

COMBIS KONFER ENCIJA **13**

VODICE

30. - 31.05.

2019.



going
beyond
ideas

VMWARE SD WAN

PREDNOSTI SOFTVERSKI DEFINIRANIH WAN MREŽA

Višnja Radoš
Senior Network and Security Specialist
Middle Europe

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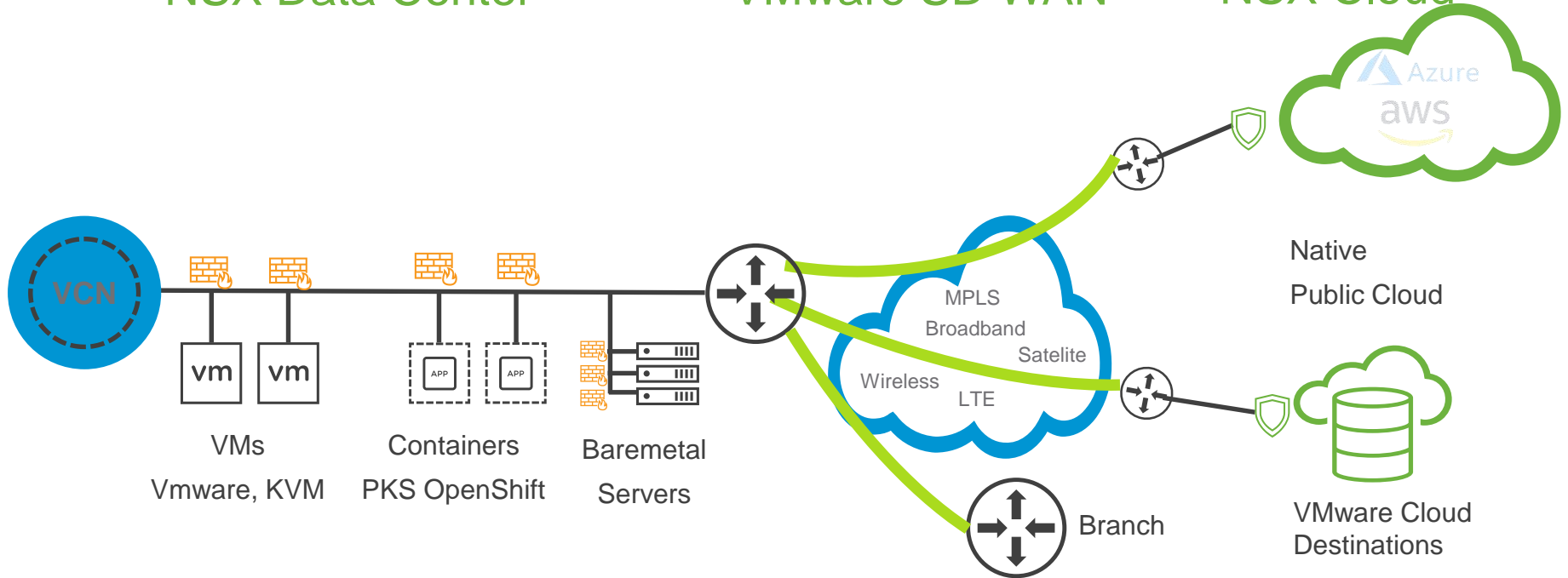


Networking and Security for All Workloads

NSX Data Center

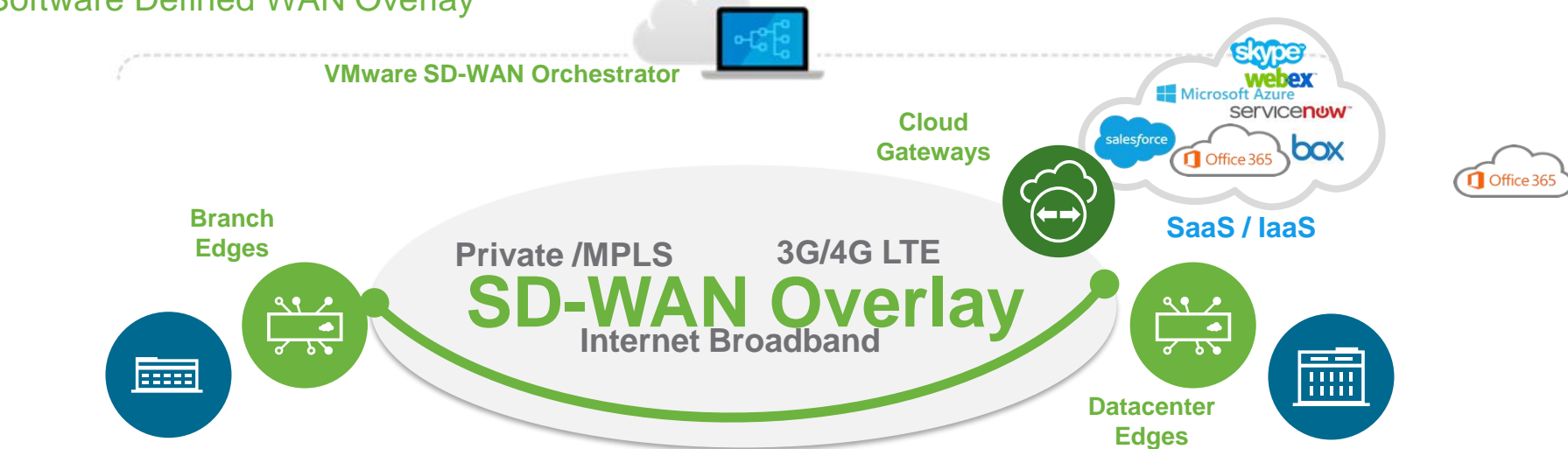
VMware SD WAN


NSX Cloud




VMware SD-WAN by VeloCloud Benefits

Software Defined WAN Overlay



 **Simplified WAN Management**

Zero-touch deployments, simplified operations, one-click service insertion

 **Assured Application Performance**

Transport independent performance for the most demanding apps, leverages economical bandwidth

 **Managed On-ramp to the Cloud**

Direct cloud access with performance, reliability and security

Enterprise/Over-the-Top Deployments



Hub for SD-WAN to data center including private links

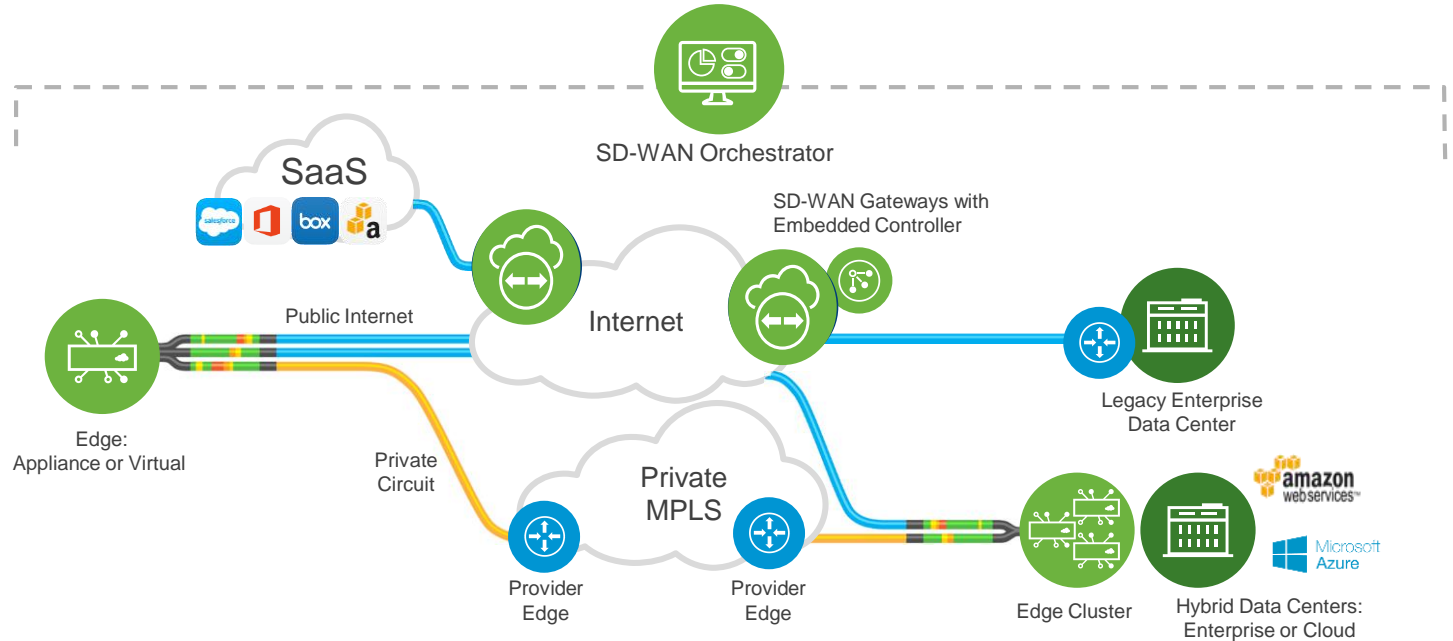


Hosted gateways for SD-WAN to SaaS/laaS

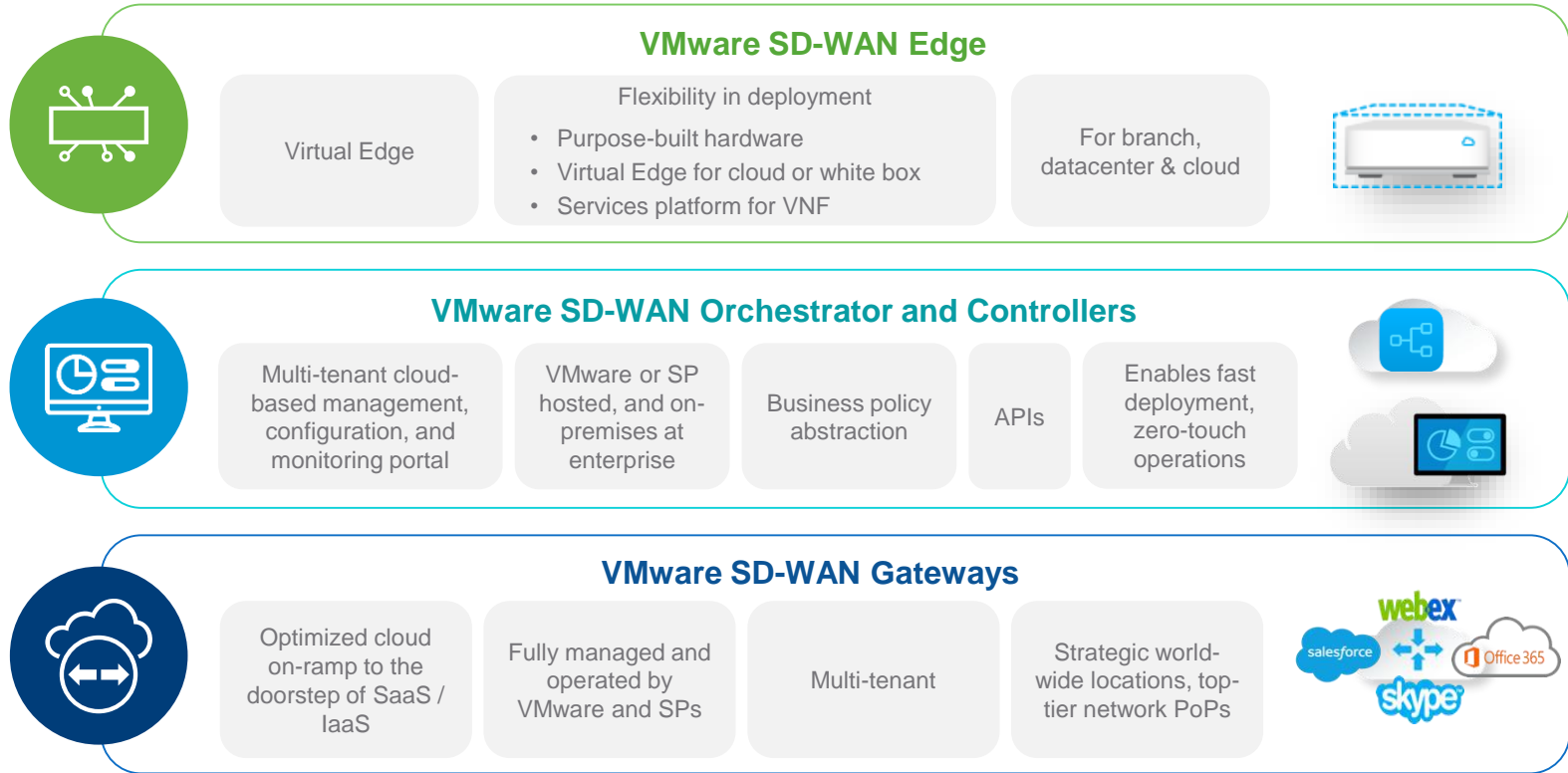


Hub-less design for legacy data centers









“Site to site SD-WAN plus benefits of cloud gateways for SaaS”



Solution Components



Multi-gigabit performance and scale

10-200 Mbps		100-1000 Mbps	200-1000 Mbps	1-10 Gbps	VNF Ready		Multi Gigabit
Edge 510	Edge 520	Edge 540	Edge 840	Edge 2000	Edge 520v	Edge 840v	Edge Cluster
4-Port GE 2-USB - LTE WiFi	10-Port GE 2-Port SFP 4-USB - LTE WiFi	10-Port GE 2-Port SFP 4-USB - LTE WiFi	6-Port GE 2-Port SFP+	6-Port GE 2-Port SFP+	10-Port GE 2-Port SFP 4-USB - LTE WiFi	6-Port GE 2-Port SFP+	
							

Use Case1: Better Application Performance

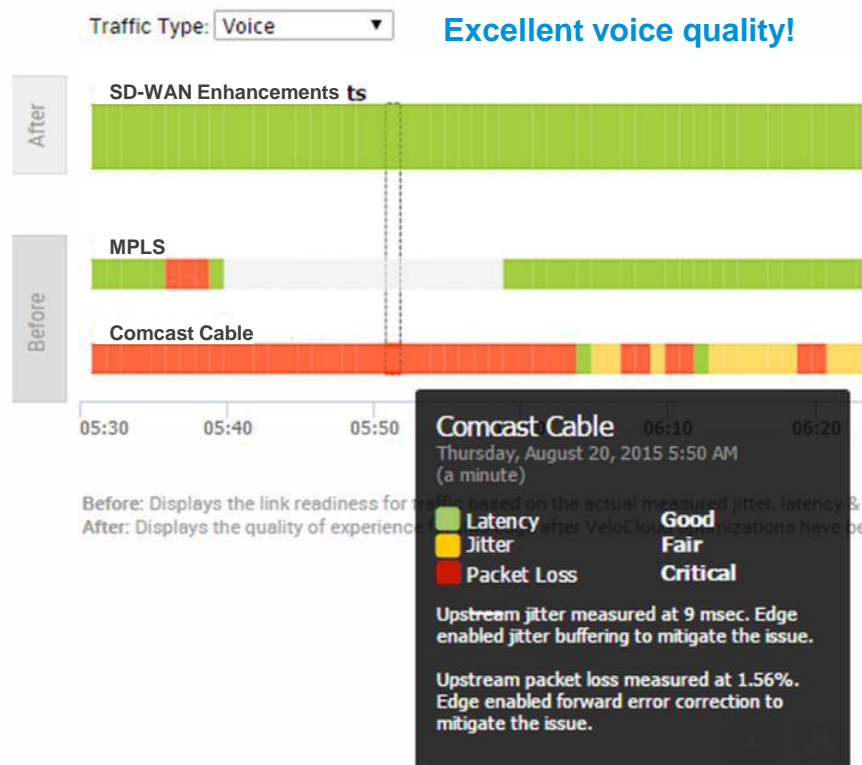
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Dynamic Multi-Path Optimization in Action

“Assured application performance over any type of link”



Continuous Link Monitoring

- Automatic real-time link quality monitoring: Latency, Jitter, Packet Loss
- Drives automation and optimization

Dynamic Per Packet Steering

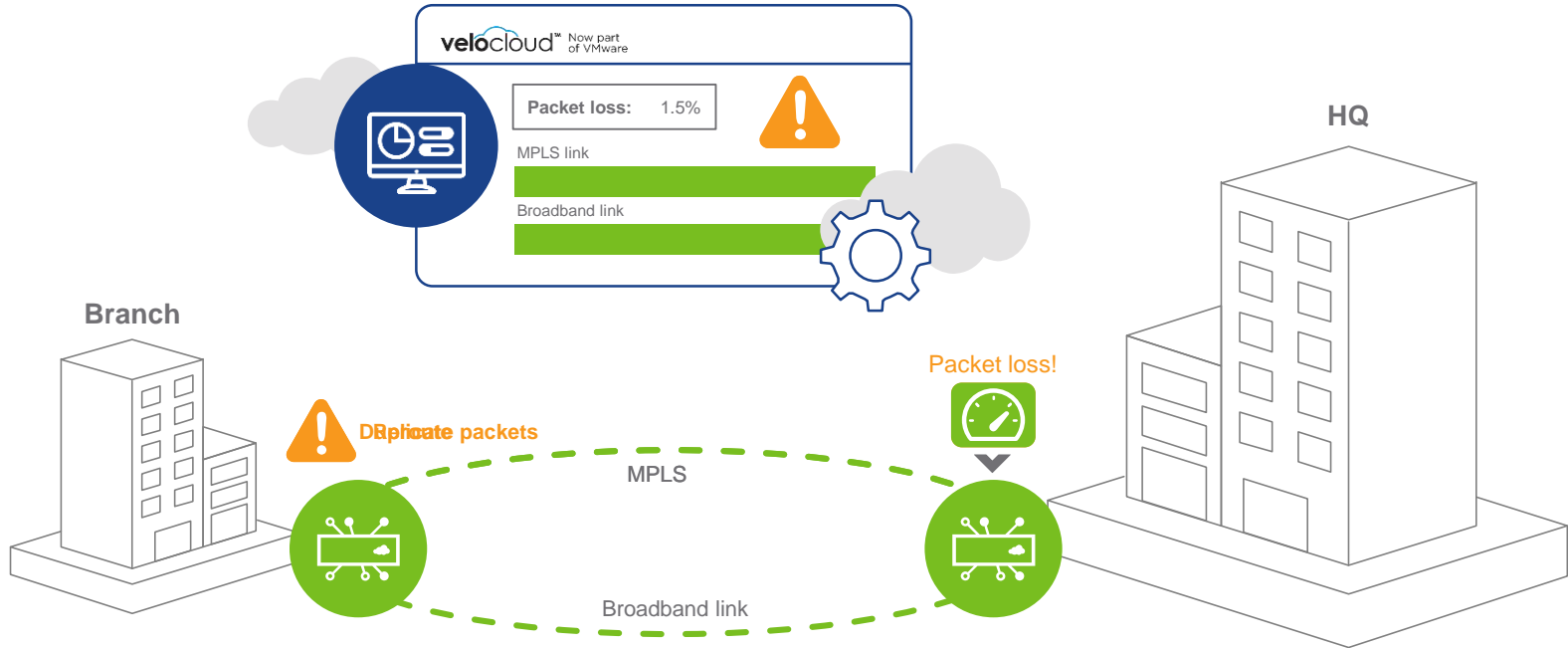
- Sub-second steering without session drops
- Aggregated bandwidth for single flows

On Demand Remediation

- Protects against concurrent degradation
- Enables single link performance

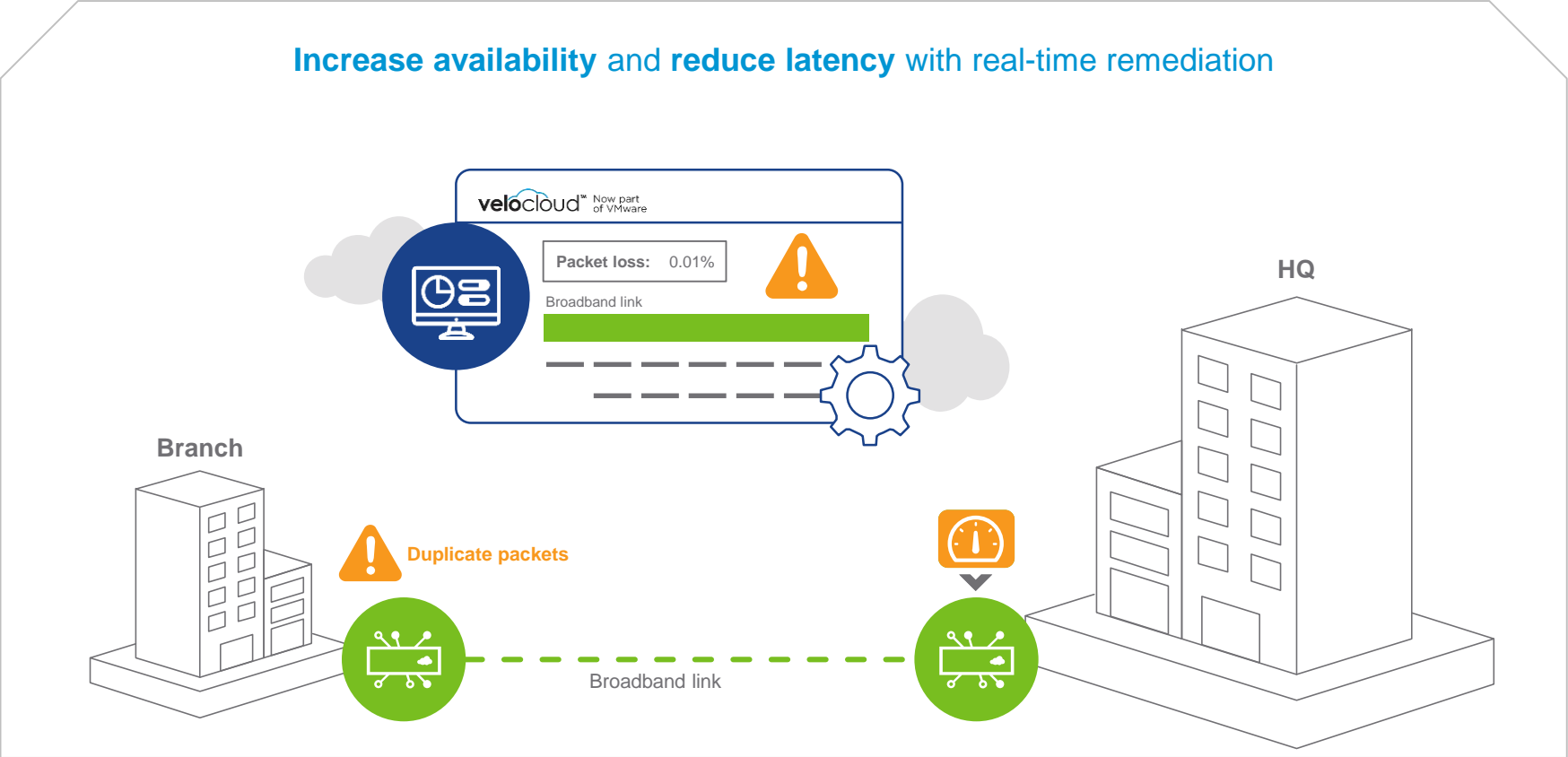
Dynamically route and replicate data for **real-time traffic**

Increase **availability** and **reduce latency** with real-time remediation and steering



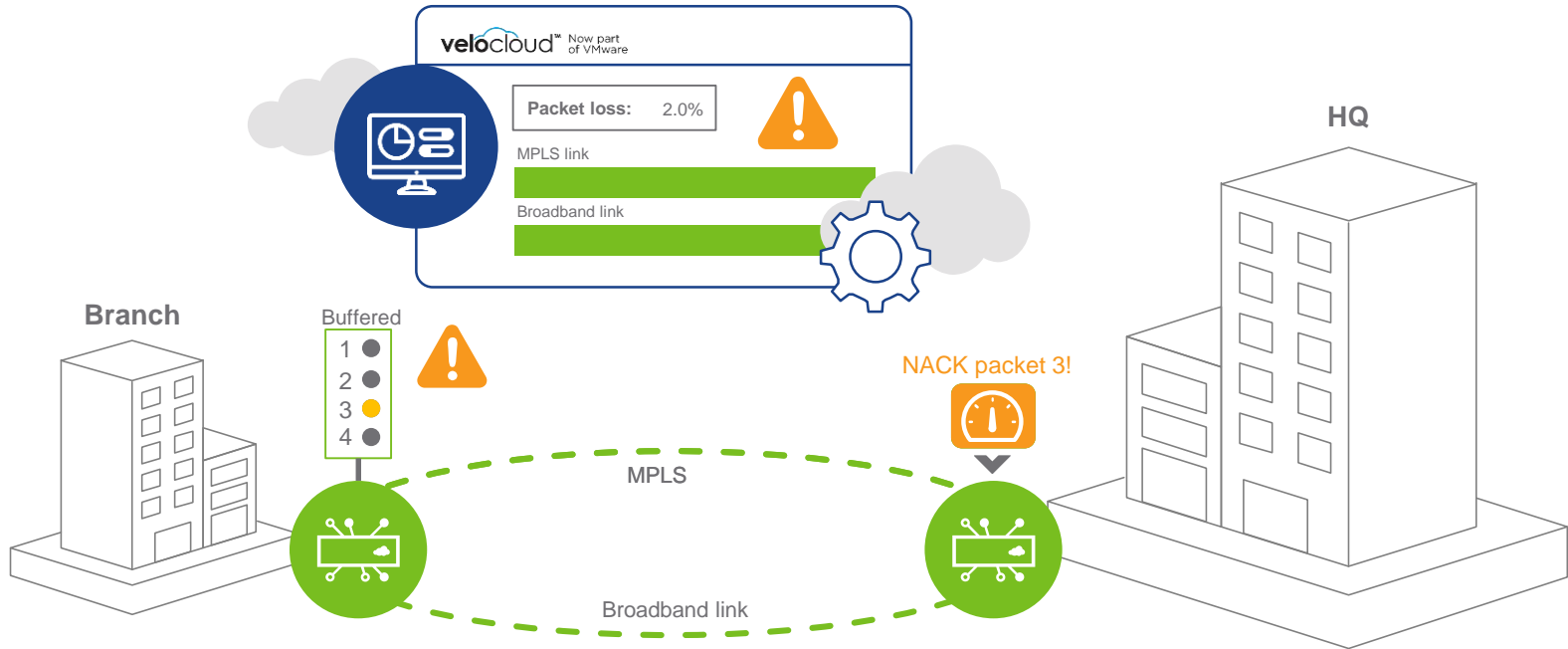
Dynamically route and replicate data for **real-time traffic**

Increase availability and reduce latency with real-time remediation



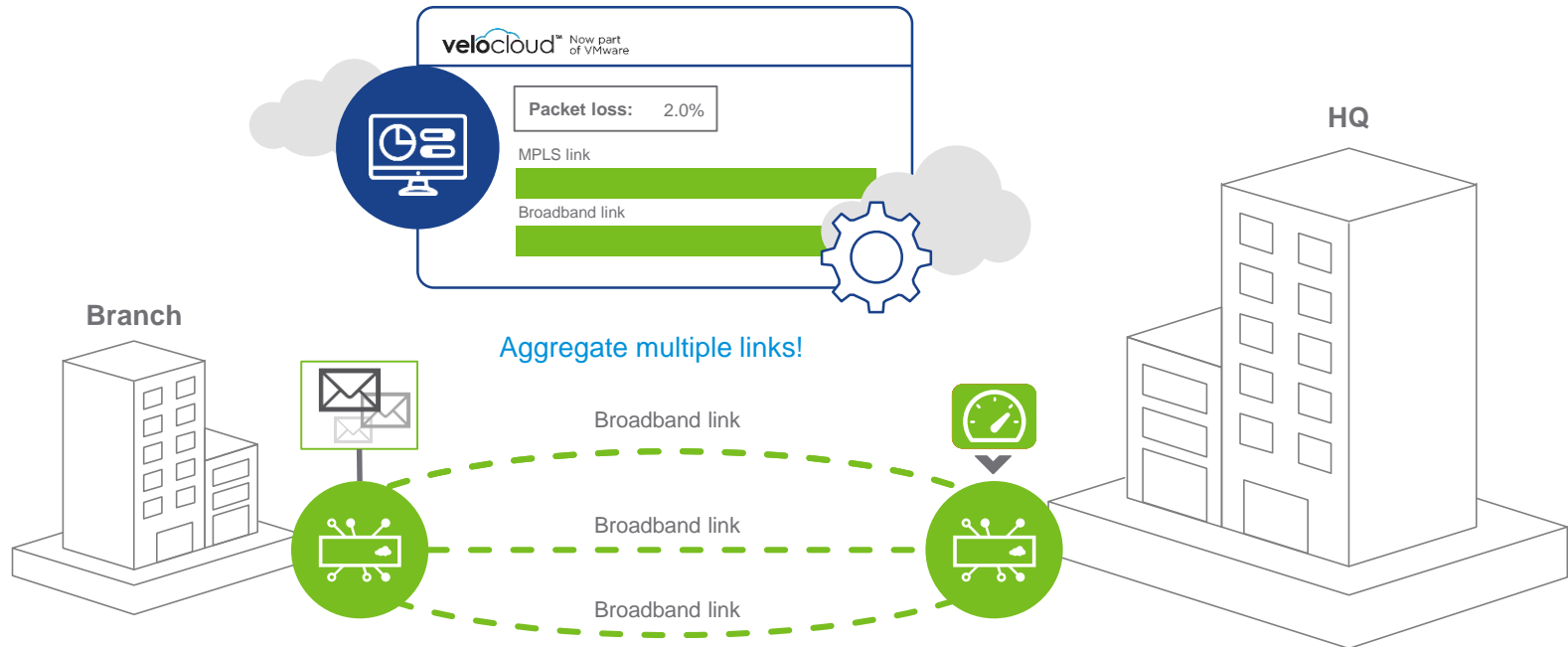
Dynamically route and replicate data for **transactional traffic**

Increase **availability** and **reduce latency** with real-time remediation and steering



Dynamically route and replicate data for **bulk traffic**

Increase availability and reduce latency with real-time remediation and steering



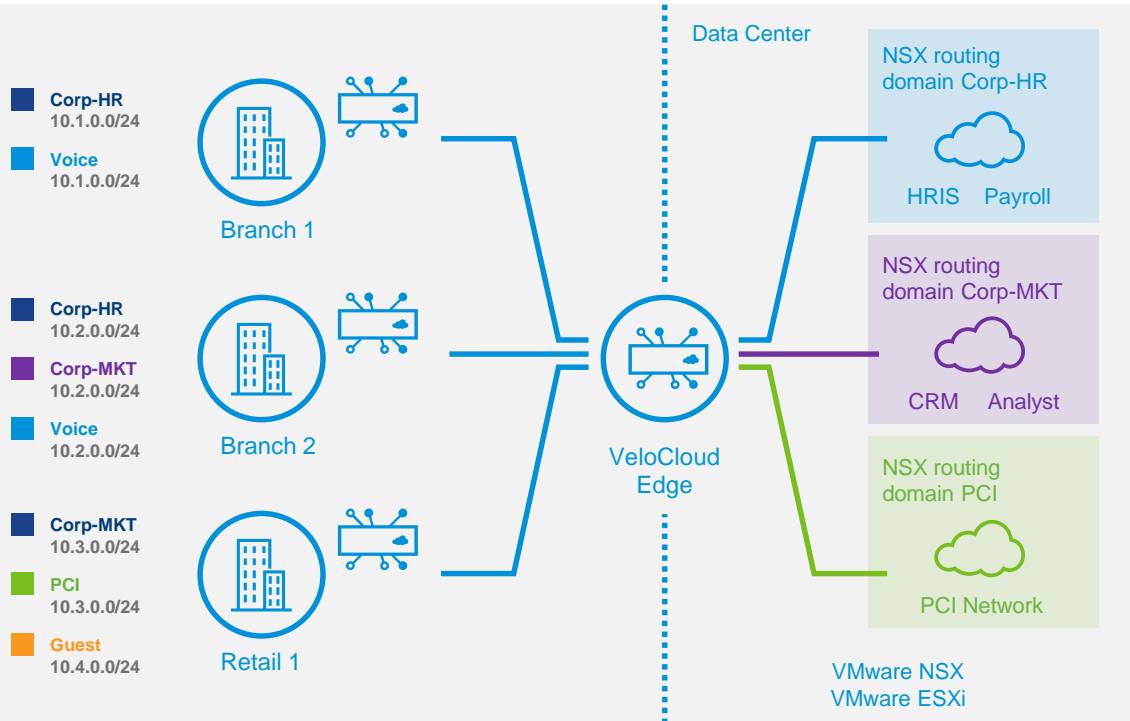
Use Case 2: Multitenancy and Segmentation



End to end security and segmentation

End to end services, analytics and policy

VeloCloud Orchestrator and Controller



Roadmap

- SD-WAN analytics — VMware vRealize Network Insight & Ecosystem
- Policy automation via API — NSX Manager - Security policies

Simple enterprise-wide segment creation

Segment-aware topology

Isolation & overlapping IP

Segment-aware policies

On-premises and cloud

PCI DSS 3.2 Certified SD-WAN

AOC* Summary

PCI DSS Requirement	Description of Requirement	Compliant to PCI DSS Requirements (Select One)	
		YES	NO
1	Install and maintain a firewall configuration to protect cardholder data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Do not use vendor-supplied defaults for system passwords and other security parameters	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	Protect stored cardholder data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	Encrypt transmission of cardholder data across open, public networks	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Protect all systems against malware and regularly update anti-virus software or programs	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	Develop and maintain secure systems and applications	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	Restrict access to cardholder data by business need to know	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	Identify and authenticate access to system components	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	Restrict physical access to cardholder data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	Track and monitor all access to network resources and cardholder data	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11	Regularly test security systems and processes	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12	Maintain a policy that addresses information security for all personnel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Appendix A1	Additional PCI DSS Requirements for Shared Hosting Providers	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Appendix A2	Additional PCI DSS Requirements for Entities using SSL/early TLS	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Validated on: November 13, 2017
Security Standards: PCI DSS v3.2

Validated Certificate affirms that Coalfire has completed a full assessment, documented our findings and signed off on the audit report, in accordance with industry best practices.

Orchestration

- Multi-tenant
- TLS 1.2
- Role-based access control / Radius
- 2-Factor authentication
- Event and firewall logs / APIS
- Built-in certification server

Data Plane

- IPsec with AES 256
- PKI
- Local access control
- Segmentation for hosted controller

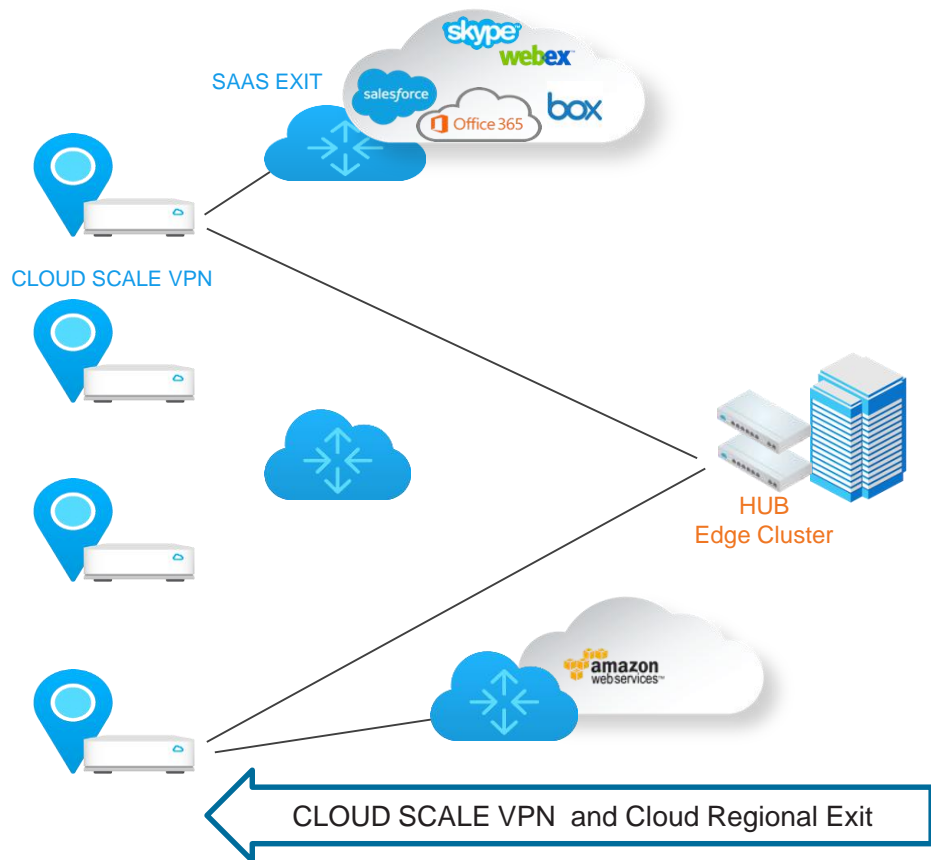
Use Case 3: Connecting to Cloud

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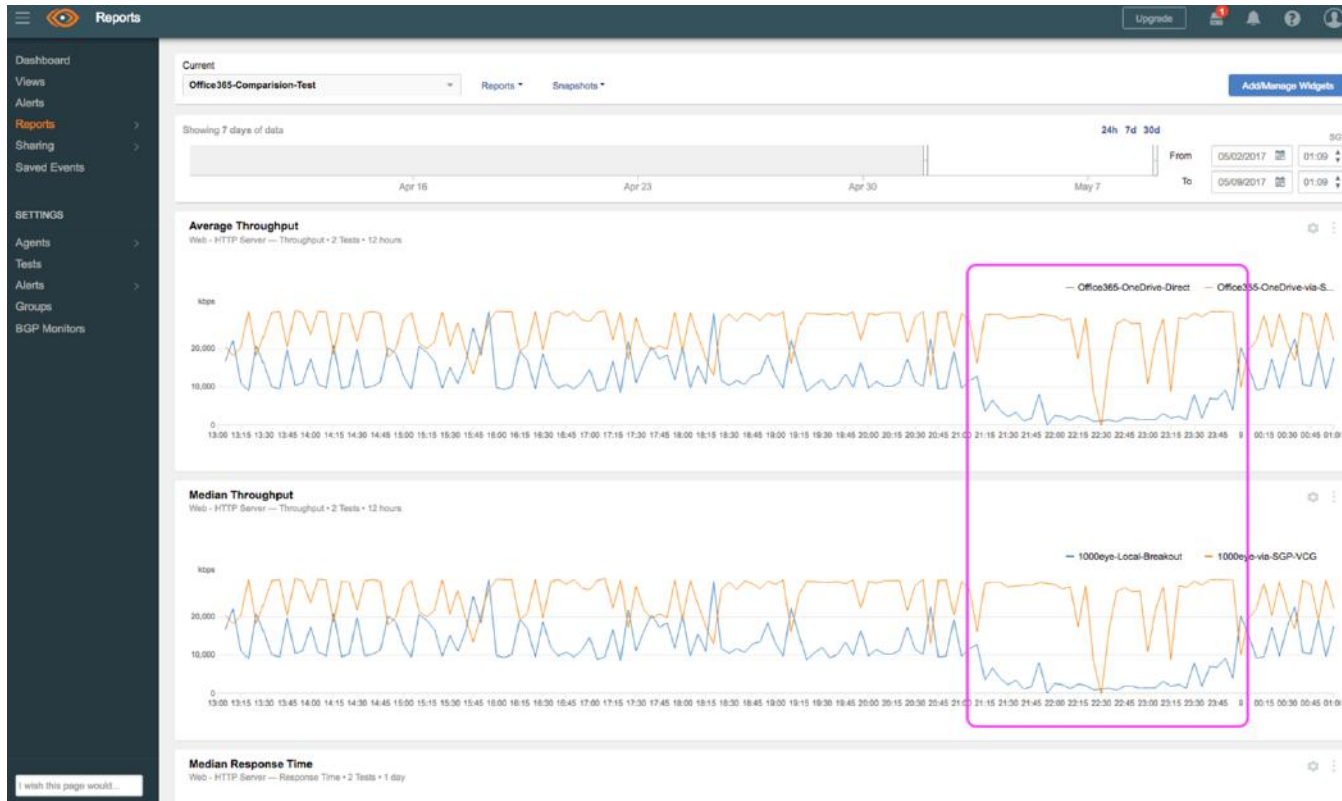
Cloud Scale VPN



- Enables both simple and secure access with integrated PKI
- Enterprise-Wide and Cloud
- Automated VPN to 3rd party cloud applications
- Virtual VeloCloud Edge automates VPN to IaaS
- Scalable any-any connectivity
- Dynamic branch-branch tunnels
- One-click enablement

Optimized Performance for Cloud Apps – Office 365

- O365 on a Single Link (Brownout condition) from Branch in Thailand to Gateway in Singapore



VeloCloud

Non-SDWAN

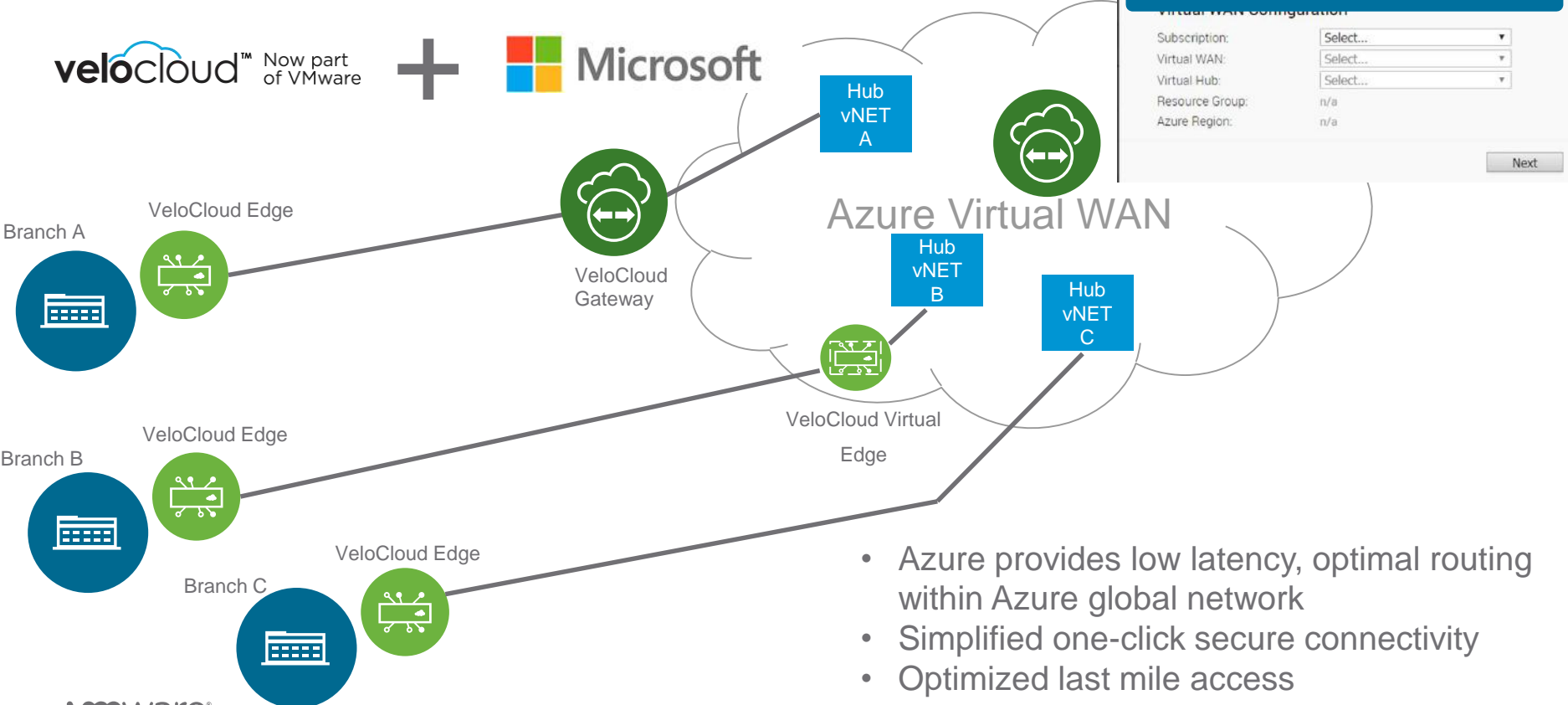
On-Ramp to Azure Virtual WAN

Sept 2018 Announcement

velocloud™ Now part of VMware



Microsoft



- Azure provides low latency, optimal routing within Azure global network
- Simplified one-click secure connectivity
- Optimized last mile access

ROI of SD-WAN

WAN Simplification

- ✓ Zero IT touch deployment
- ✓ Outcome driven policies
- ✓ Remote management, visibility and troubleshooting

Assured Application Performance

- ✓ Transport independent performance
- ✓ Sub-second brownout protection via mid flow steering & remediation

Architecture for the Cloud

- ✓ Distributed cloud gateways-as-a-service
- ✓ Virtual Edges for public cloud

Flexible Services Platform

- ✓ VNF ready SD-WAN platform
- ✓ SD-WAN as VNF for vCPEs
- ✓ Distributed services insertion
- ✓ Automatic segmentation, VPN

ROI Opportunities

- Reduce on-site IT visits, accelerate deployment
- Minimize configuration and troubleshooting time
- Enables use of optimal ISP by site

- Increase utilization of circuits
- Eliminate redundant / dedicated circuits
- Enables use of economical broadband
- Savings with “over the top” services eg VOIP

- Reduced capex and opex for access to SaaS and hybrid cloud
- Reduced redundancy & disaster recovery costs

- Fewer truck rolls and capex
- Reduced hardware warranty and spares
- Eliminate per branch security expenses
- Reduced audit & compliance expenses

International Financial Services Provider: Allianz



2500 Locations in France

The company provides [insurance](#) and [financial services](#) in France and internationally



Before Cloud-Delivered SD-WAN

- Agents complaining on availability of the network
- No high availability no resilience

With Cloud-Delivered SD-WAN

- Better employee satisfaction and no calls to IT
- Better application performance
- High-bandwidth availability

Competitive Advantage Outcome

- Increased revenue from expanded services and consistent uptime

Business Insurance: Simply Business



425,000 customers



QoS for Call Centre



Expensive MPLS

Exceptional QoS expected for call center experience; Cloud application support

UC

Cloud

SB Simply
Business

Before Cloud-Delivered SD-WAN

- Poor voice quality
- Slow network connections
- Lack of network visibility, management, and control
- Inability to expand to new sites quickly and easily

With Cloud-Delivered SD-WAN

- Easy and simple network configuration and management
- Implement change network-wide through a single profile
- Optimized bandwidth and QoS

Competitive Advantage Outcome

- Serve more customers faster, easier, and with exceptional voice and data connections

“VMware Named as a Leader in the Gartner Magic Quadrant for WAN Edge.” - Gartner



Positioned
Furthest on
Completeness
of Vision

Leader in the
Ability to
Execute

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Hvala na pažnji!

Thank you for your
attention!