPERATING EXPENSES

 # servers managed per admin

GOOGLE: 1 per 10,000 servers
Each admin can operate ~10,000 servers

Ent/SP: Less than 100
Each admin can manage up to ~100 servers = large headcount

TIME TO SERVICE DEPLOYMENT

Code to production launch

AMAZON: Few seconds
STAT MUX Service on Existing Infrastructure

Ent/SP: 10-12 Months
Mobile Operators quote many months per service; mostly manually

OPERATIONAL COMPLEXITY

# of SKUs to manage

GOOGLE: 10s Configs
Google: ~10 shared hardware system bundles

Ent/SP: Thousands configs
1000's of SKUs to manage makes IT overly complex

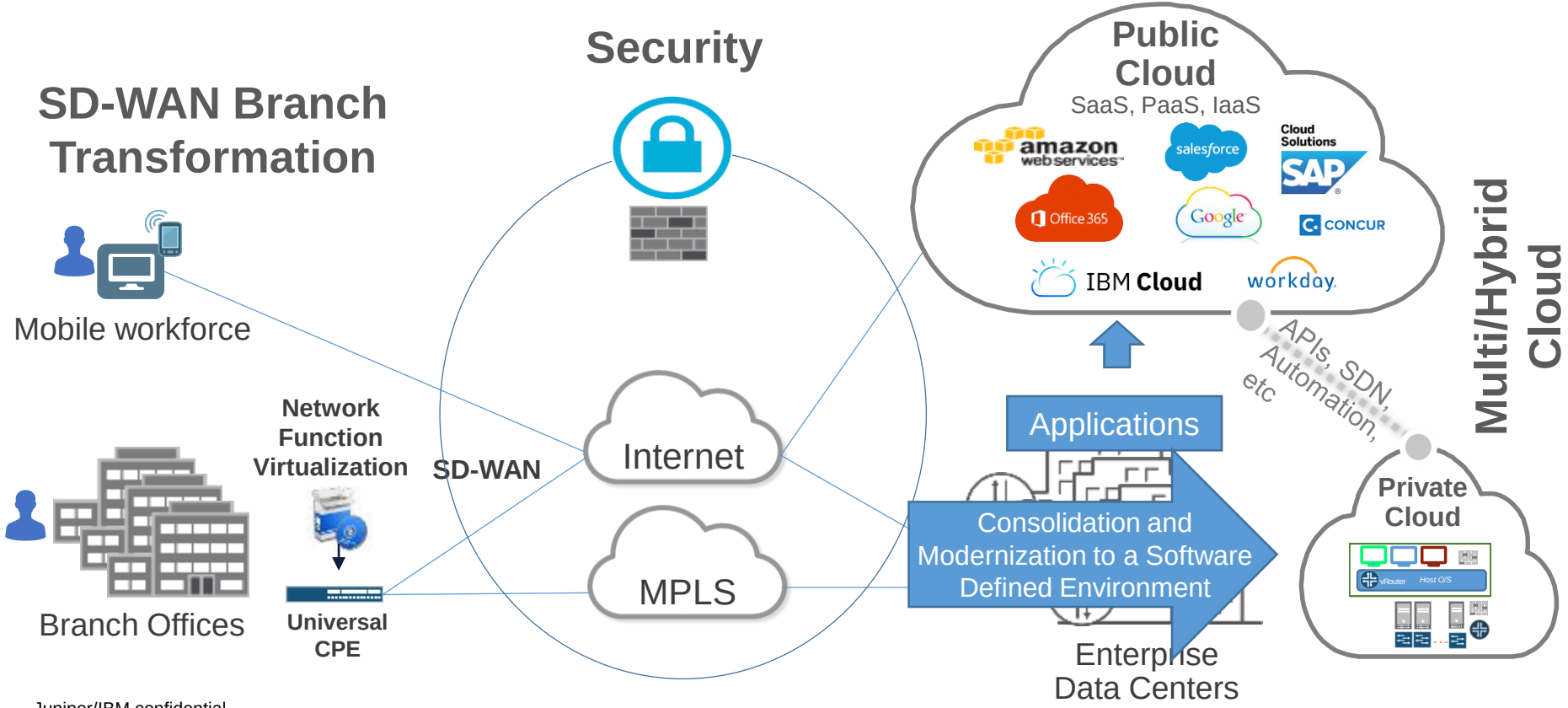
Google, amazon web services, NETFLIX

Innovation and digital transformation

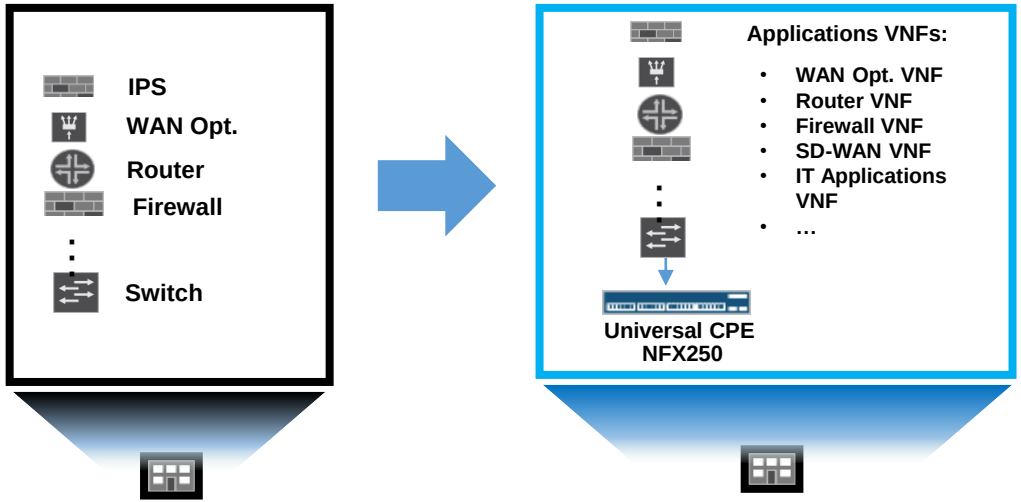
Accelerate Time to Market

Flexible business models
Capex to Opex
Subscription models

The Enterprise Cloud Transformation in motion



How Juniper Cloud CPE enables the SD-WAN Branch Transformation



Old Branch

- Multiple devices/Redundant Scaling
- High operational costs/Truck rolls
- Slow time-to-market / revenue
- Declining revenues
- High Touch (Configuration)
- Hard-wired Service Chains

Modern Branch

- Single universal CPE device with customizable services offering
- Services richness based on pay as-you-go software model
- Services installed in Branch or Telco Cloud
- Automated operations/Zero Touch Provisioning

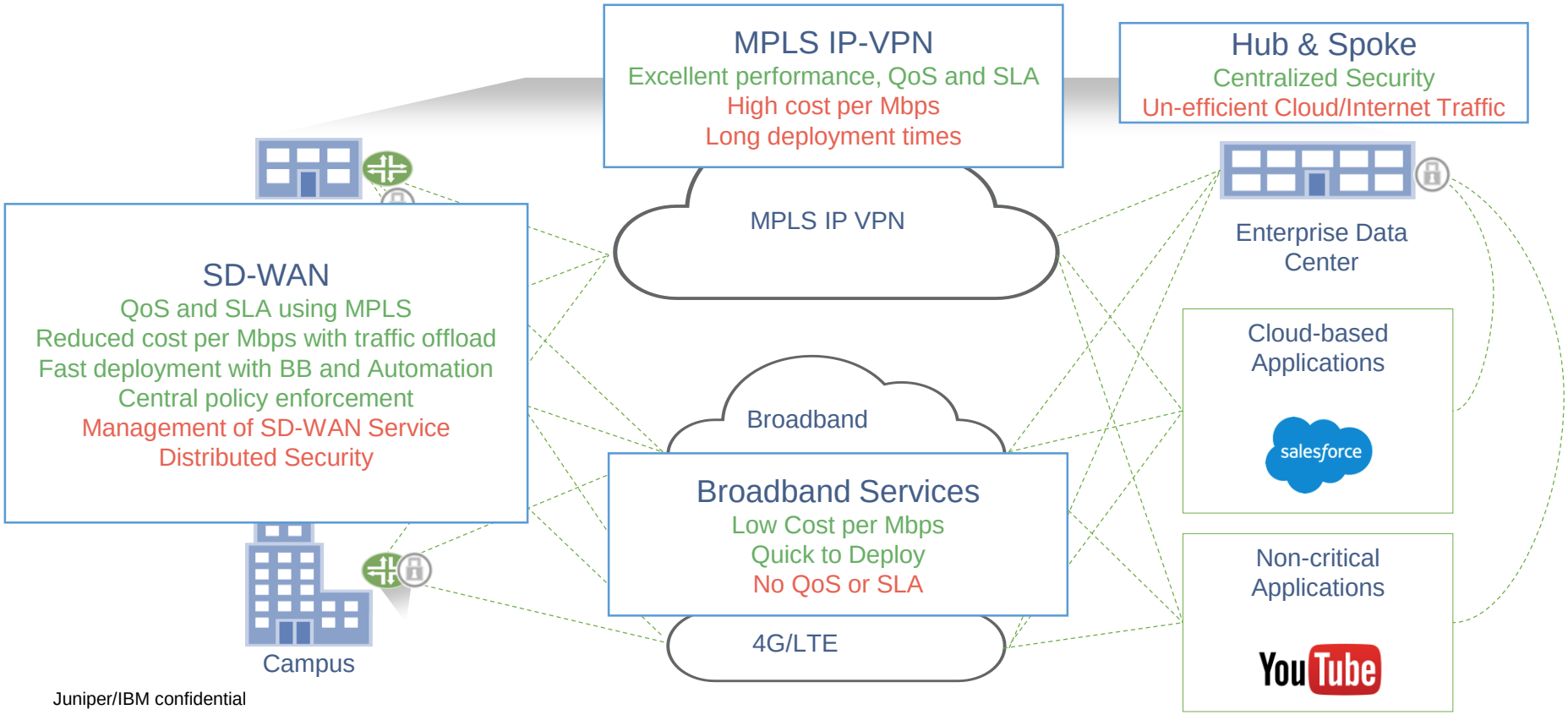
Device Consolidation

Simplified Operations with automation and plug & play deployment

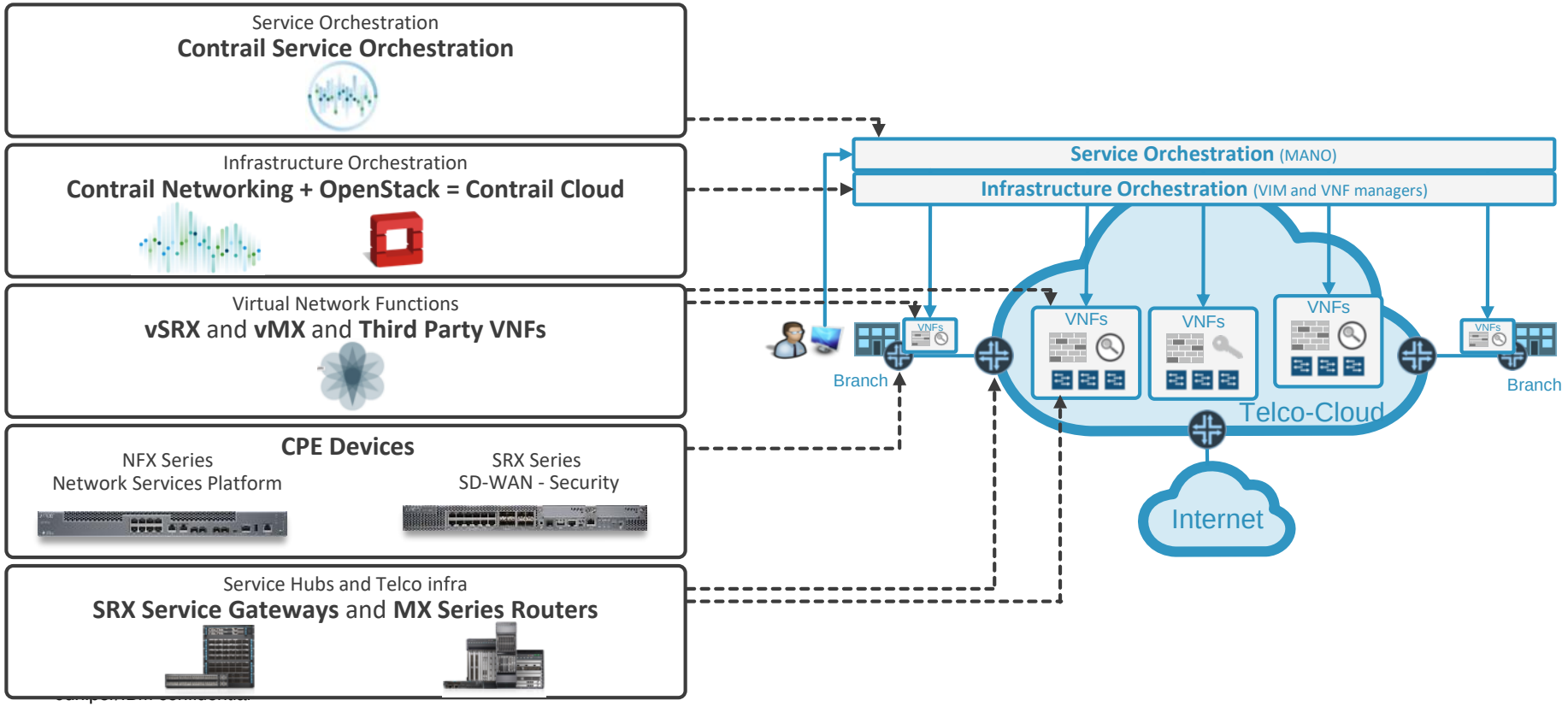
IT/Software model to Networking and Security

Reduced Branches connectivity costs with Software Defined WAN

SD-WAN Architecture



Juniper Cloud CPE - Platform to deliver VNF Based Managed Services and SD-WAN



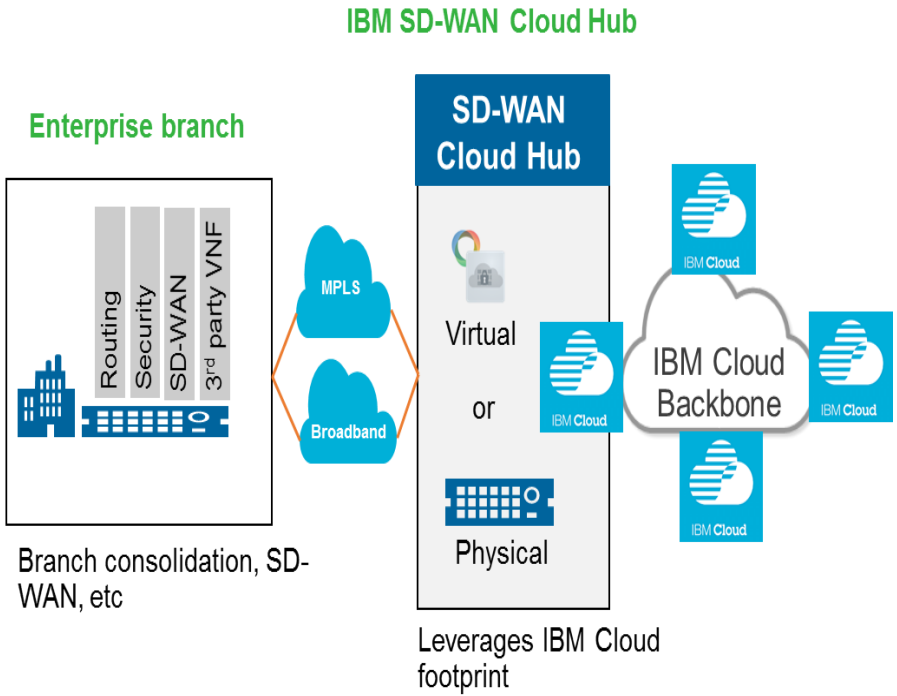
Typical enterprise requirements are focused on improving the user experience, agility, and flexibility while enabling cloud delivery

Improve user experience	for employees, agents, partners, and clients – ensure all applications are usable wherever they are
Enable cloud adoption	interconnect company sites and clients effectively with cloud services and public Internet while ensuring reliable, high performance, and secure connectivity end-to-end
Increase agility	reduce network delivery as a barrier to quick business and application development and deployment while simplifying moves adds and changes throughout the environment
Improve Security	embed security into every network service by leveraging next generation security services
Reduce risk	improve network resiliency by diversifying carrier service and reduce errors through enhance automated provisioning
Enable global business	simplify global operations, vendors, technologies, management for various transport and equipment providers e.g. single pane of glass for management

IBM SD-WAN Values

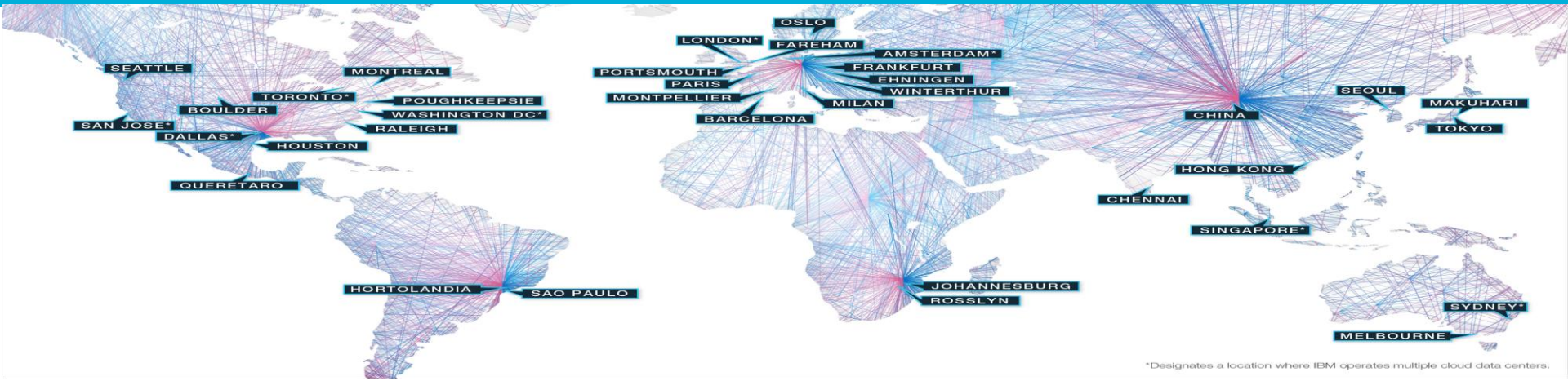
1. Global SD-WAN Cloud Platform
2. Comprehensive Security Model
3. Applied Cognitive Analytics to Management and Monitoring
4. “Services” vs “Systems” Integration Approach
5. Services scale, reach and multivendor expertise

IBM Cloud based Secure SD-WAN Platform Powered by Juniper



- ✓ **Removes the data center as hub of the network**
- ✓ **Enables flexible selection of carrier services**
- ✓ **Leverages Internet VPN to reduce cost by 20-30%**
- ✓ **Provides access to multiple carriers and high capacity connections to cloud service providers**
- ✓ **Consolidates multiple independent networks into one global network**
- ✓ **Provides access to all applications from any location**

Leveraging IBM Cloud Footprint



Data Centers

55 Total

IBM cloud data centers

Network Architecture

3 Networks

separate public, private, and internal management networks

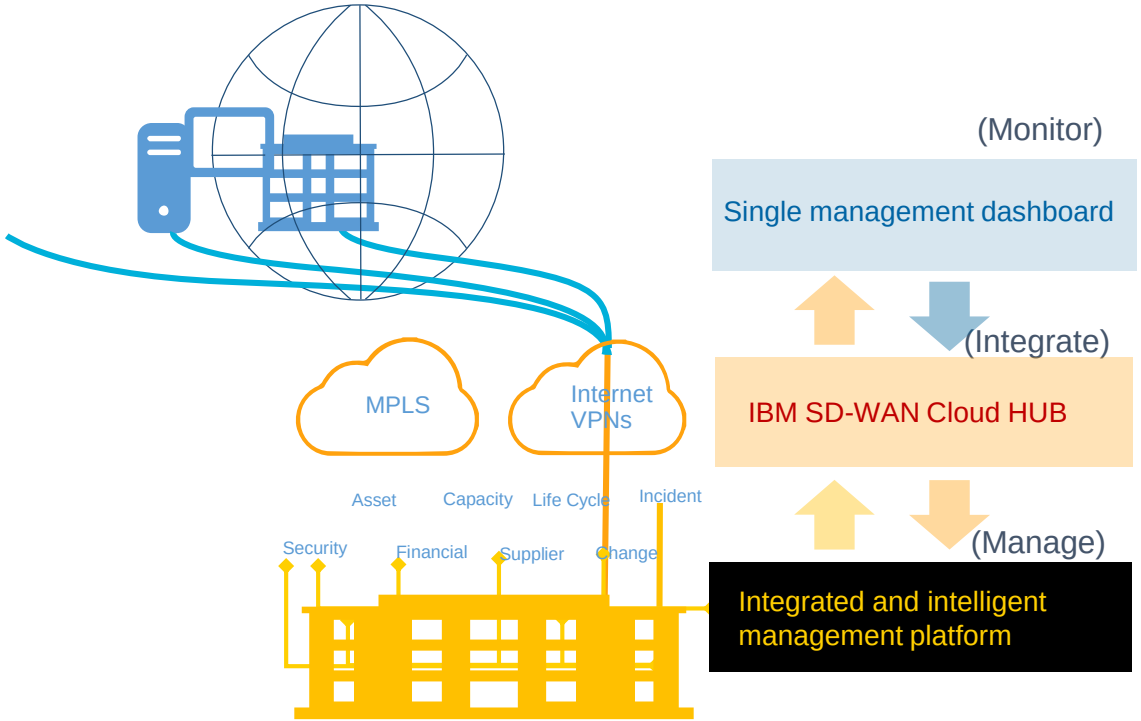
Connectivity

+15 Tbps

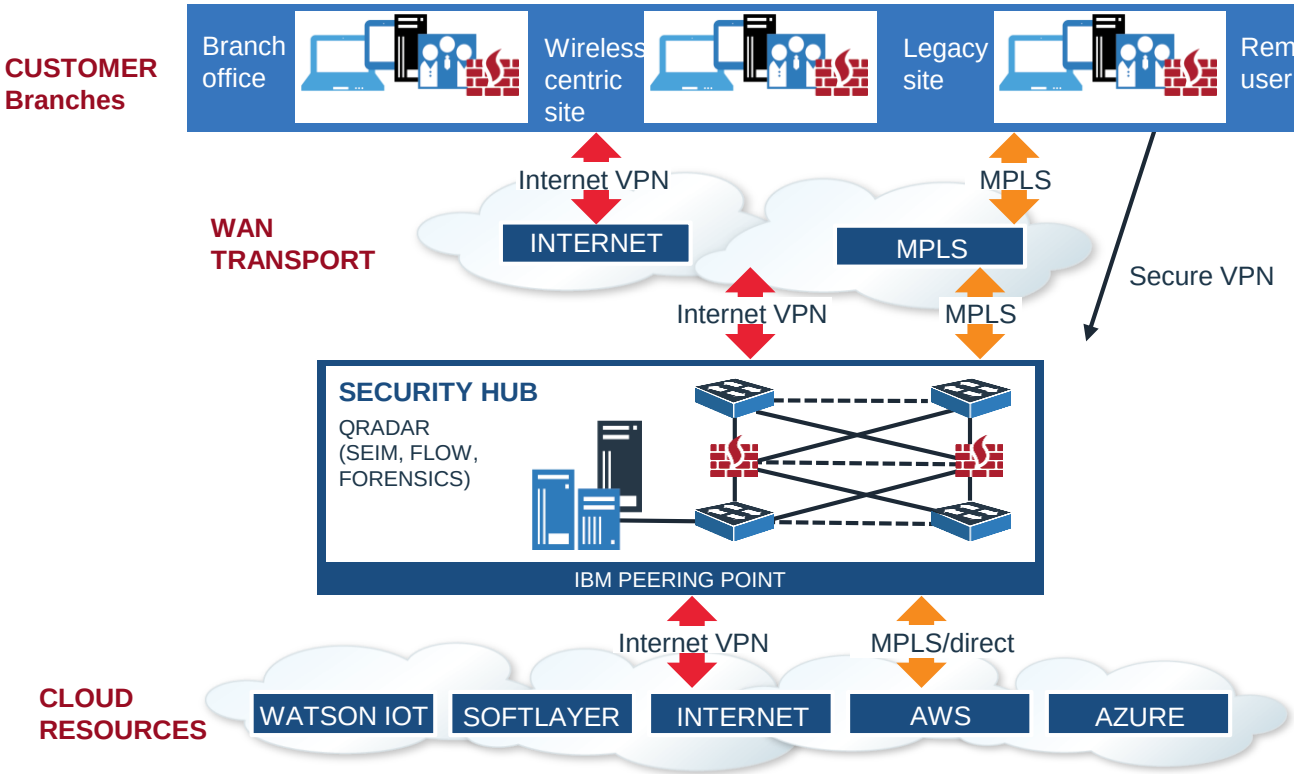
global backbone connectivity

The IBM SD-WAN Service provides a management platform for operations as well as future technology innovation

- ✓ The service is a fully managed service, customers gain visibility and insight into network operations and performance through a single portal.
- ✓ Independence from providers leading to greater speed to market and flexibility for moves, adds and changes in the network at contained cost.
- ✓ Global coverage with the strongest provider for each geographical area.
- ✓ Reduced latency for Cloud Connectivity.
- ✓ Typically up to 30% more bandwidth and 25% lower MPLS costs.
- ✓ Automated load sharing, high availability and integration across multiple providers.



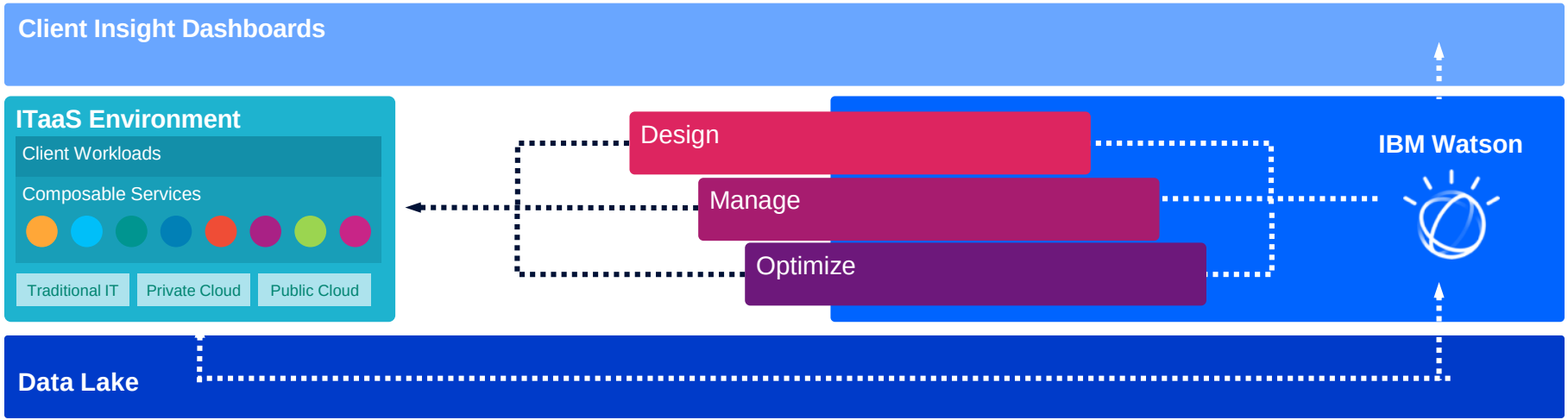
IBM **Secure** SD-WAN- Security Hubs



Available Security Features

- Next Gen firewall
- IPS
- Anti-spam
- URL Filtering
- Malware / AV detection
- Command & control traffic detection
- Geo IP blocking
- SSL VPN
- IPSec
- Dynamic routing (eBGP, iBGP, OSPF)
- QoS
- User FW with machine identification
- SSL forward proxy

IBM Services Platform with Watson



Build an agile ITaaS environment to meet ever-changing business needs by:

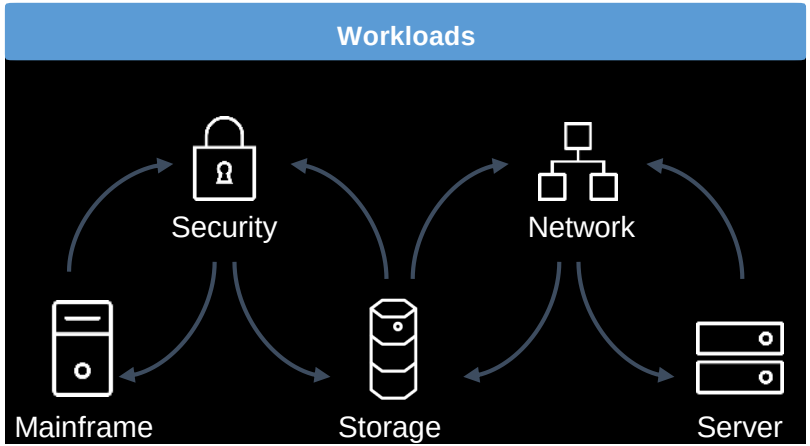
- Establishing a catalog of composable, compatible services
- Seamlessly integrating the right mix of services, at scale
- Establishing end-to-end governance

Ensure a client's environment is always on, always secure, always improving by focusing Watson on three main objectives:

- Designing superior IT solutions
- Managing IT operations
- Optimizing IT performance

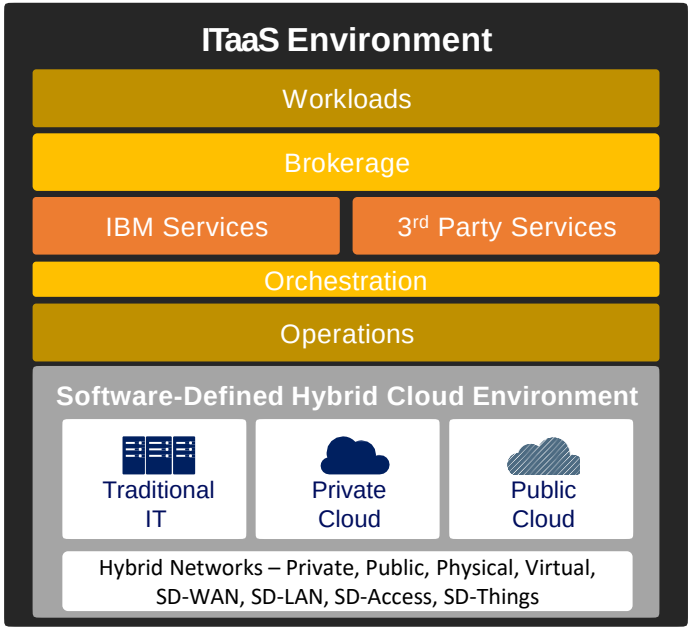
We are reinventing the Services model … shifting from a Systems Integrator to a Services Integrator and driving technology led services

From **systems integration**
to achieve IT outcomes



Systems Management

To **services integration**
to enable business outcomes



Services Management

Security, Cognitive, Analytics, Automation and DevOps

IBM GTS provides a broad set of modular services to address the Enterprise infrastructure needs

IBM

JUNIPER NETWORKS

Systems Services

Build and manage highly efficient infrastructure to respond to change and drive innovation

300+ client and IBM data centers under management

Mobility Services

Plan your approach, manage devices and end-user applications and related network infrastructure

5.5M+ mobile devices under management

Resiliency Services

Maintain business continuity and recover critical business applications no matter the circumstances

2.3+ Exabytes backed up annually

Networking Services

Design, implement and manage integrated communications and networking environments

270K+ network devices under management

Technology Support

Simplify management and streamline maintenance of IBM and multi-vendor environments

30,000+ products covered by **Multi-Vendor Services**

Cloud Services

Reinvent your business with the power of cloud computing

50+ cloud data centers across six continents

Security Services

Protect your enterprise from complex IT security threats while reducing costs

35B events managed per day in more than 130 countries

IBM Hardware and Software Support Services has the depth and breadth to deliver speed and quality

Speed **Quality**

IBM support is designed to:

- **Prevent** downtime with proactive, first-rate service
- **Resolve** outages faster if they do occur to better protect your brand
- **Optimize** IT and user productivity—and revenue—to enhance business results
- **Protect** your brand reputation and help keep your customer base
- **Simplify** support to save time, resources and costs

57 support centers worldwide with regional and localized language support

19,000 **IT support specialists** worldwide who know technology

585 parts centers with 1.3 million IBM and non-IBM parts

Support for more than **30,000** multivendor products

40% Reduction in problem determination time by using **IBM® Watson®**

11 global research laboratories

94% First-call hardware success rate

A combined total of **6M** hardware and software service requests

114 hardware and software development laboratories

Source: Based on internal IBM data.

Key take Away

Enterprise Cloud Transformation is driving the **convergence** of **Network**, **Security** and **Cloud** with **SD-WAN**

IBM Secure SD-WAN solution powered by Juniper combines

- Cloud, Cognitive, Security, Services at global scale, from IBM
- Juniper technology innovation to deliver Secure SD-WAN as a Service

IBM and Juniper are jointly enabling the Enterprise Cloud Transformation in a holistic way including Network and Security

IBM and Juniper Breakout Sessions @ NXTWORKS

- **Tuesday 10.30a to 11.20a - Breakout Session #1 – Security Transformation and Secure SD-WAN**
  Ritesh Agarwal and Ben Hendrick

- **Tuesday 11.30a to 12.20p - Breakout Session #2 SD-WAN and the Enterprise Cloud Transformation - Convergence of Cloud, Network and Security**
  Joao Gomes and Sandeep Dhingra

- **Tuesday 4.30p to 5.20p - Customer Use Cases and Transformation Journey with Juniper Cloud CPE/SD-WAN Solutions**
  Ripin Checker + Steve Teitzel + customer

VISIT US @ IBM BOOTH


THANK YOU