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The bridge to possible

SD-WAN From Design to Reality

Session 2

Filip Djurdjevic

BRKENT-2423b



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- 2 Click “Join the Discussion”
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Your Speakers



Filip Djurdjevic



Hagar Ibrahim



“By failing to prepare, you are preparing to fail.” —
Benjamin Franklin, Founding Father of the United States





Agenda

- Mission1: Secure Direct Internet Access
- Mission2: Application Performance Optimization

Mission1: Secure Direct Internet Access



Level 1: Require!



Secure DIA – Customer Requirements

Customer Needs

Locally offload Internet traffic at the remote office, while protecting users, devices, and applications.

Faster security deployment with threat intelligence.

Meet the needs of Hybrid work environments

Solution Features

- Direct Internet Access
- Regional Internet Access
- Remote Access
- SD-WAN Integrated Security

Technical Requirements

Internet Access Strategy

- Local Internet exit
- Regional-Gateway
- Hybrid access with VPN

Secure DIA – Technical Requirements

Common Questions for gathering technical requirements in this stage

Internet Strategy Description
Define DC as Gateway for Internet access
Define local Internet exit at spoke sites
Corporate vs Guest access
Define preferred Paths for Internet exit

Security Strategy Description
Firewalls at Internet exits
On-box security features
Cloud security features

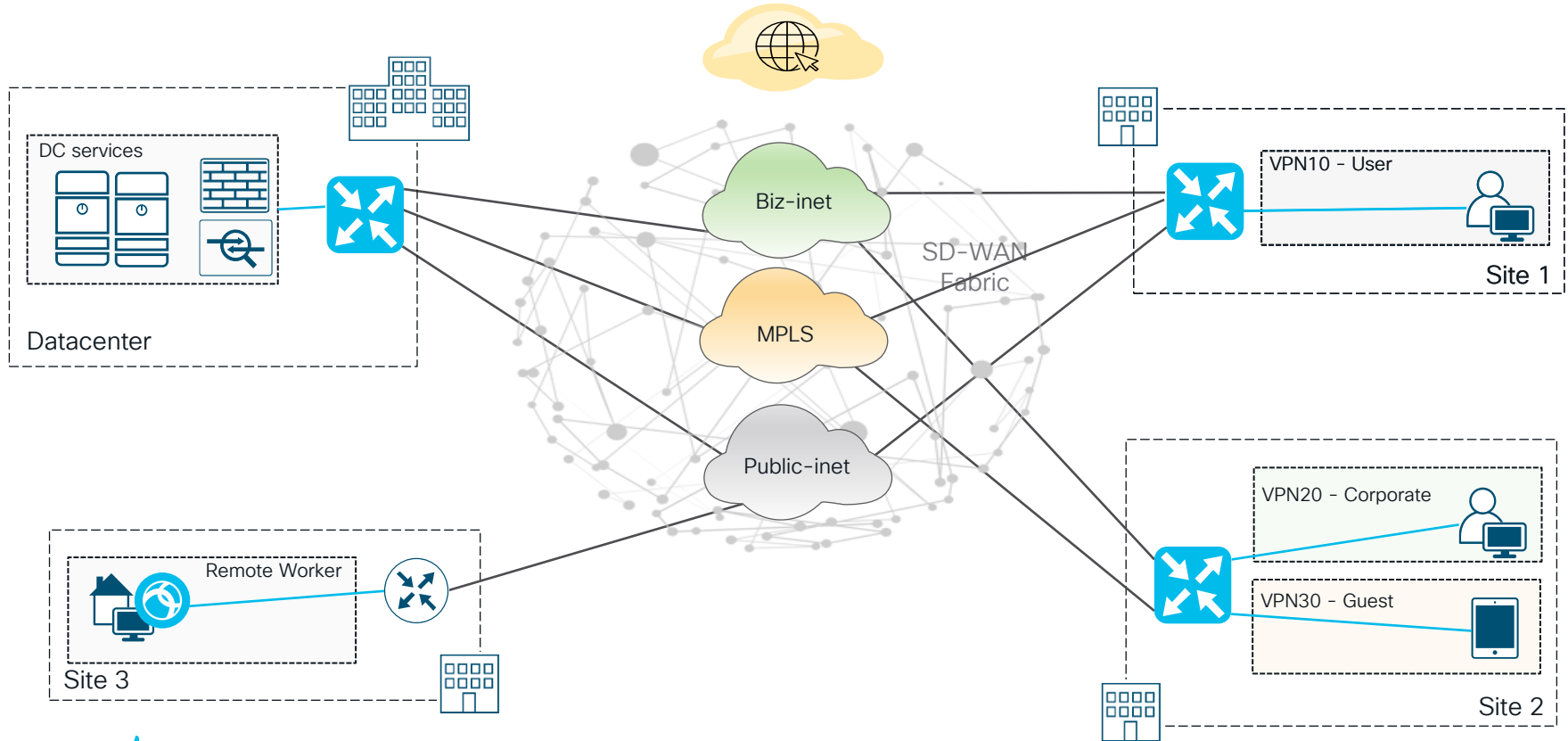
List of Hardware devices
Remote user Hardware and Software

Level 2: Design!



Secure Direct Internet Access - Design Case Study

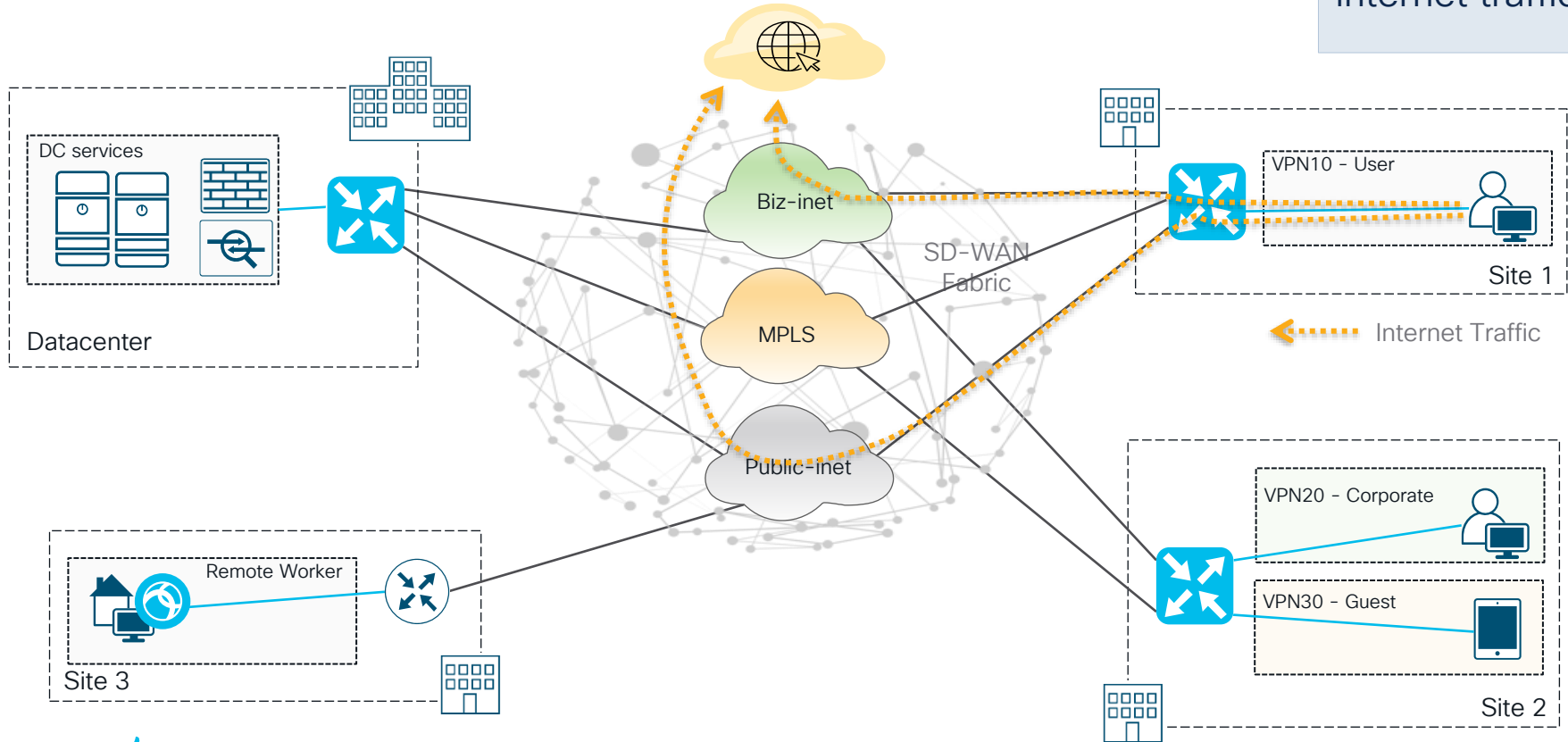
Based on a Large Enterprise in the Financial Sector (Customer-Y)



Secure Direct Internet Access - Design Case Study

Based on a Large Enterprise in the Financial Sector (Customer-Y)

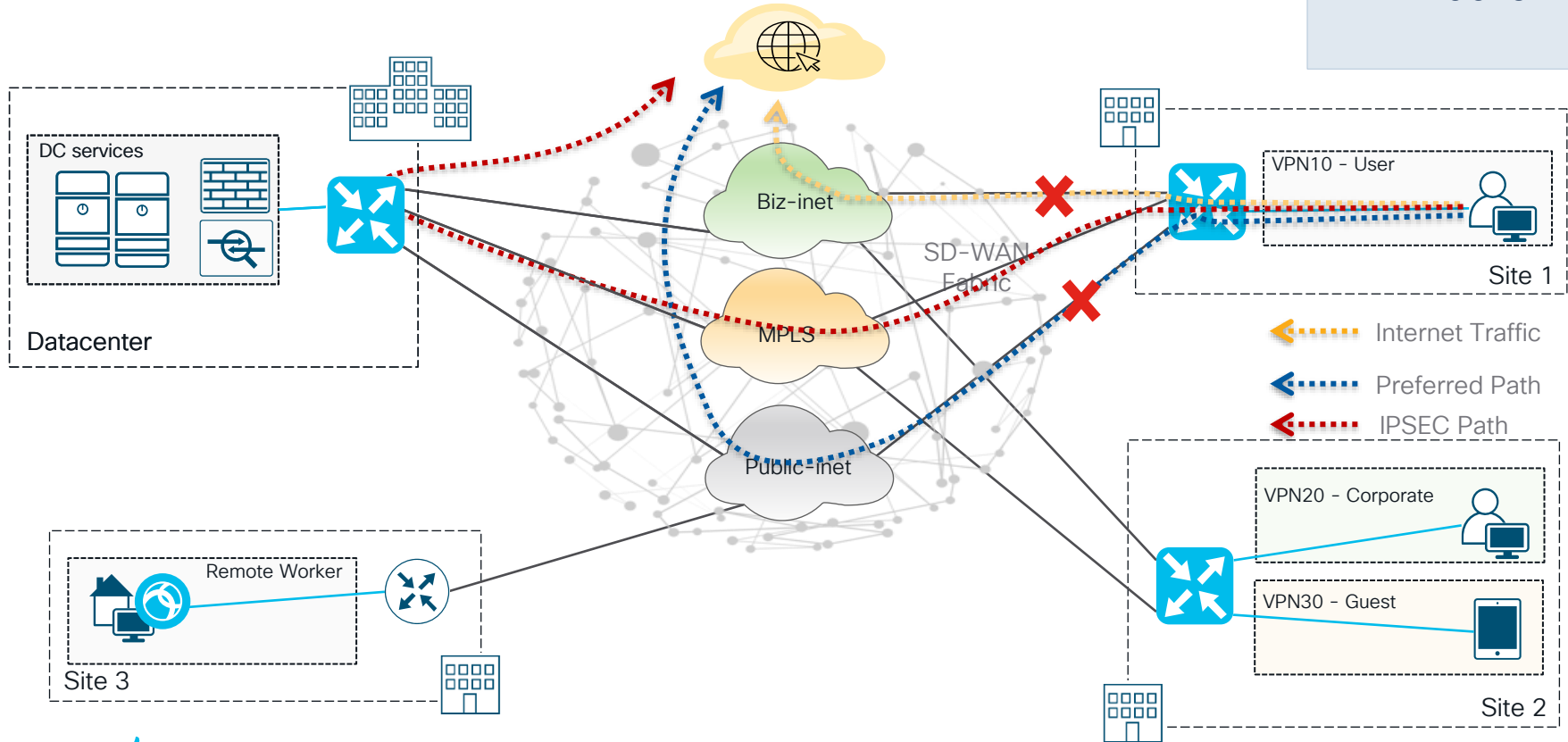
DIA for all
internet traffic



Secure Direct Internet Access - Design Case Study

Based on a Large Enterprise in the Financial Sector (Customer-Y)

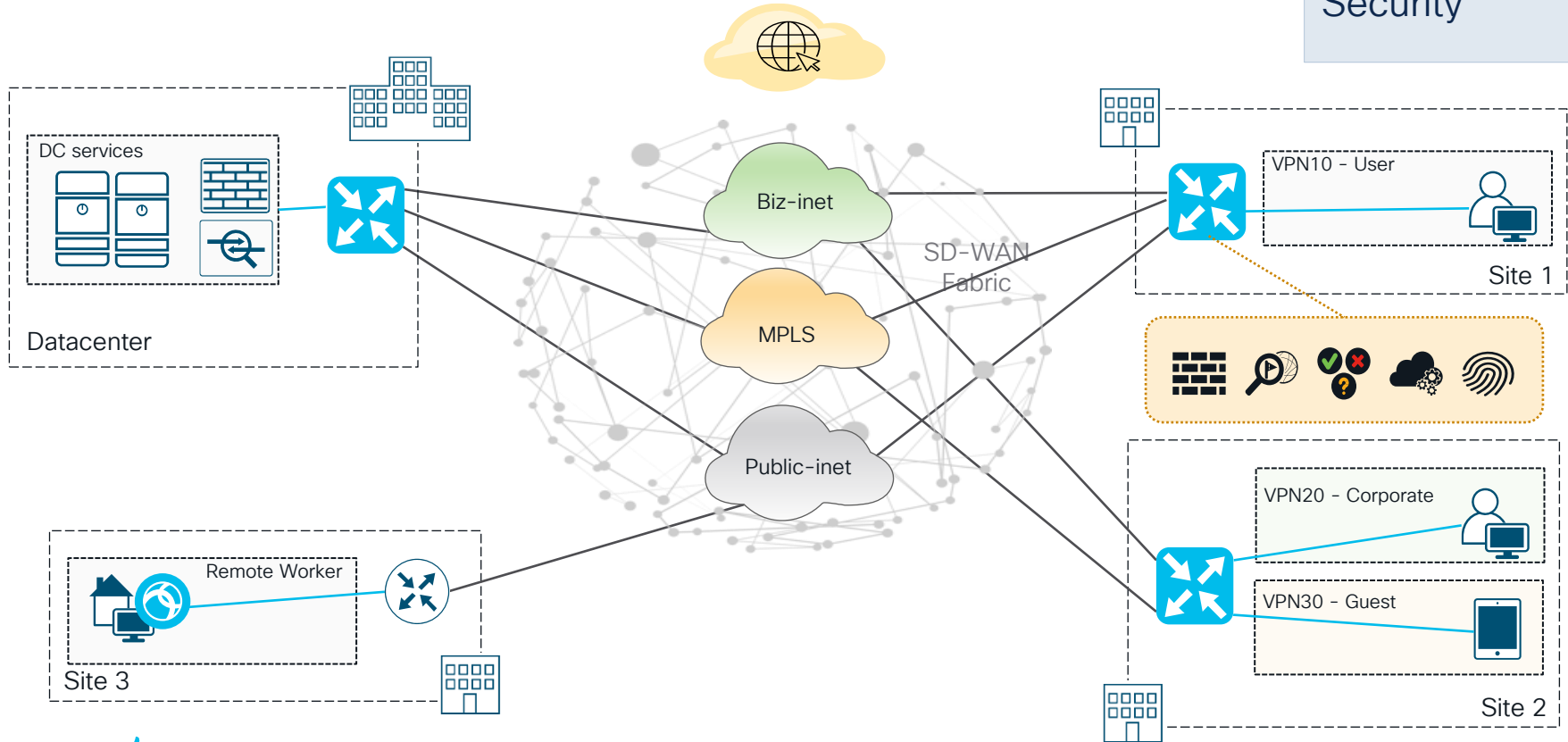
NAT Tracker



Secure Direct Internet Access - Design Case Study

Based on a Large Enterprise in the Financial Sector (Customer-Y)

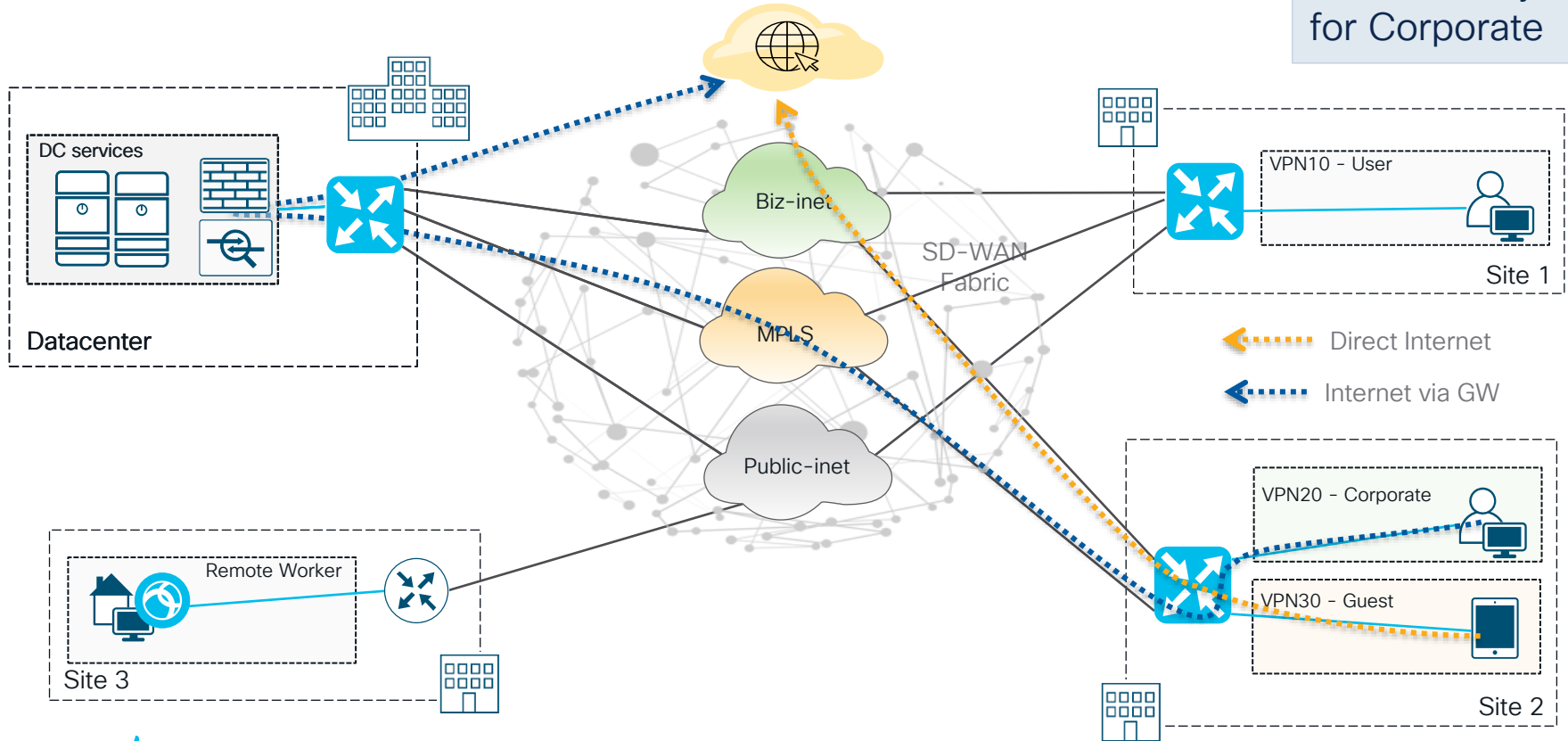
Integrated
Security



Secure Direct Internet Access - Design Case Study

Based on a Large Enterprise in the Financial Sector (Customer-Y)

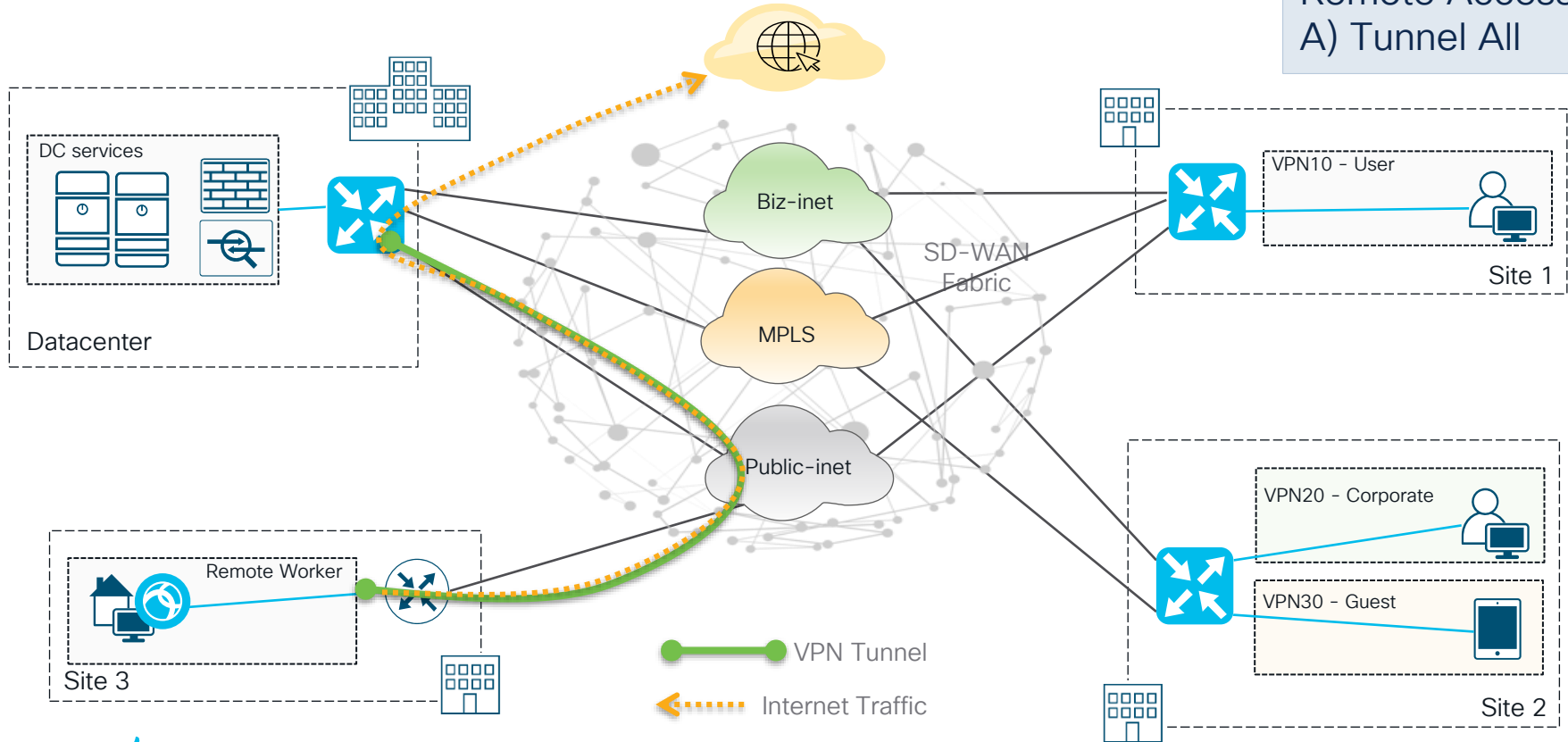
DIA for Guest,
DC-Gateway
for Corporate



Secure Direct Internet Access - Design Case Study

Based on a Large Enterprise in the Financial Sector (Customer-Y)

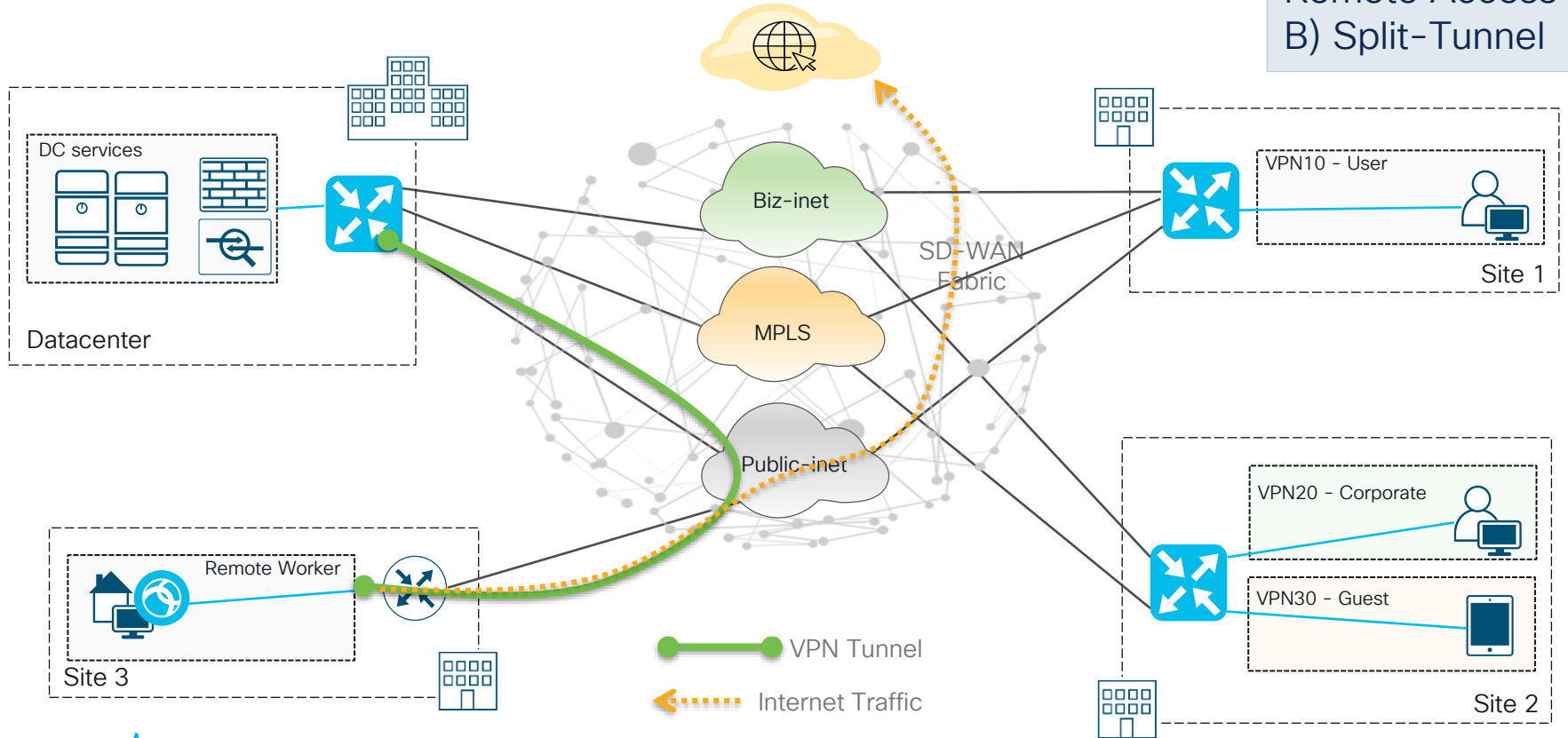
SD-WAN
Remote Access
A) Tunnel All



Secure Direct Internet Access - Design Case Study

Based on a Large Enterprise in the Financial Sector (Customer-Y)

SD-WAN
Remote Access
B) Split-Tunnel

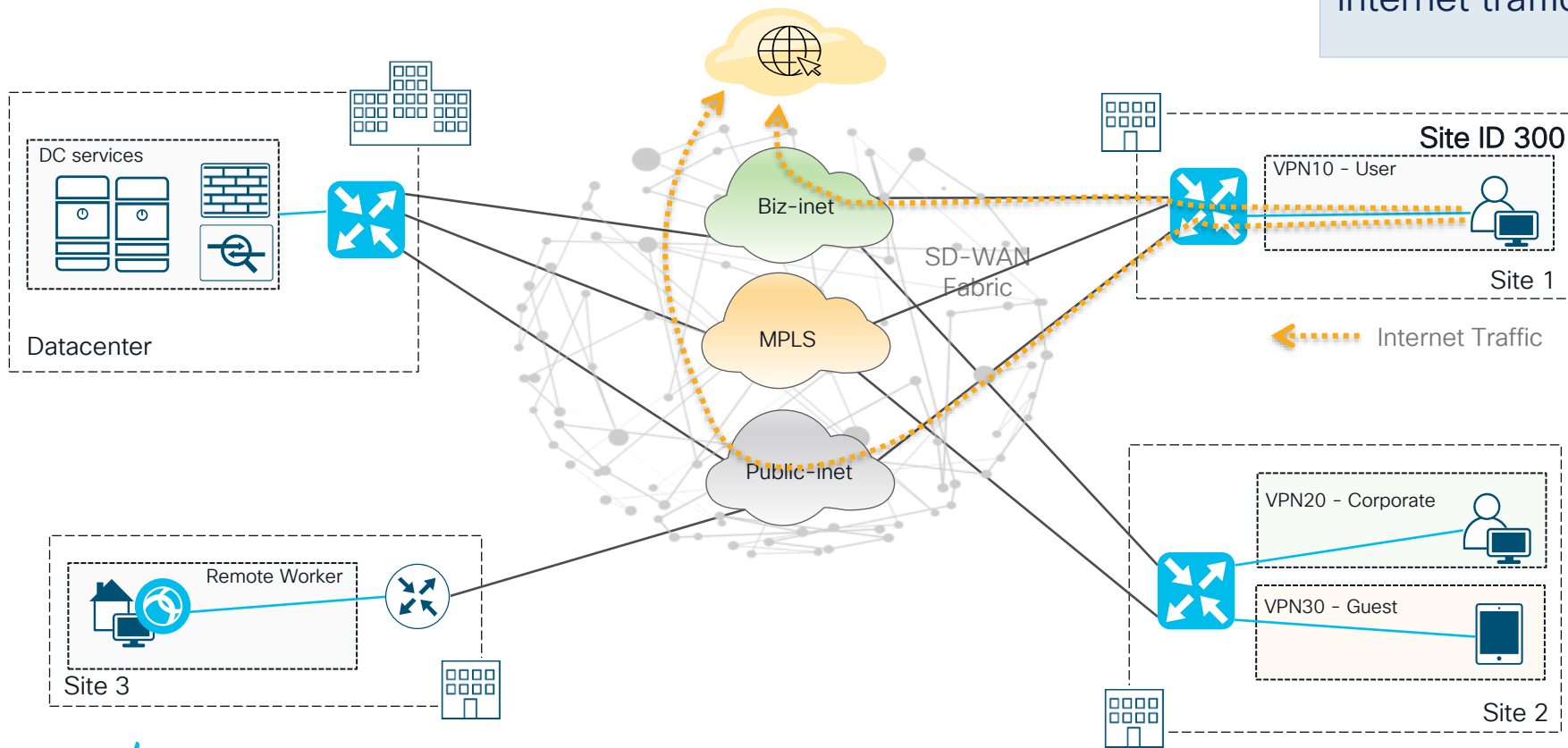


Level 3: Implement!



Secure Direct Internet Access - Implementation

DIA for all
internet traffic



Demo – Direct Internet Access

SUMMARY

2	8	1	1
vSmart	WAN Edge	vBond	vManage

REBOOT

0
Last 24 hrs

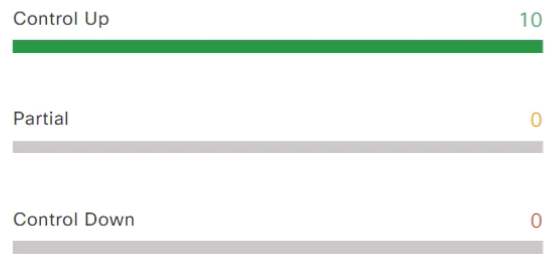
CERTIFICATE STATUS

4	0
Warning	Invalid




LICENSING

8	0
Total Devices:	Licensed Devices:

Control Status (Total 10)



Site Health (Total 5)

WAN Connectivity	Site
 Full WAN Connectivity	5
 Partial WAN Connectivity	0
 No WAN Connectivity	0

Transport Interface Distribution

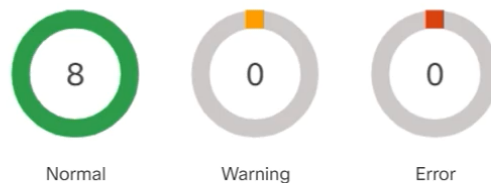
< 10 Mbps	32
10 Mbps - 100 Mbps	0
100 Mbps - 500 Mbps	0
> 500 Mbps	0

[View Percent Utilization](#)

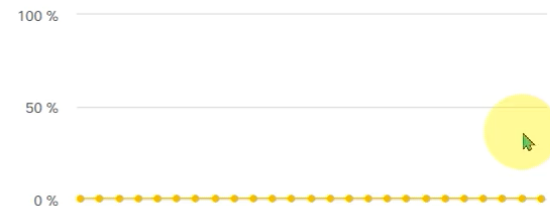
WAN Edge Inventory

Total	8
Authorized	8
Deployed	8
Staging	0

WAN Edge Health (Total 8)

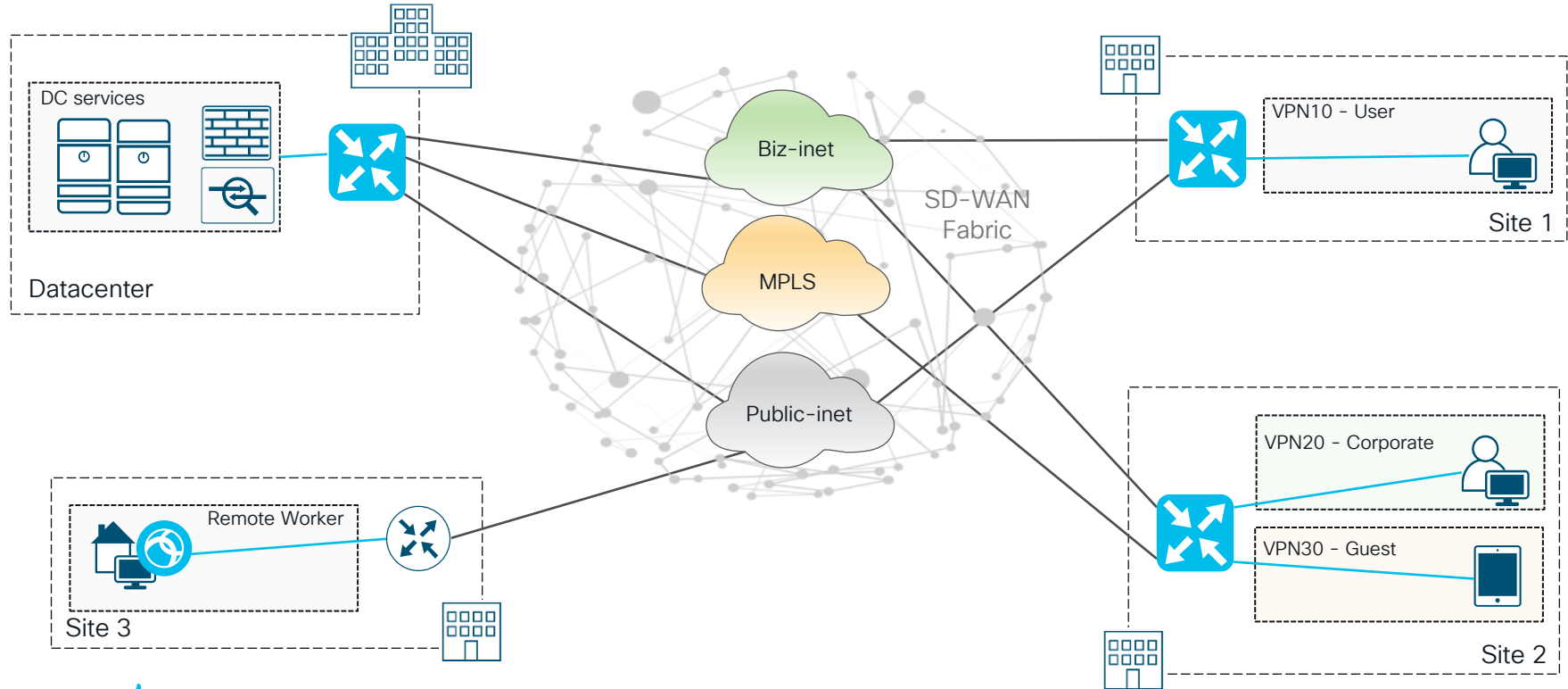


Transport Health

Type: [By Loss](#)   

Secure Direct Internet Access

Summary of Secure Internet Access Use Case



Cisco SD-WAN Powered by Viptela

Secure Direct Internet Access – Business Benefits

Right security, right
place



Protection against all
internal and external threats

Improved user experience

Centralized visibility and
control

Reduced cost and complexity

65% lower cost of
connectivity for equivalent
bandwidth

Full IDC report available on www.cisco.com/go/sdwan

One user interface for Security and SD-WAN across branch, cloud, and co-location

Mission2: Application Performance Optimization

Level 1: Require!



Secure Automated WAN – Customer Requirement

Customer Needs

Improve the application experience for users at remote offices.

App1: VoIP

App2: Stock Market trading tool

App3: SaaS applications

Solution Features

- Quality of Service (QoS)
- Application Aware Routing (AAR)
- Cloud onRamp for SaaS

Technical Requirements

- WAN/LAN QoS
- Business Critical Applications
- SLAs / Preferred Paths
- Transport degradation detection
- Fast failover



For Your
Reference

Technical Requirements

Common Questions for gathering technical requirements in this stage

Data Center WAN QoS requirements
Branch WAN QoS requirements
Service Side Inbound Policer Required
Service Side Outbound Policer Required
Service Side Marking/ Classification Required
Transport Side Shaping Required
Transport side Queueing Required

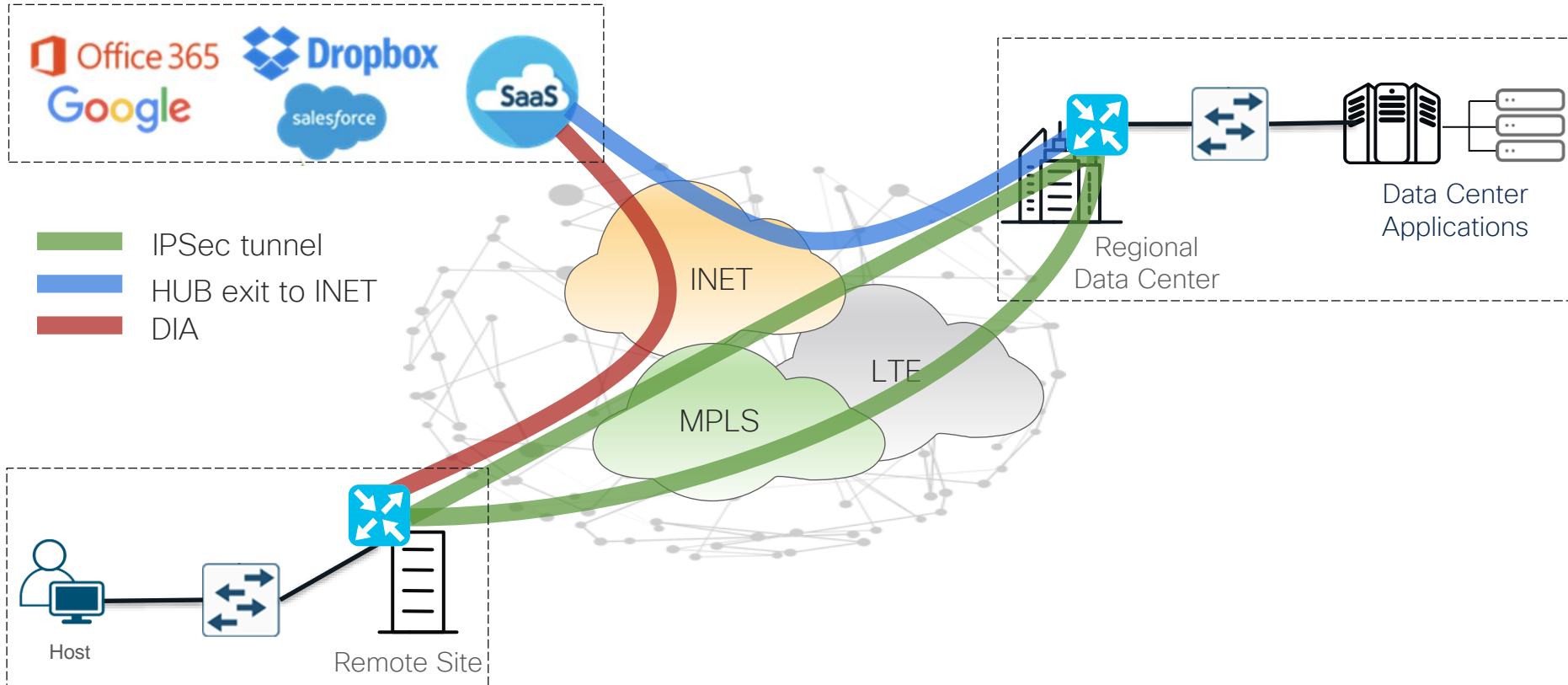
Business-critical applications
SLA Classes
Preferred Paths

SaaS critical applications
DIA/Gateway/Hybrid Site list

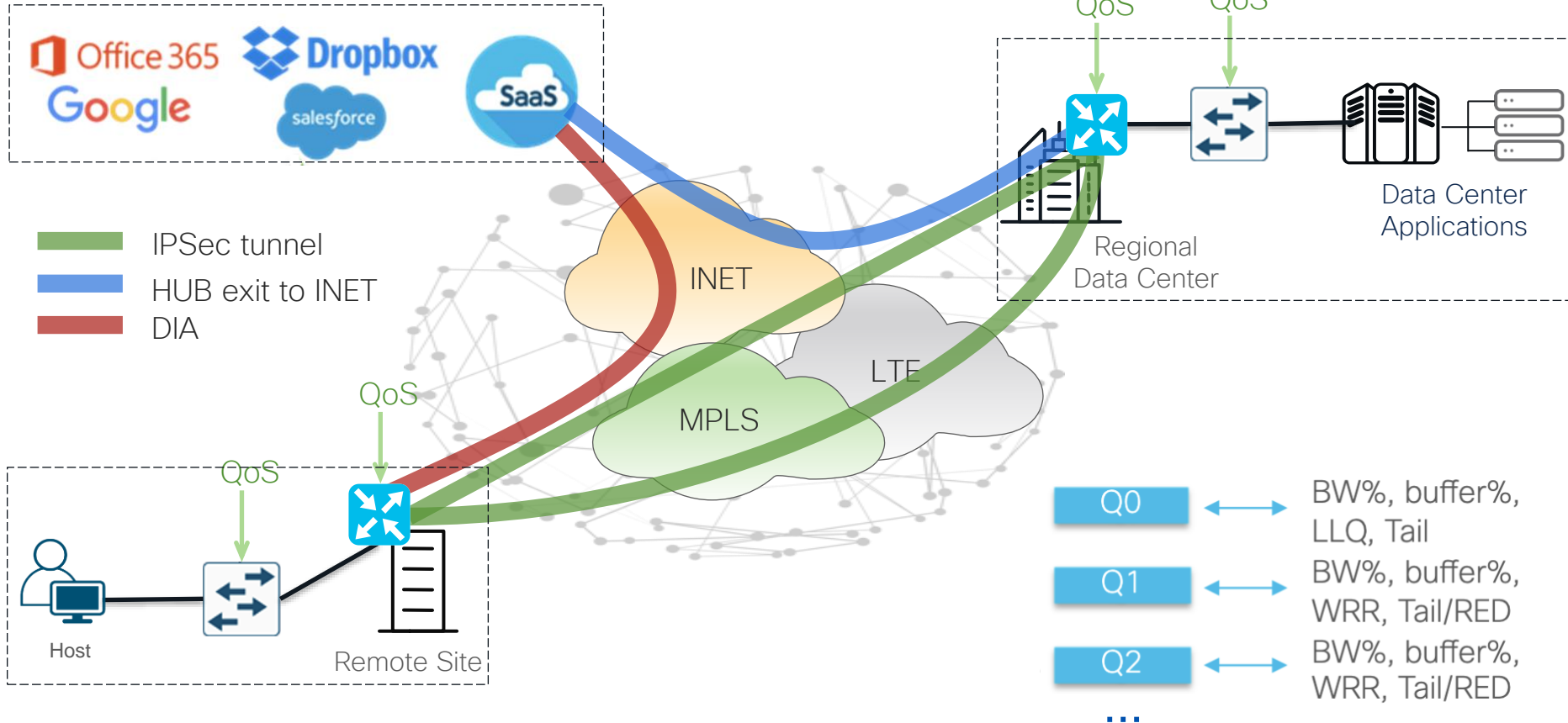
Level 2: Design!



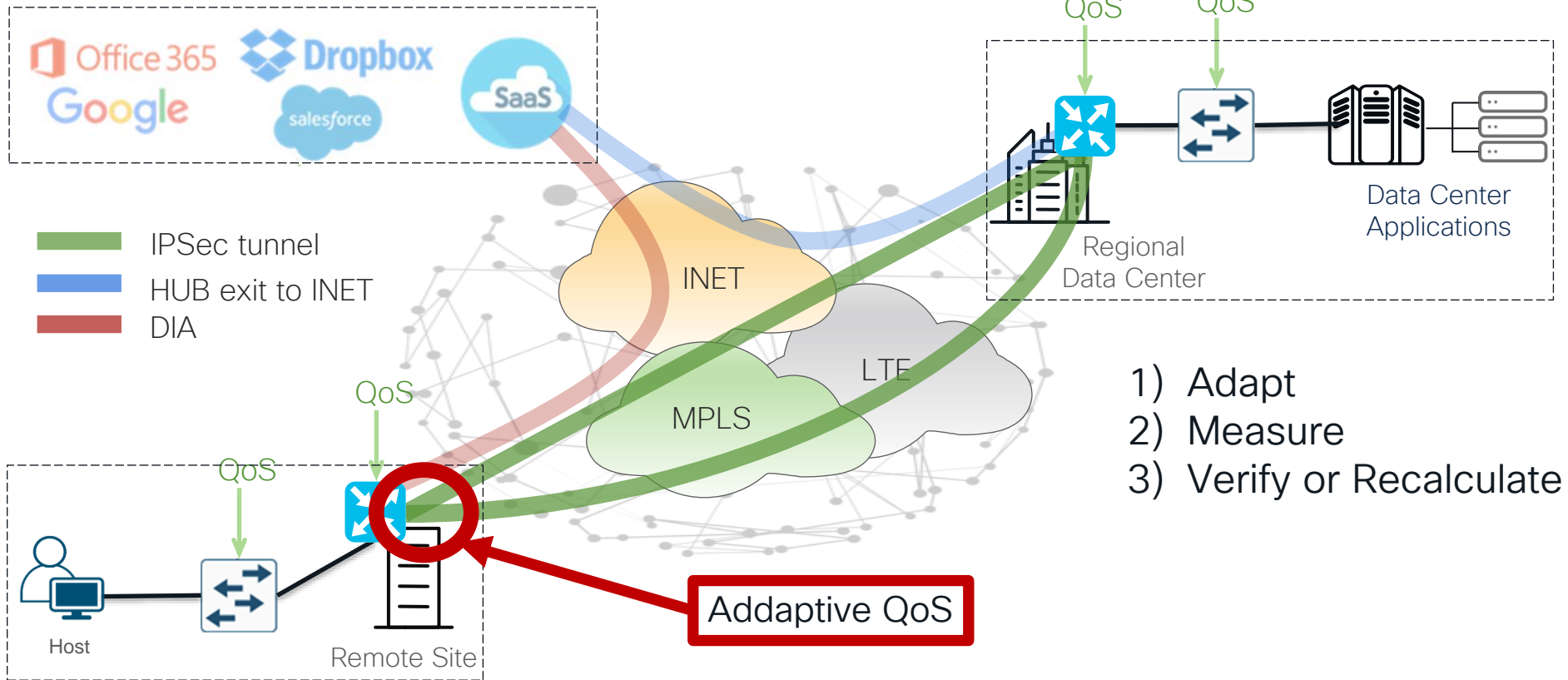
WAN Transports



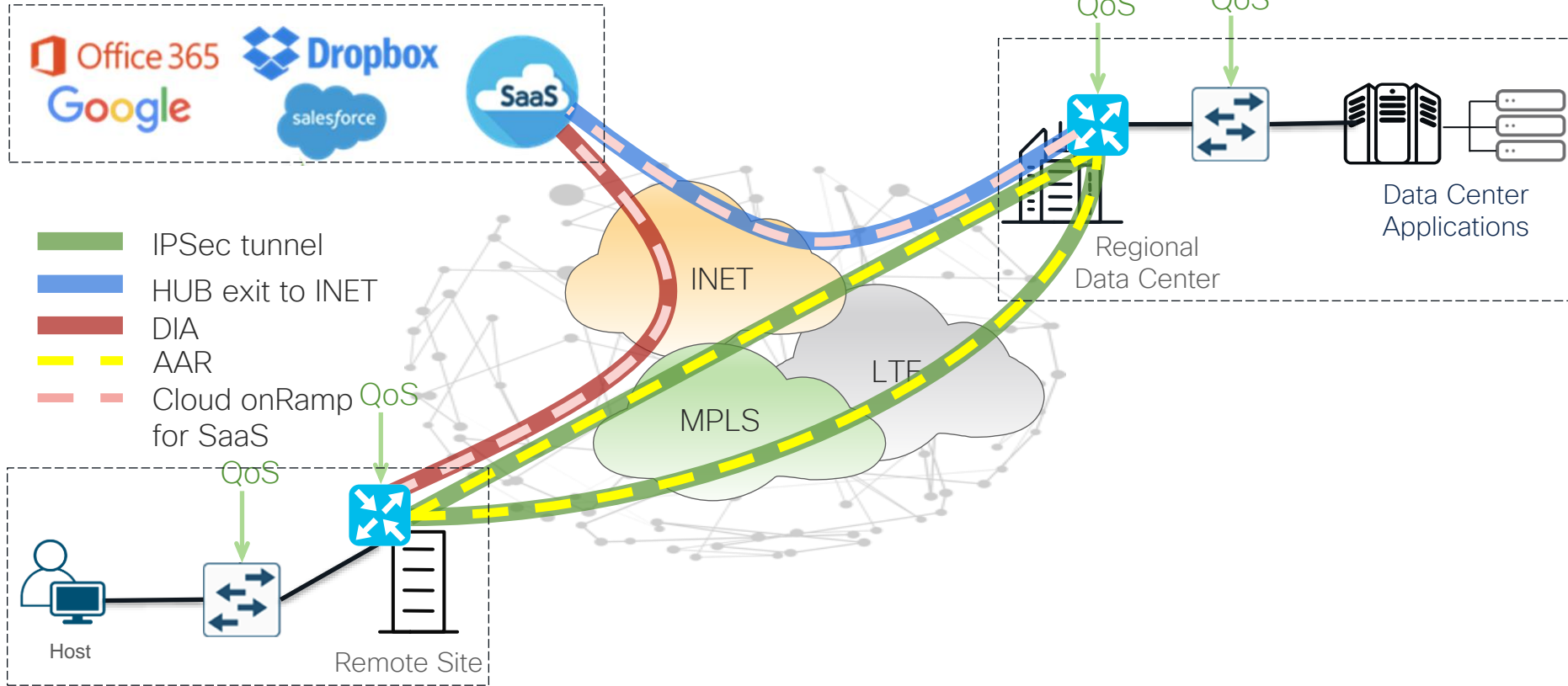
QoS



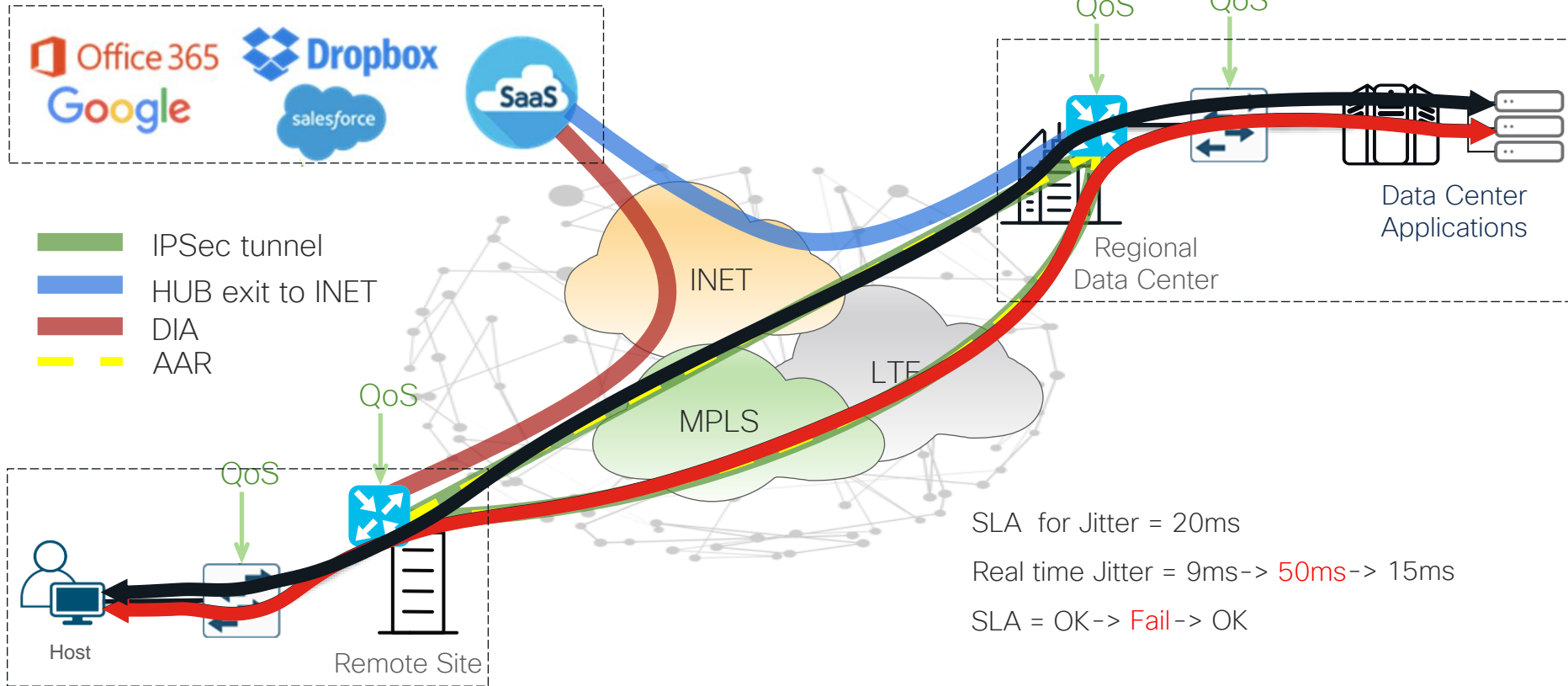
Addaptive QoS



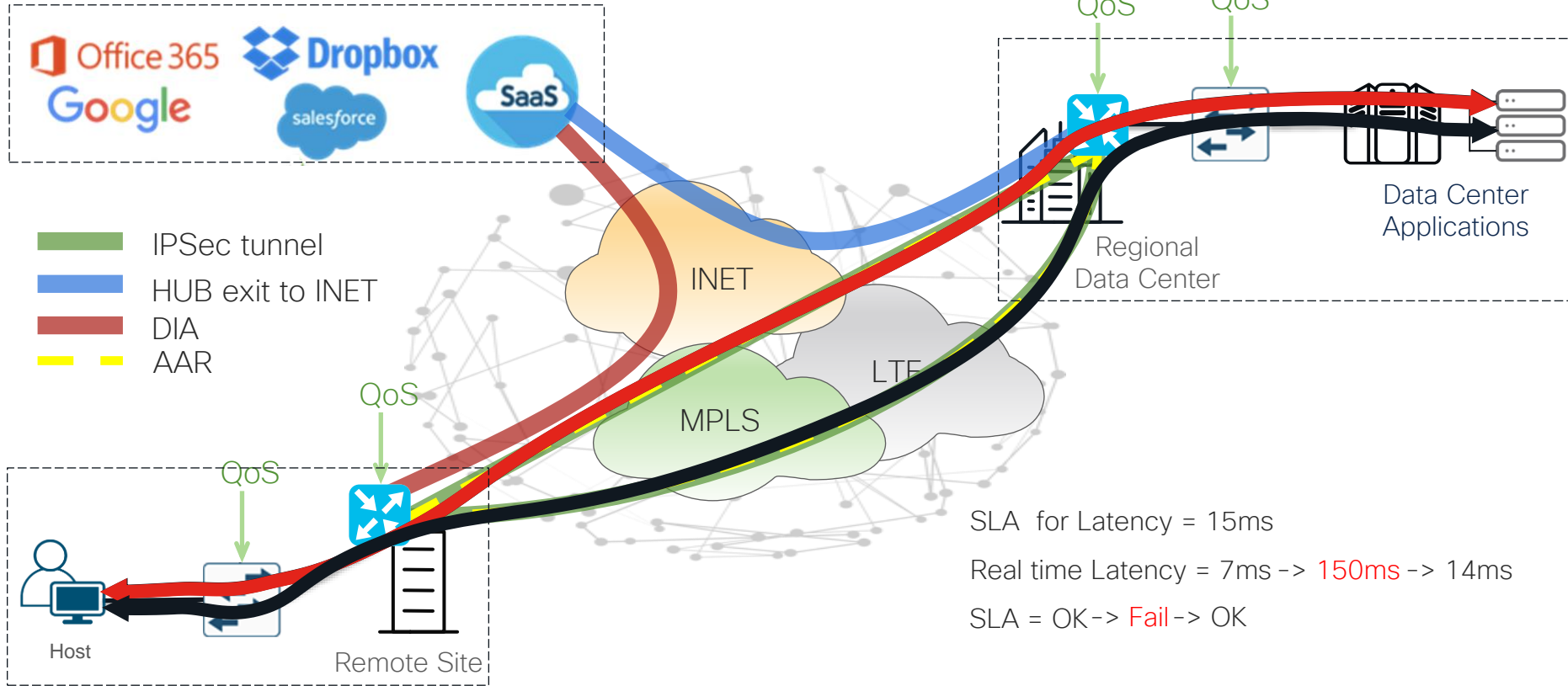
Performance monitoring



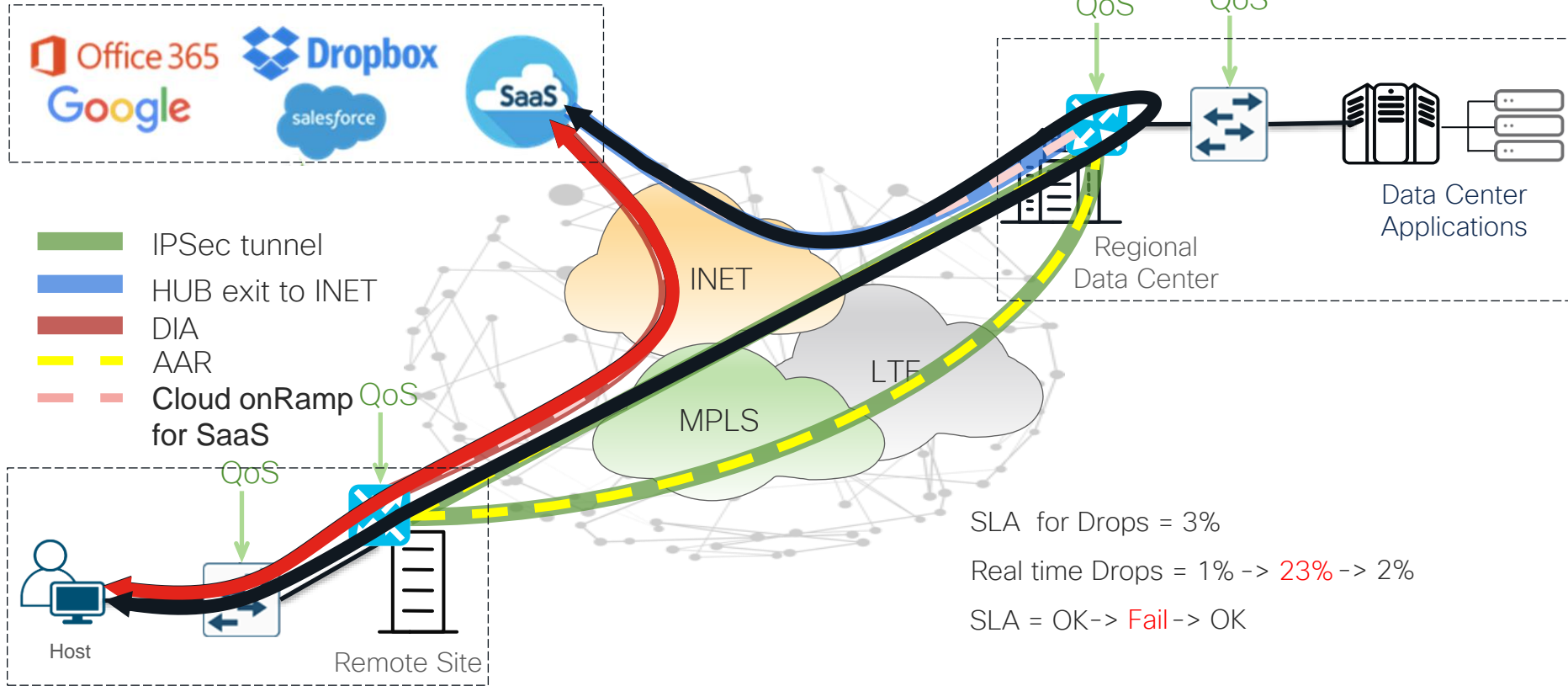
Application 1: VoIP



Application 2: Stock Market trading tool



Application 3: SaaS applications



Level 3: Implement!



Adaptive QoS implementation

Device

Feature

Feature Template > Add Template > Cisco VPN Interface Ethernet

Basic Configuration

Tunnel

NAT

VRRP

ACL/QoS

ARP

TrustSec

Advanced

ACL/QoS

Adaptive QoS

☐ On ☐ Off

Adapt Period(Minutes)

Shaping Rate Upstream

☐ On ☐ Off

Min Upstream (Kbps)

Max Upstream (Kbps)

Default Upstream (Kbps)

Shaping Rate Downstream

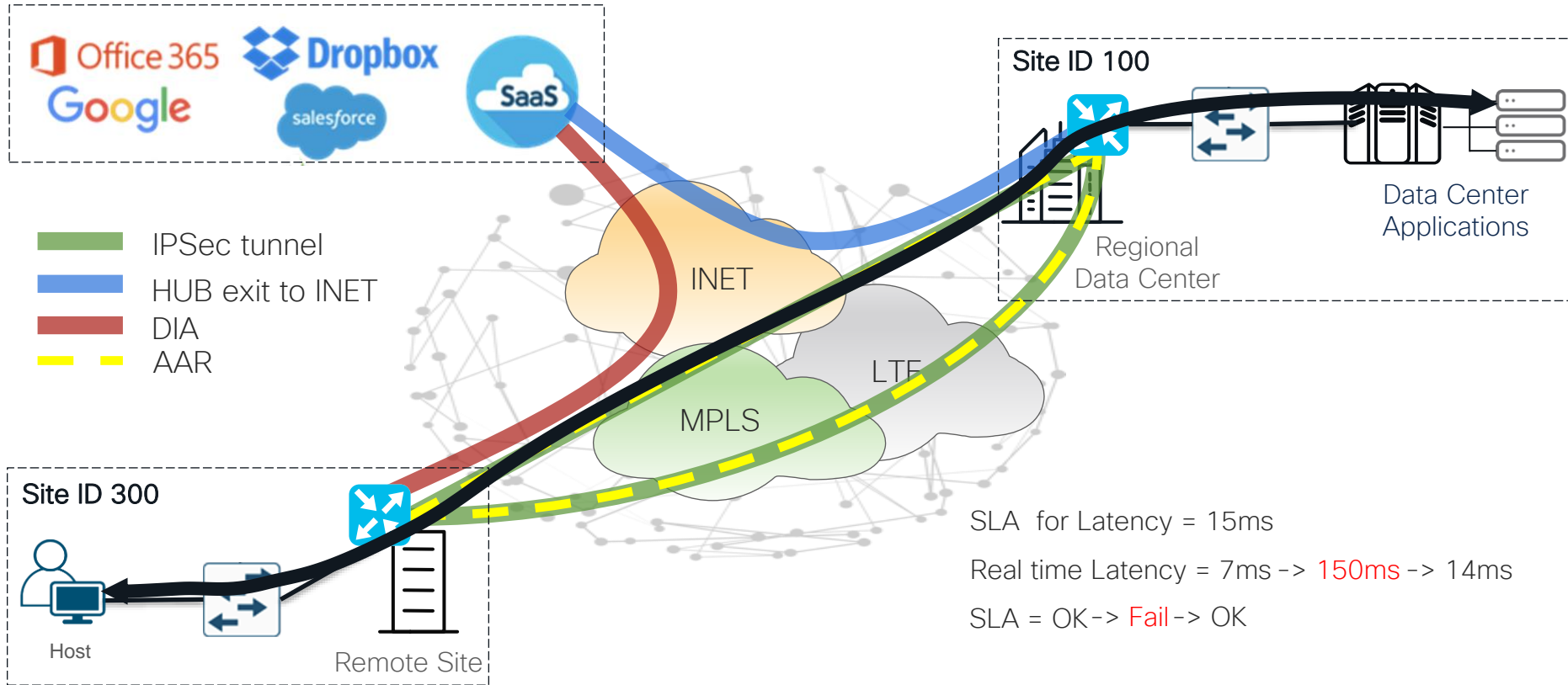
☐ On ☐ Off

Min Downstream (Kbps)

Max Downstream (Kbps)

Default Downstream (Kbps)

Stock Market trading tool – AAR Implementation



A decorative graphic in the top right corner consisting of numerous circles of various sizes and colors, including shades of blue, green, orange, and red, arranged in a cluster that tapers towards the right.

Demo – Application Aware Routing

SUMMARY

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Last 24 hrs

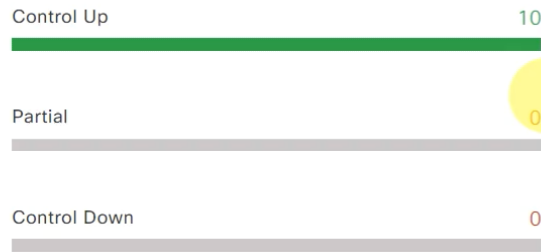
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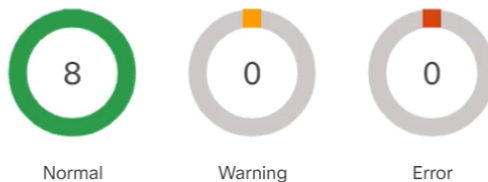
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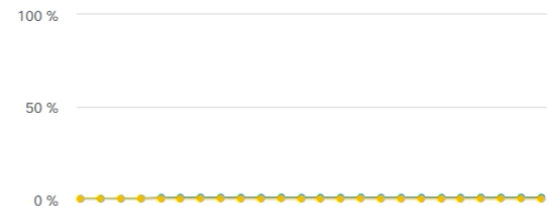
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Deployed	8
Staging	0

WAN Edge Health (Total 8)



Transport Health

Type: [By Loss](#)   

Why Cisco SD-WAN Powered by Viptela?

Applications Performance Optimization – Business Benefits

Predictable app
experience



High availability for all critical applications

Real time reaction to network problems

Improved operational experience

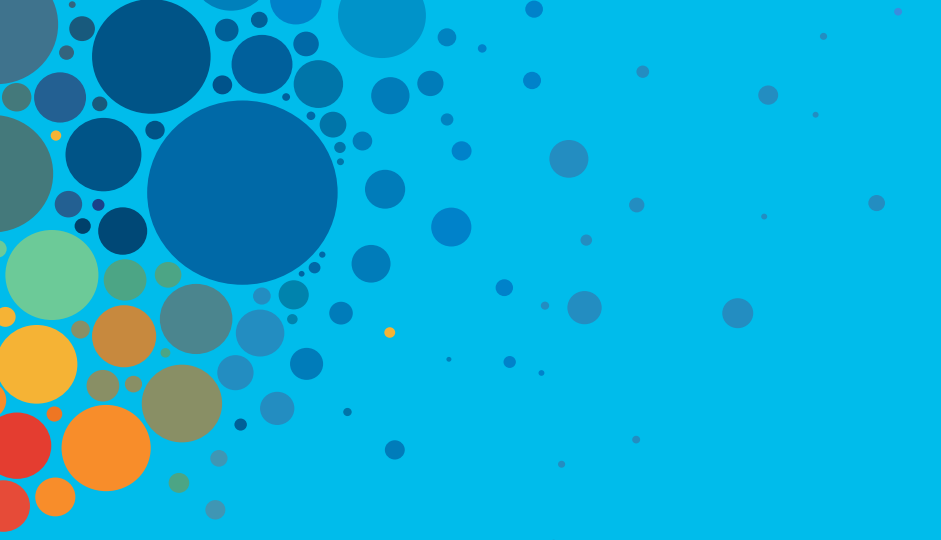
4x improved application experience

45% reduced application latency

59% faster to onboard new services

Full IDC report available on www.cisco.com/go/sdwan

One user interface for Security and SD-WAN across branch, cloud, and co-location



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- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
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The bridge to possible

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