



Fortinet SD-WAN

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I NEED ...

... to turn up locations quickly

- Pop-up locations
- Leased Lines / MPLS not practical
- Power / space
- Global supply chain

... to leverage the cloud

- Prioritize my business critical apps
- Direct internet access to cloud apps
- Cheaper + high-bandwidth options
- Maintain QoS

... reduce operational impact

- Zero touch provisioning
- Single pane of glass management



BUT ...

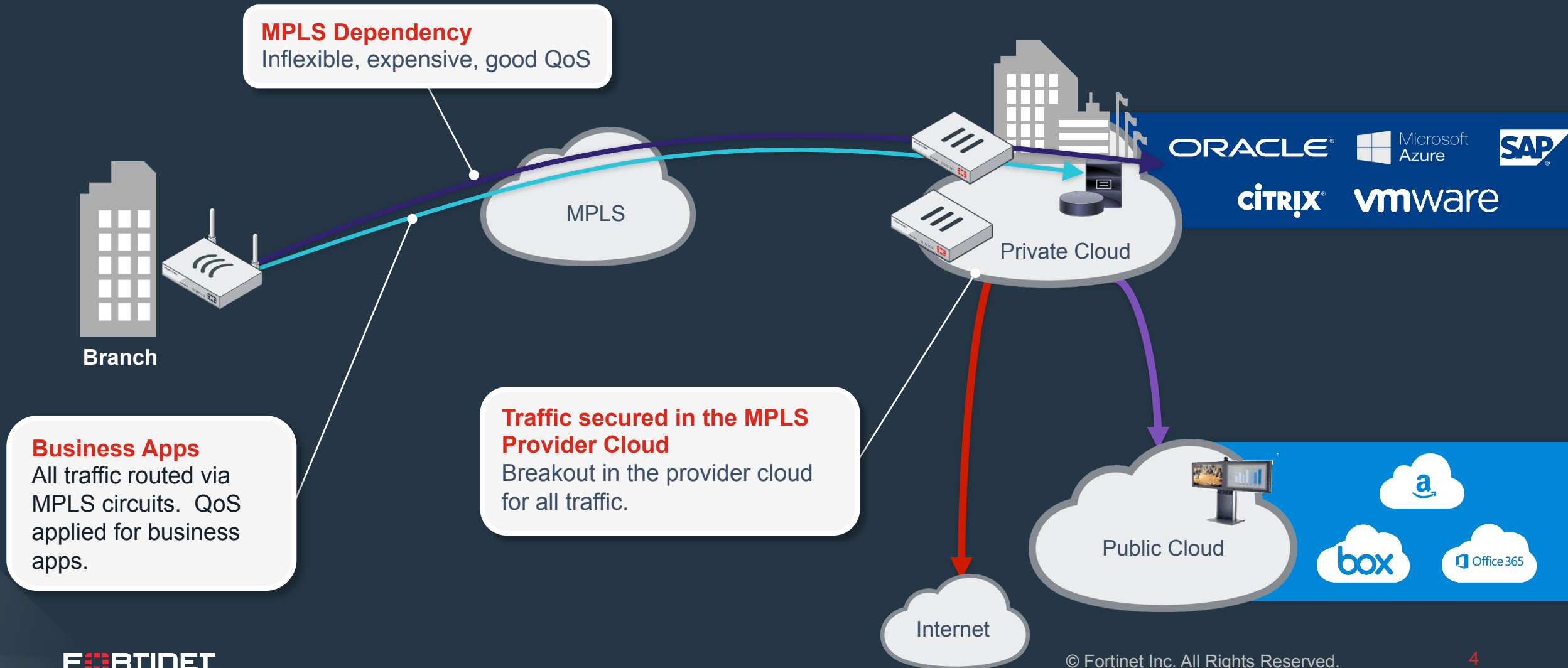
... what about security

- The network edge is dissolving
- Direct Internet Access mandates branch security
- Security is required everywhere – datacenter, branch, cloud
- Multiple products add complexity



Enterprise SD-WAN Use Cases

Legacy MPLS Deployments

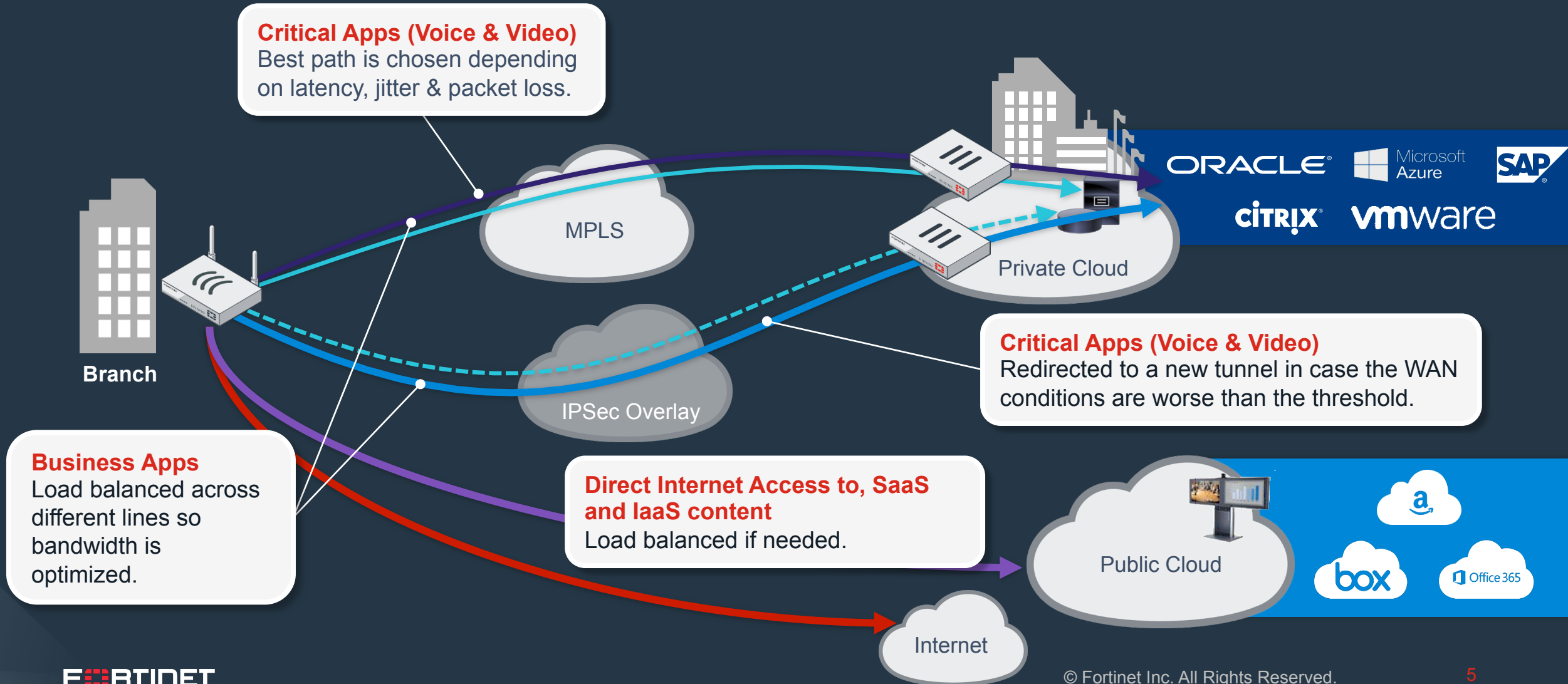


Enterprise SD-WAN Use Cases

MPLS Backup with Local Breakout (Hybrid WAN)

Critical Apps (Voice & Video)

Best path is chosen depending on latency, jitter & packet loss.



Transform your WAN Edge with Secure SD-WAN



NGFW

Secure
SD-WAN



SD WAN



Single-Pane Orchestration Automation & Response



Zero Touch Deployment



FortiOS



Application



WAN Path
Controller



Routing



WAN
Optimization



Threat Intelligence



IPS



Web
Filtering



Anti
Malware



Cloud
Sandbox



Purpose-Built Security Processor



IPsec



SSL

Performance

Worlds first SD-WAN ASIC

Enable Best of Breed, Certified SD-WAN and Security with high performance

- 36G Firewall
- 12.5G IPSEC
- 1.8G NGFW
- 1.6G IPS
- 1.25G SSL Inspection



Fortinet is the **ONLY** vendor that can truly deliver



- **#1** in QoE for VoIP
- **3rd party** proven SD-WAN
- **Best TCO** for SD-WAN
- **Only** secure SD-WAN solution

Vendor	QoE for VoIP		QoE for Video		TCO per Mbps	Overall Rating
Barracuda Networks	2.49	Below Use Case	2.75	Below Use Case	\$85	Caution
Citrix Systems	4.25	Above Use Case	4.04	Above Use Case	\$119	Verified
Cradlepoint	3.52	Above Use Case	1.10	Below Use Case	\$496	Caution
FatPipe Networks	4.31	Above Use Case	3.85	Above Use Case	\$84	Verified
Forcepoint	4.20	Above Use Case	4.04	Above Use Case	\$44	Verified
Fortinet	4.38	Above Use Case	4.26	Above Use Case	\$5	Recommended
Talari Networks	4.37	Above Use Case	4.47	Above Use Case	\$197	Recommended
Versa Networks	4.09	Above Use Case	4.09	Above Use Case	\$77	Verified
VMware	4.27	Above Use Case	4.21	Above Use Case	\$97	Recommended

Figure 2 – NSS Labs' 2018 Recommendations for Software-Defined Wide Area Network (SD-WAN)

Gartner's 2018 Magic Quadrant for WAN Edge (SD-WAN)



Fortinet should be **shortlisted for all WAN edge** opportunities globally,

The vendor's **vision and roadmap** to deliver increasing levels of automation align with Gartner's view of emerging customer needs

Marked as a "Challenger" with **Furthest "Completion of Vision"**

FortiOS Secure SD-WAN

Application Aware WAN Path Control

- Deep application visibility
 - Detect over 4000 applications
- Application Optimization
 - Application SLA path steering
 - Application Quality of Service and traffic shaping
 - Guaranteed bandwidth



FortiOS Secure SD-WAN

WAN Path Controller

FortiGate VM64-KVM cwindor-carlwindsor-sdwan-62 Security

Dashboard >
Security Fabric 3 >
FortiView >
Network >
Interfaces
DNS
Packet Capture
SD-WAN
SD-WAN Rules ☆
Performance SLA
Static Routes
System >
Policy & Objects >
Security Profiles >
VPN >
User & Device >
WiFi & Switch Controller >
Log & Report >
Monitor >

Priority Rule

Name Business-Critical

Source

Source address all

User group

Destination

Address

Internet Service Microsoft.Office365

Application

Outgoing Interfaces

Strategy Manual Best Quality Lowest Cost (SLA) Maximize Bandwidth (SLA)

Interface preference Internet_A (port1) Internet_B (port5)

Required SLA target Microsoft_365#1

OK Cancel

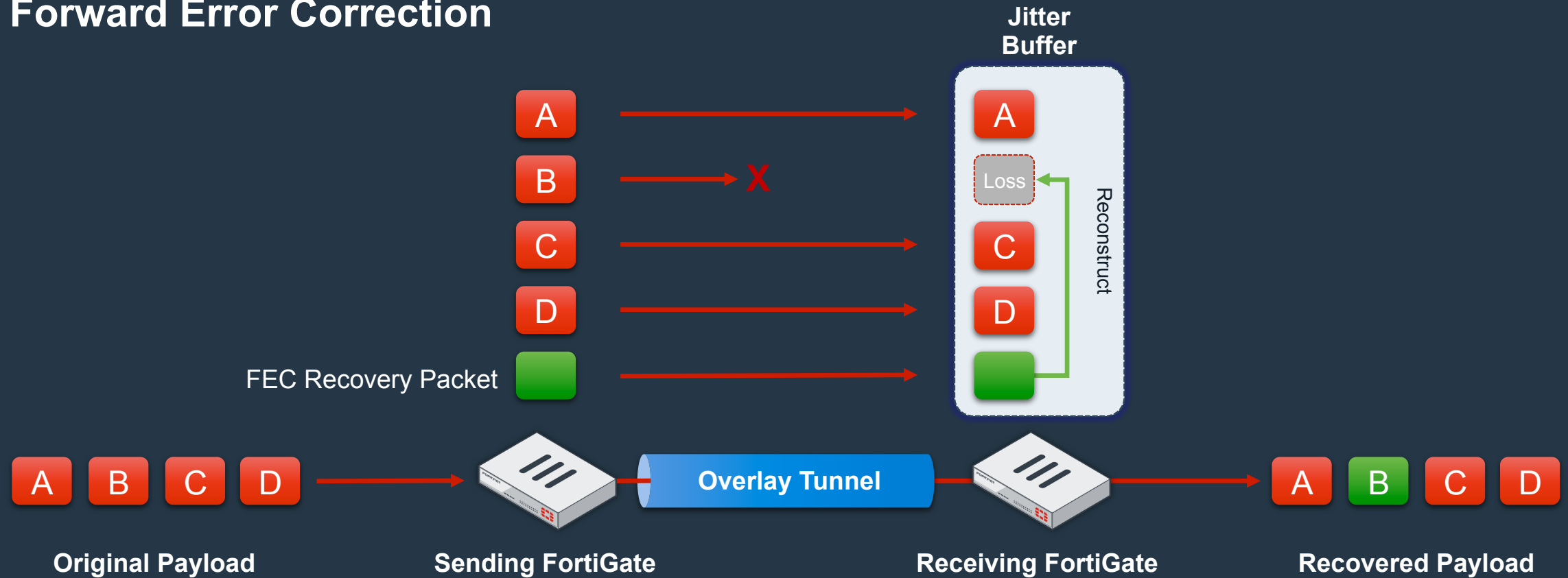
■ SD-WAN Rules

- » Applies Performance SLA to a traffic flow or application
- » Purpose is to create policy routes to preference / de-preference links based on network performance
- » Policy routes change dynamically with performance changes

FortiOS Secure SD-WAN

WAN Path Remediation for Business Critical Applications

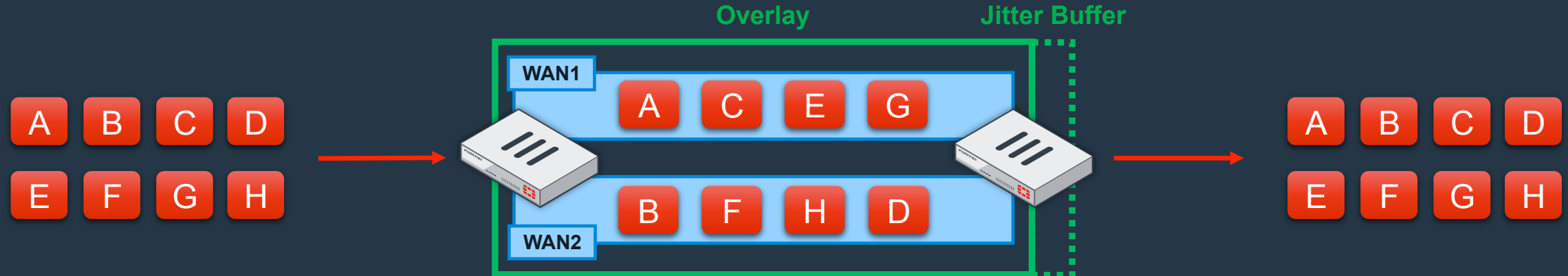
Forward Error Correction



FortiOS Secure SD-WAN

WAN Path Remediation for Business Critical Applications

Per packet WAN Path Steering

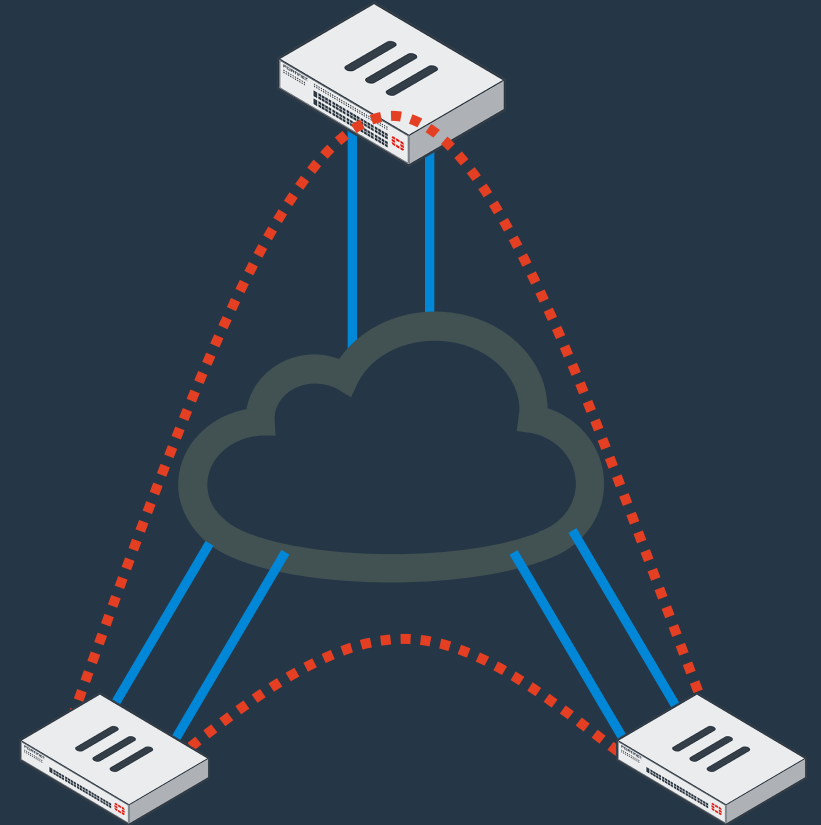


FortiOS Secure SD-WAN

Auto Discovery VPN Support

AD-VPN Support (Phase I)

- Shortcut Spoke to Spoke VPN in Hub and Spoke overlay
- AD-VPN Hub acts a Route Reflector
- Support for BGP Multipath (RFC 7911)

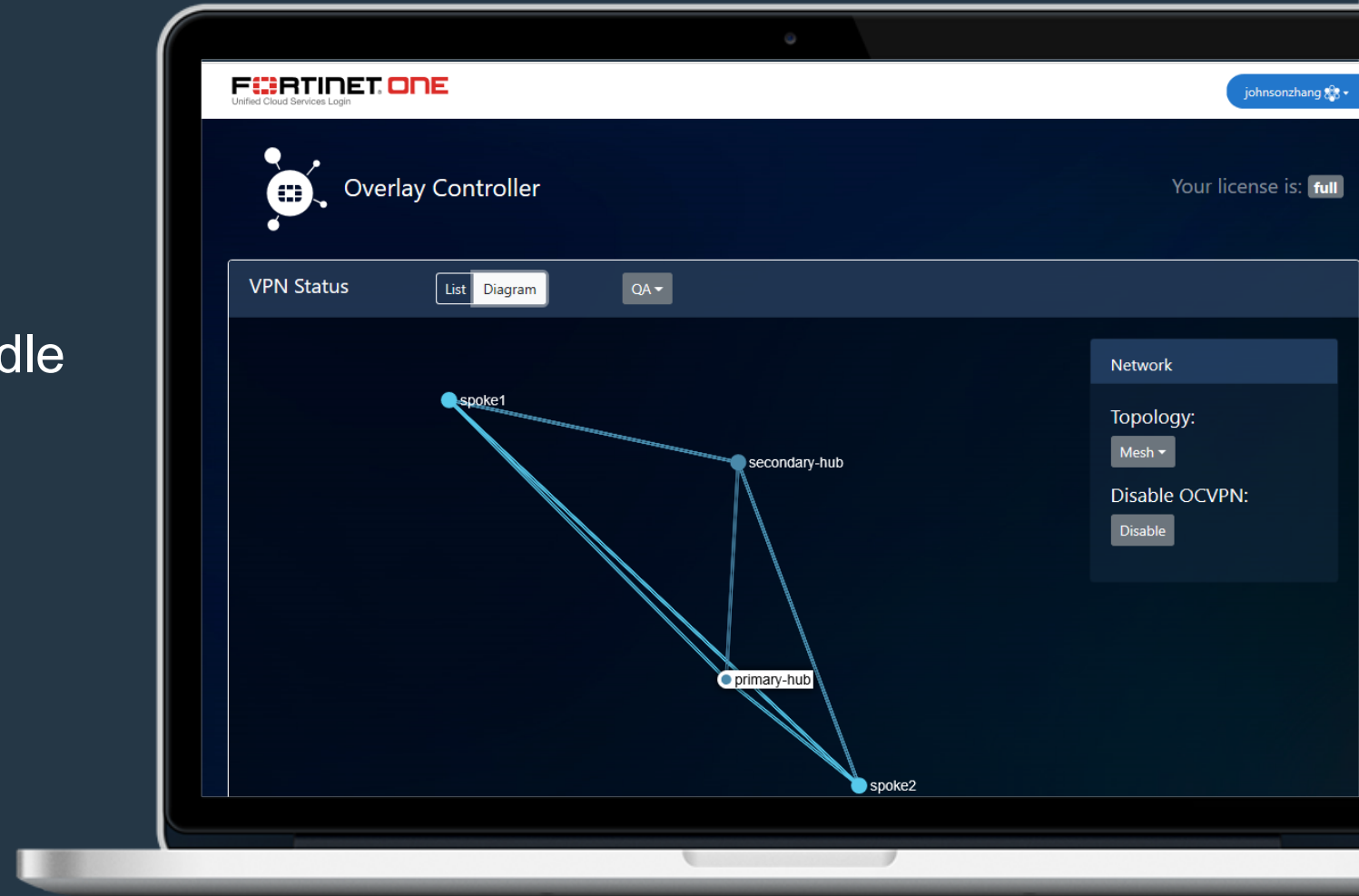


FortiOS Secure SD-WAN

Overlay Controller VPN

Overlay Controller VPN

- Simplified deployment of overlay networks
- Included with 360 Protection Bundle
 - Mesh: 16 devices (3 free)
 - Hub & Spoke: 2 hubs (primary and secondary) 1024 spokes
 - 10 overlay networks

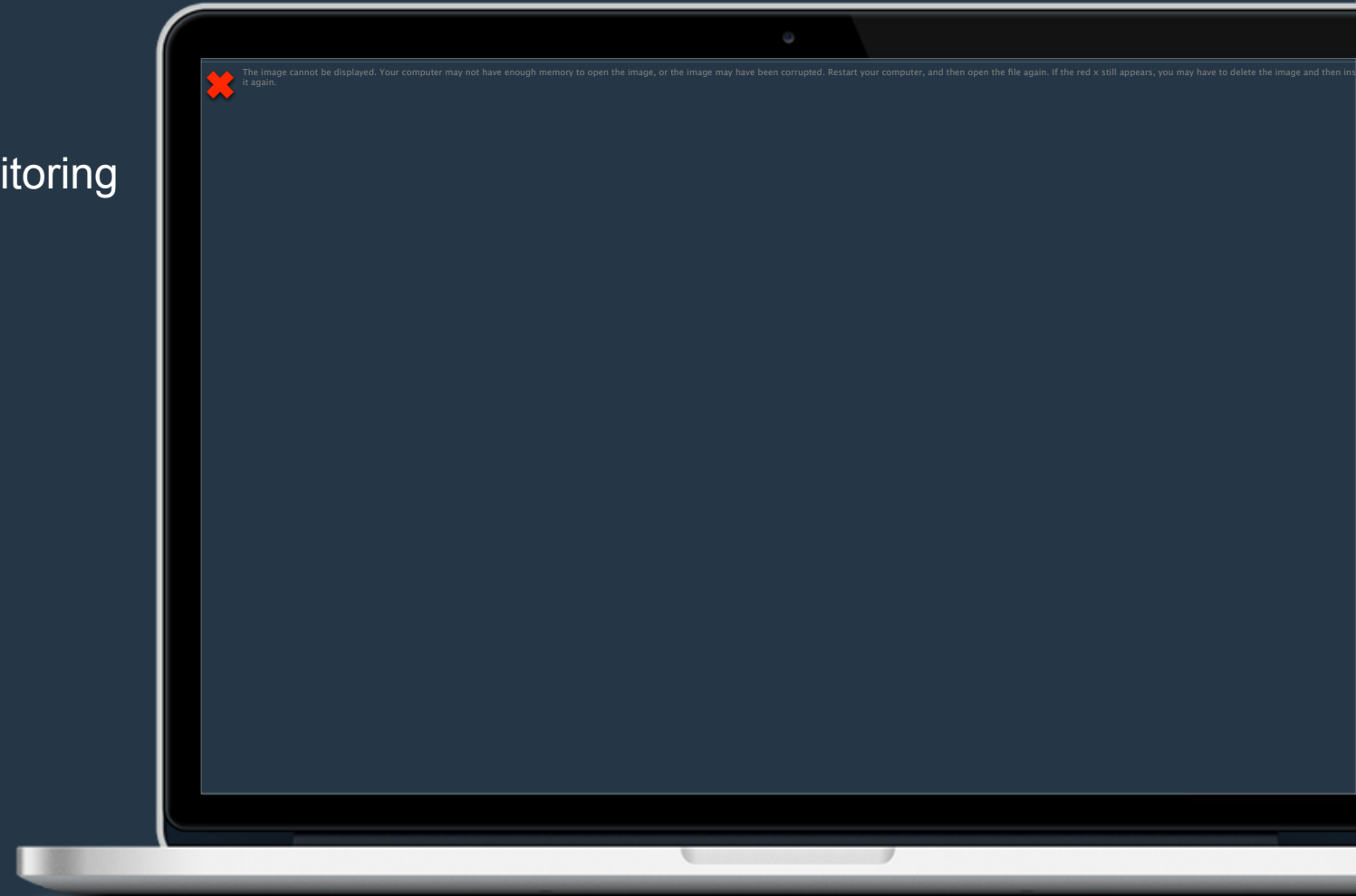
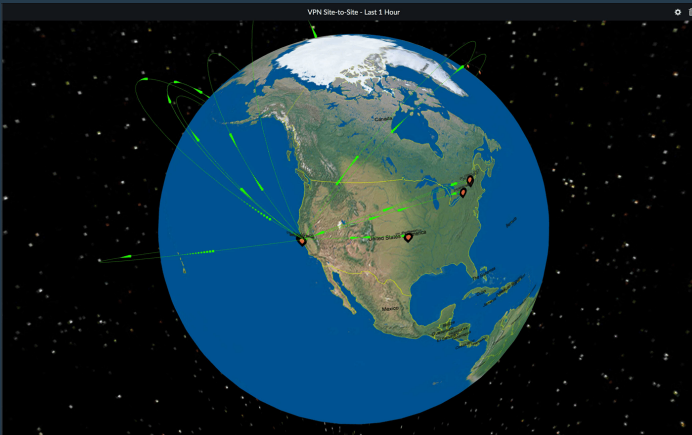


FortiOS Secure SD-WAN

Orchestration – Single Pane of Glass Management

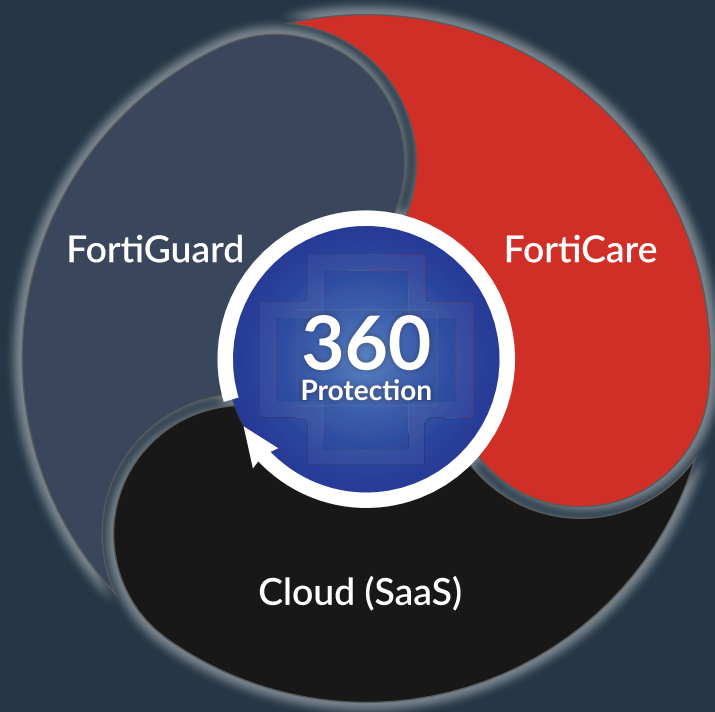
FortiManager

- NOC Dashboard and simple central monitoring
- SD-WAN Interface & SLA Monitoring
- Overlay management



FortiOS Secure SD-WAN

Orchestration - Cloud Based Services



Overlay Controller VPN Service

Provides support for additional VPN nodes and advanced features such as hub and spoke and multiple overlay

SD-WAN Cloud Assisted Monitoring

Enables your FortiGate to communicate with FortiGuard Cloud for extended SD-WAN monitoring

FortiManager Cloud

Cloud-based centralized management tools for the entire Fortinet Security Fabric from a single pane of glass

FortiAnalyzer Cloud

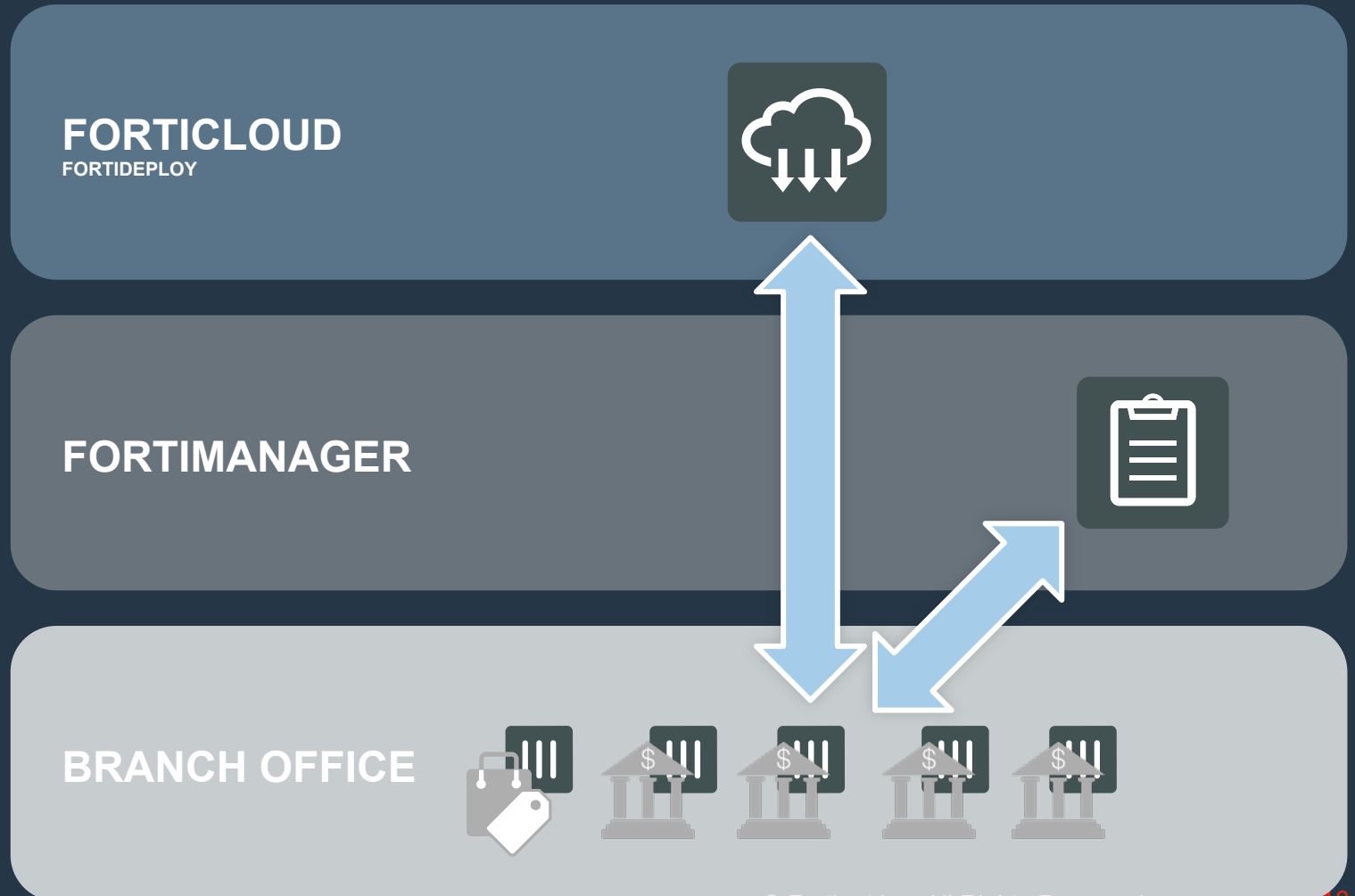
Cloud-based centralized logging, reporting, and analysis tools

FortiOS Secure SD-WAN

Orchestration - Zero Touch Provisioning



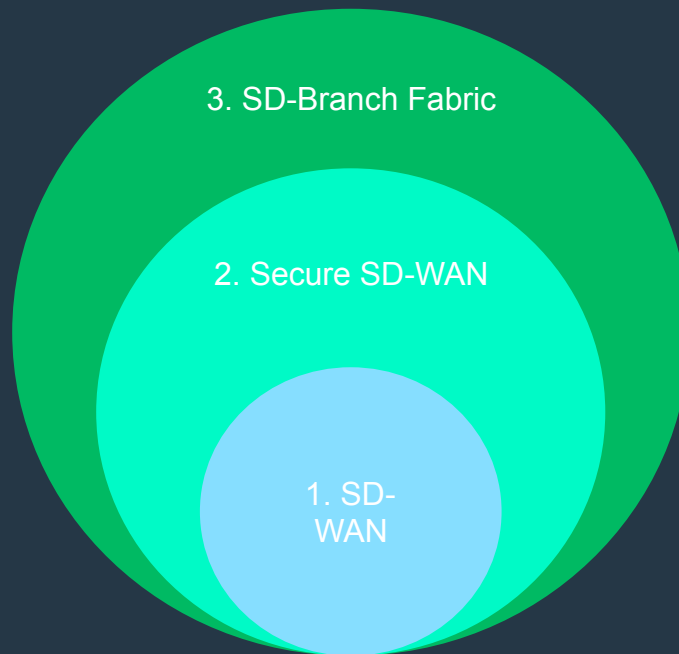
- 1 CONNECT**
Connect Device
- 2 CONTACT**
Contact made with FortiDeploy service within FortiCloud
- 3 CONFIGURE**
Full Device Configuration from FortiManager



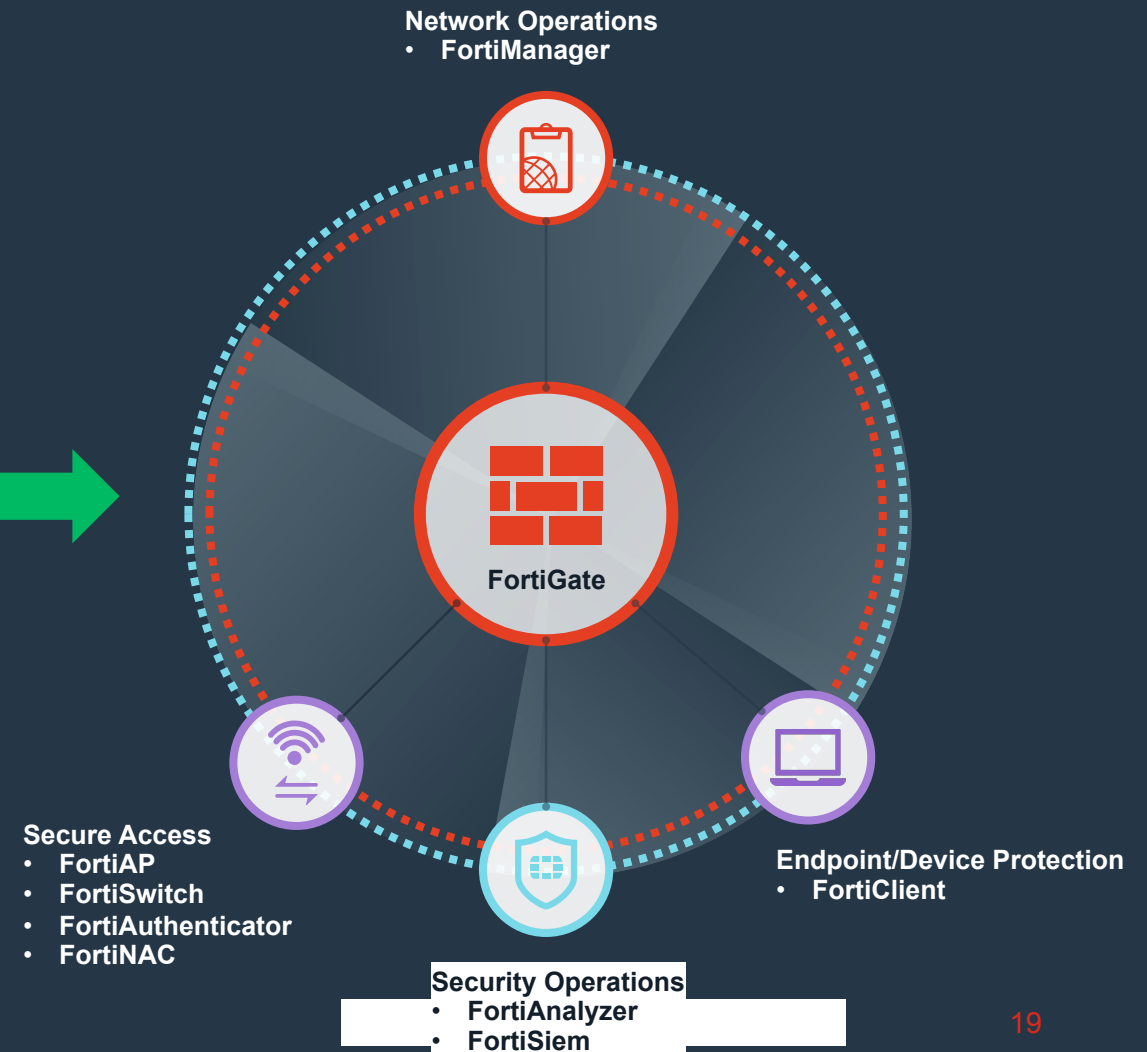
Extend Secure SD-WAN to Secure SD-Branch!

Consolidation
& simplification

History	SD-WAN generation
1. WAN access devices and technologies	1. SD-WAN
2. + Security GW	1. Secure SD-WAN
3. + LAN and WLAN Access devices behind the GW (Branch Office network)	1. SD-Branch Fabric

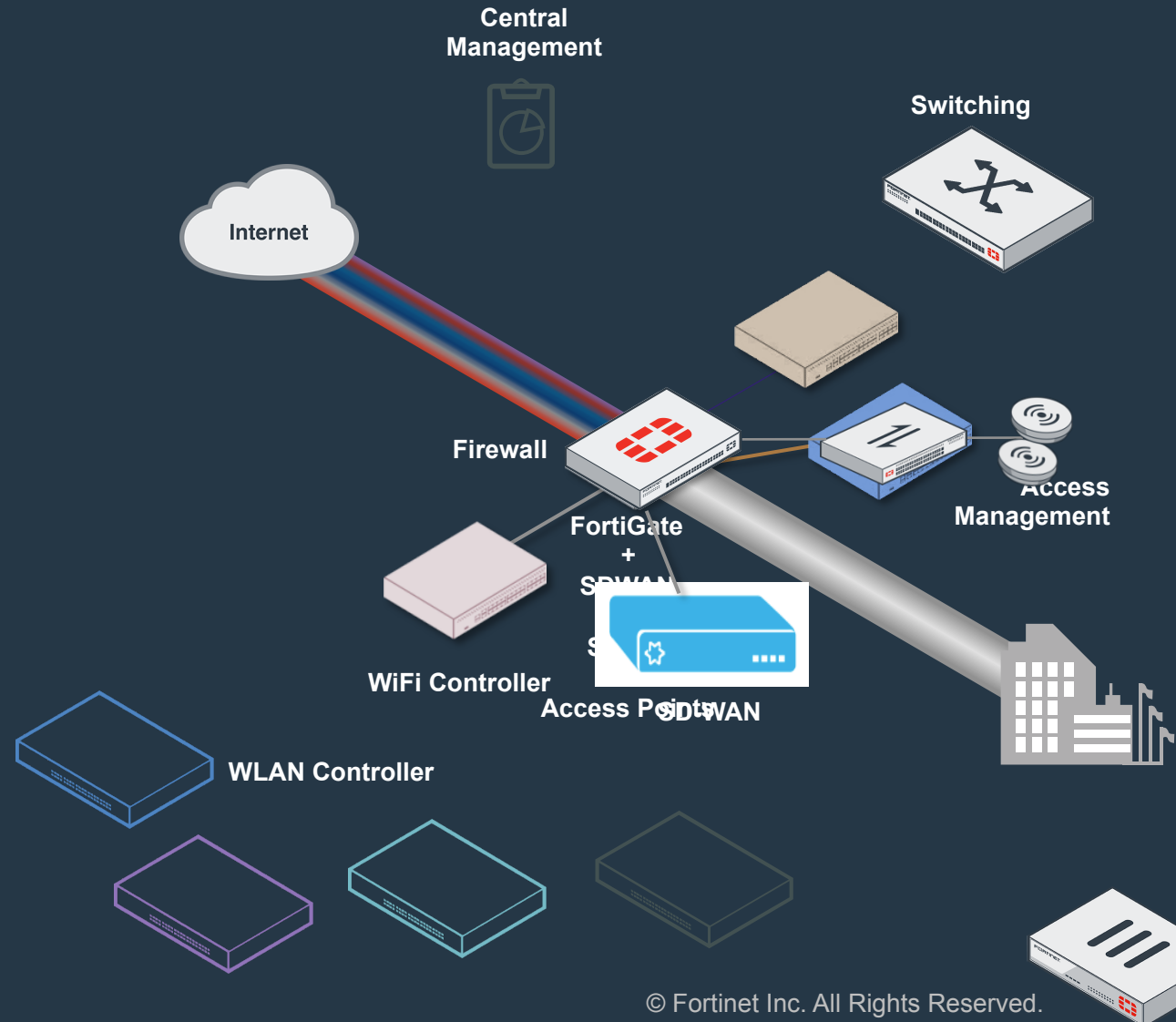


SD-Branch Fabric components



Fortinet Secure SD Branch in action

- Branch simplification
 - FortiGate Manages it all
 - WAN, LAN, Wireless, end point
 - FortiSwitch & FortiAPs
 - FortiClient
- Branch automation
 - Branch Zero Touch Deployment
 - Automation framework
- Branch visibility
 - Single pane of glass

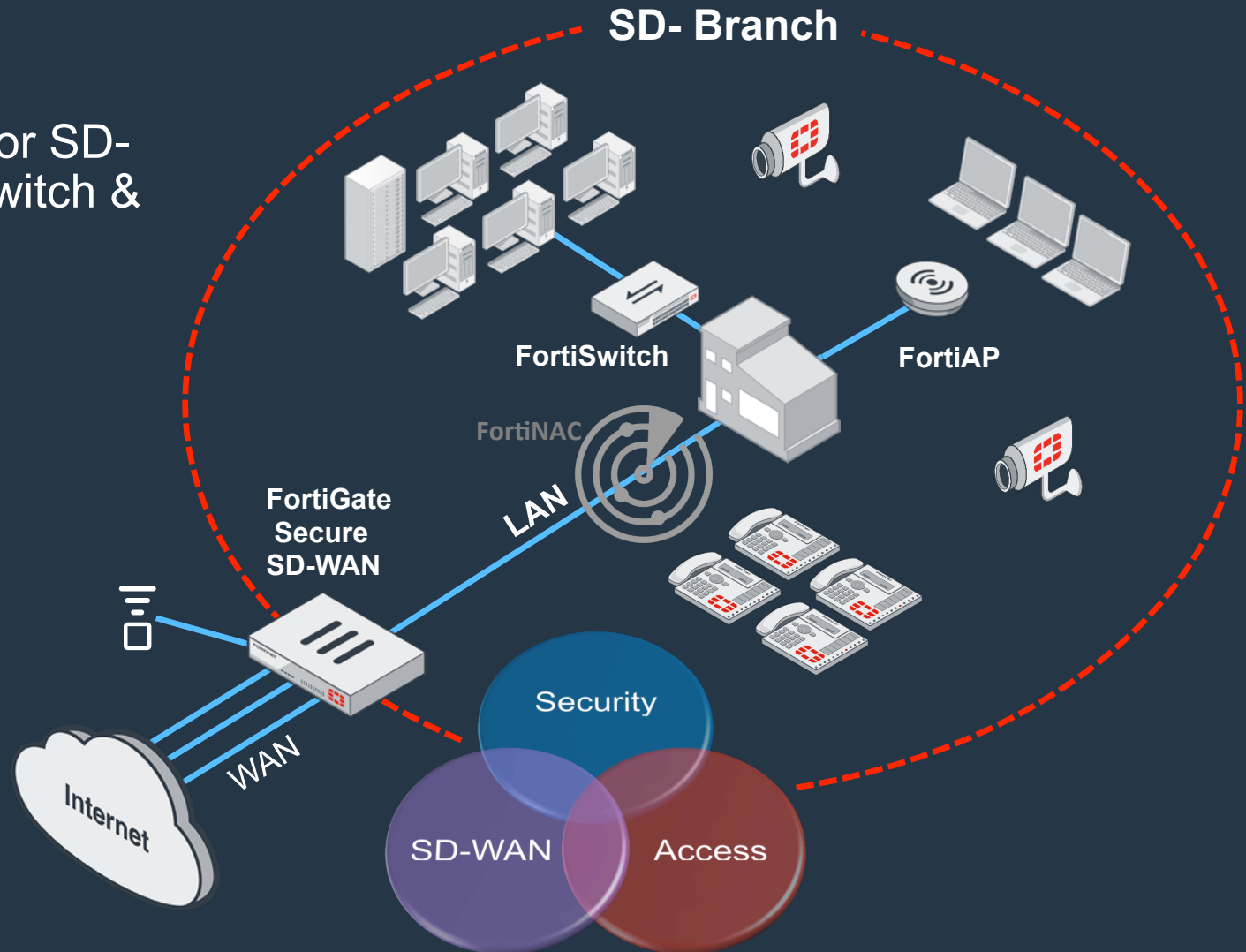


FortiOS Secure SD-WAN

Software Defined Branch

Single pane of glass management for SD-WAN, Security and Access layer (Switch & Wireless)

- Network segmentation
- Guest management
- Network Access Control
- User & Entity Behavior Analytics
- Presence Analytics
- Cameras, VoIP



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