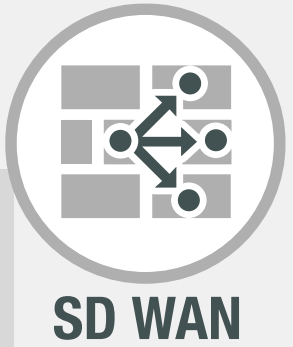
FORTINET

CONSTRUCTING A SECURE SD-WAN ARCHITECTURE

Constructing a Secure SD-WAN Architecture



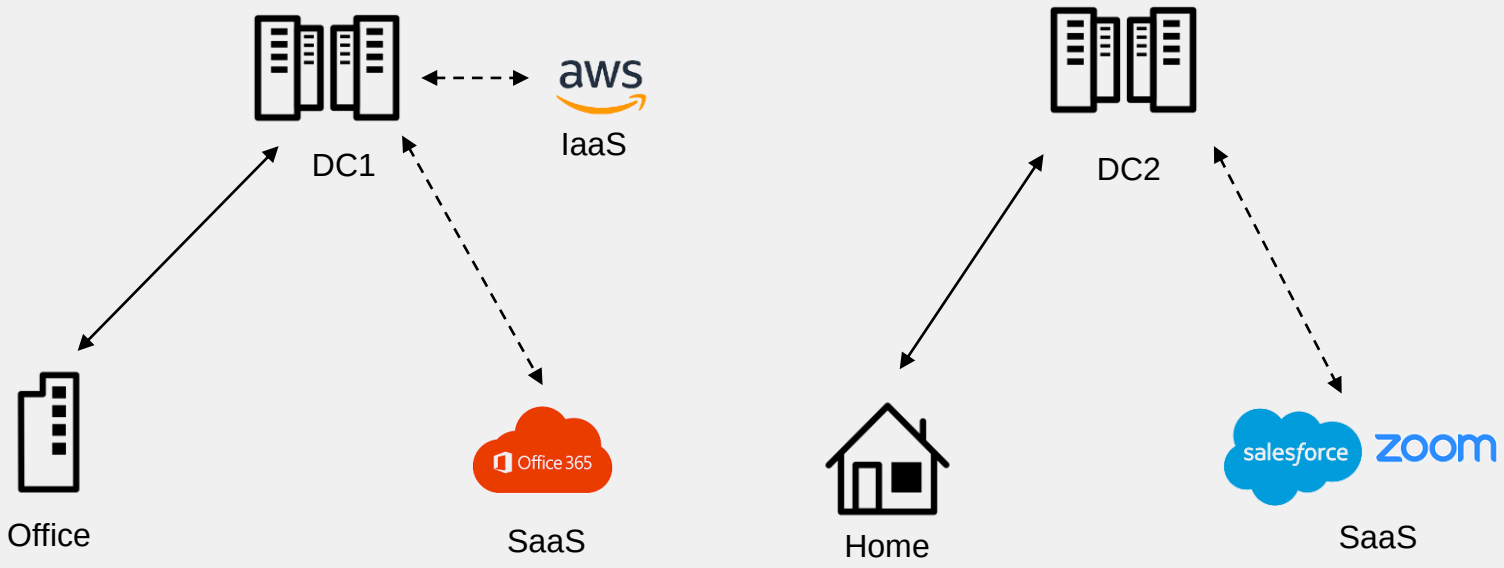
Objectives

- Understanding SD-WAN Trends and Challemges
- Fortinet Secure SD-WAN
- Secure SD-WAN use cases
- SD-WAN Assessment Program
- Customer Success Stories
- Configuring Secure SD-WAN

Understanding WANEdge Trends & Challenges

Traditional WAN Impacts User Productivity

Creating Obstacles for Digital Innovations



Hybrid Workforce and lack of Modern Infrastructure

Main Challenges

- Poor User Experience
- High WAN Cost
- Complex Operations

The Network Transformation Trends

IP-Based	Application Driven
Reactive	Predictive Analytics
Manual	Automated Operations
Work from Office	Work From Anywhere

Business Value of Moving to SD-WAN

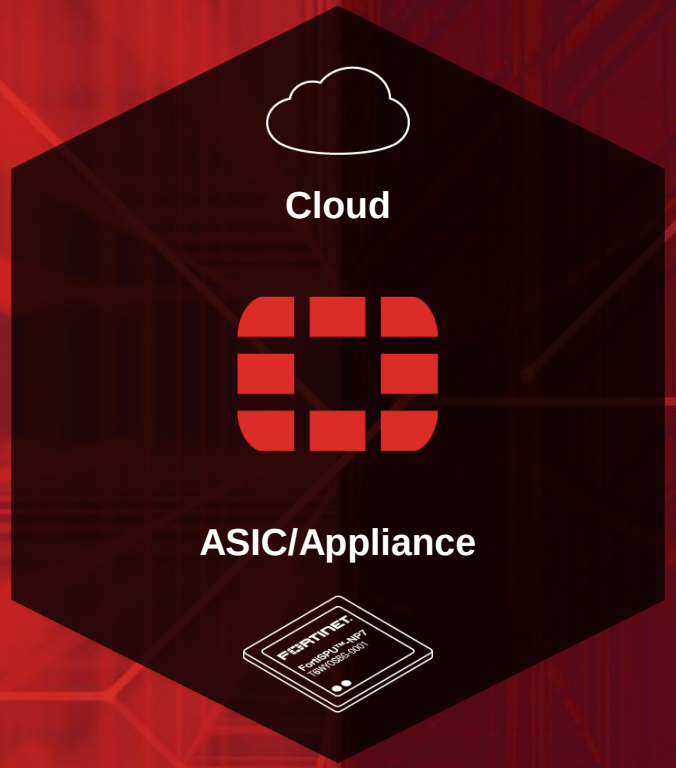
01	**Improve User Experience**		Direct internet access for business applications instead backhauling to HQ
02	**Instant ROI Benefits**		More bandwidth for users, consolidate networking and security point products
03	**Simplified Operations**		Enhance business agility with end-to-end visibility and automation

Fortinet Secure SD-WAN

Security-Driven Networking

The Next Era of Networking and Security Convergence

WIDE AREA NETWORKING



NETWORK SECURITY

Flexible, anywhere and anytime security

Fortinet’s Comprehensive Secure SD-WAN Solution

Industry’s leading Organically developed Secure SD-WAN Solution

01 **Application Driven**

Broadest application steering with accurate identification for better user experience

02 **Accelerated Convergence**

Industry’s only SD-WAN ASIC powered WAN Edge with advanced routing, SD-WAN and NGFW for flexible deployments

03 **Efficient Operations**

Centralized orchestration and analytics with end-to-end scalable ZTP for SD-WAN and SD-Branch

High-performing Portfolio powered by SD-WAN ASIC

01

Apr 2019
FGT 100F
Industry's first SD-WAN ASIC

02

Oct 2019
FGT 60F
Integrating SD-WAN into Industry's best selling NGFW

03

Feb 2020
FGT 40F
Flexible Deployment options for SMB

04

July 2020
FGT 80F
Multiple form factors including Bypass interfaces

05

Oct 2020
FGT 200F
Ideal for large Global deployments

Multiple variants for every deployment

Built-in LTE

Built-in Wireless

Built-in POE

Built-in Bypass

Secure SD-WAN Use cases

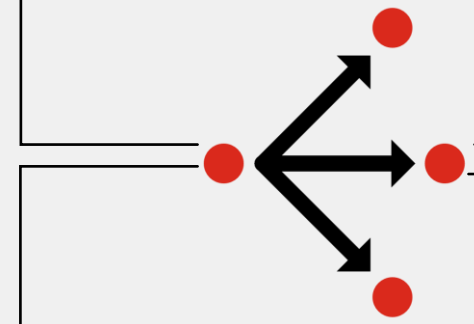
Fortinet Secure SD-WAN Leading Use-cases

Better Application Resiliency

Large Global WAN

Accelerated Convergence

Security-Sensitive WAN



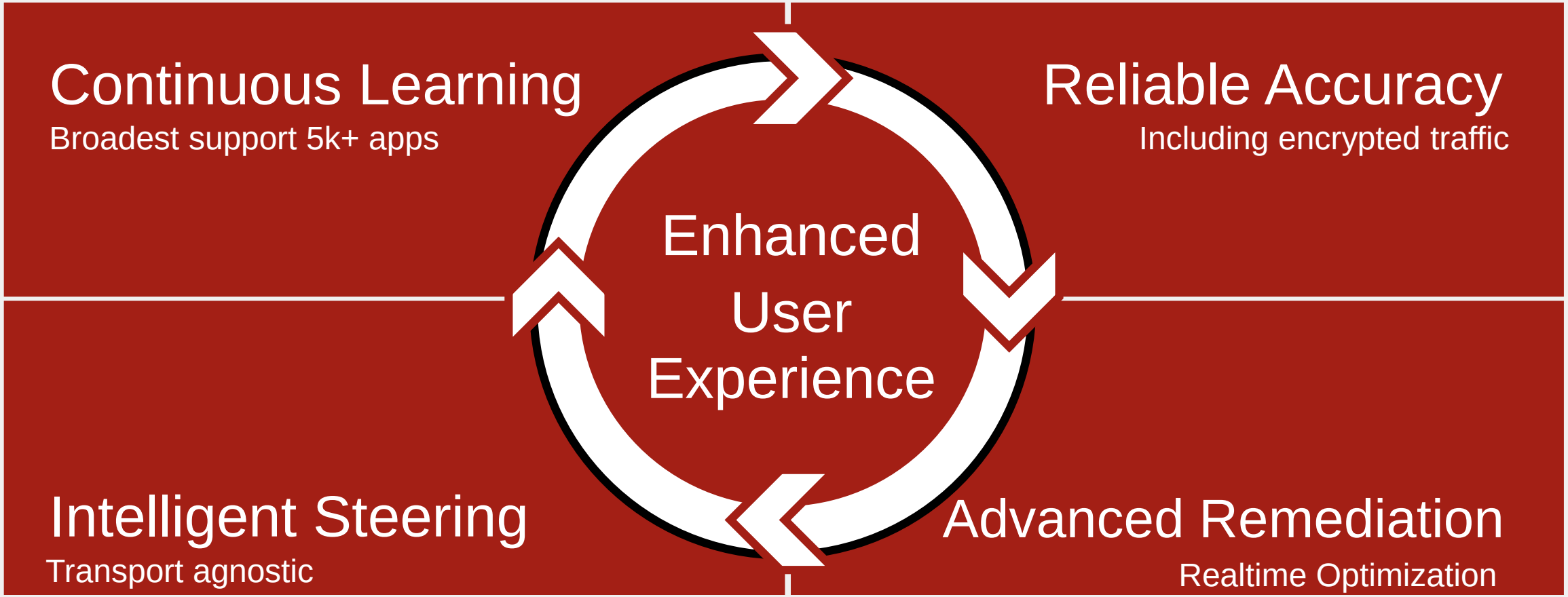
Efficient Operations

Small Footprint Retail

Efficient Operations

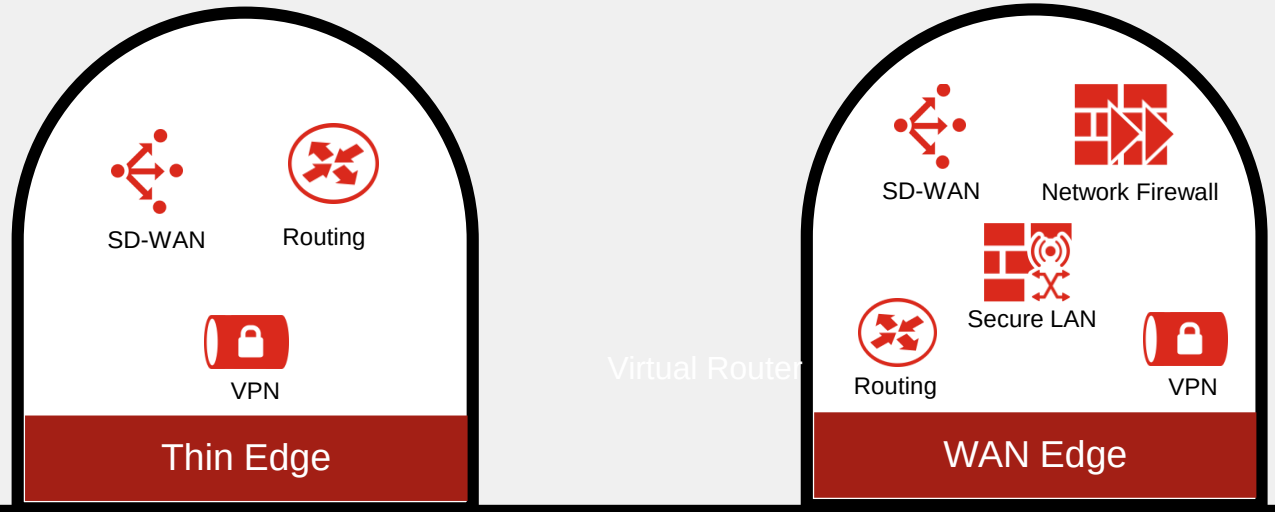
Cloud first WAN

Enabling Application Driven Networks



Accelerated Convergence for every Network Edge

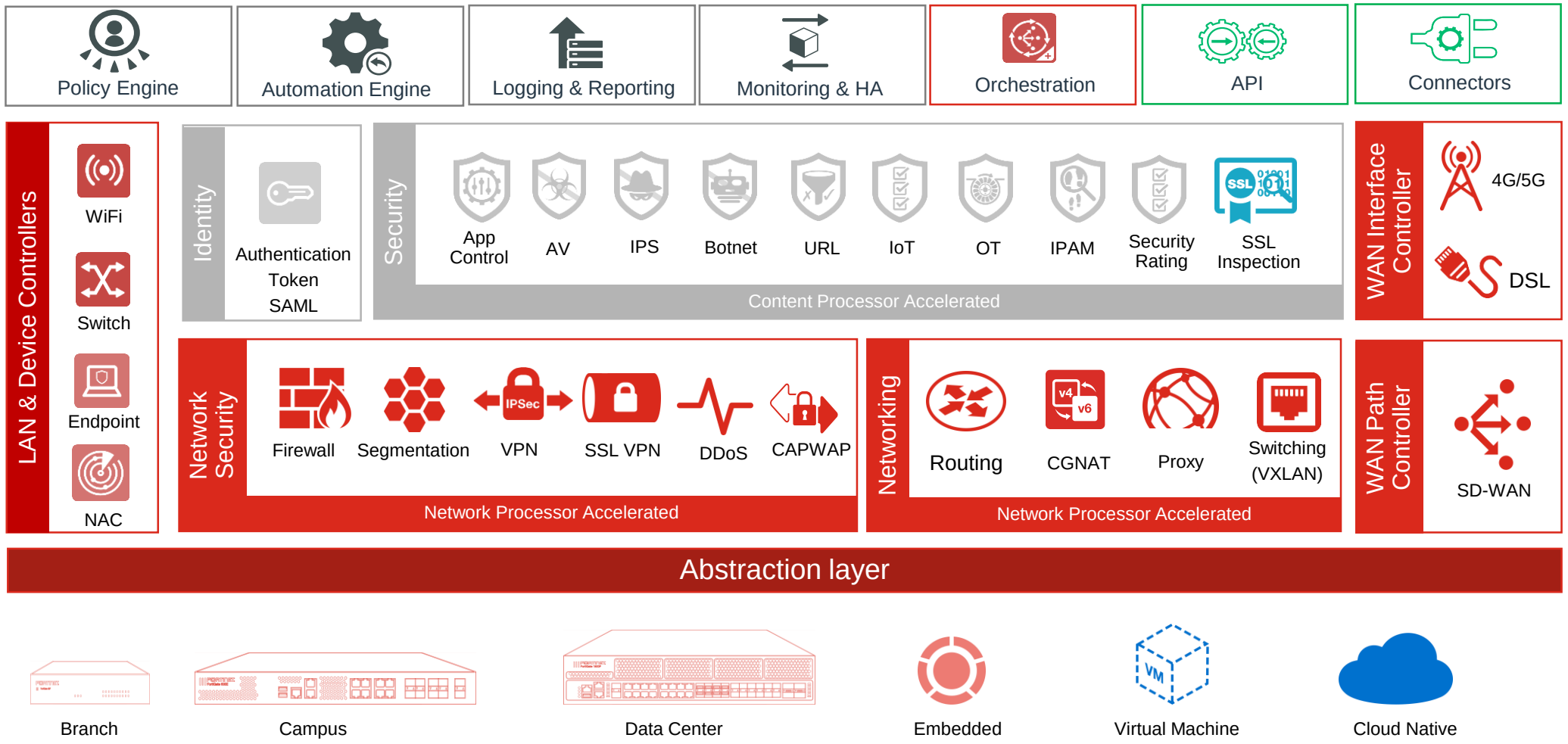
Accelerated & Flexible Deployment for both Thin & WAN Edges



Unified SD-WAN + NGFW from same platform powered by purpose-built ASIC

SoC4

FortiOS Innovative Network Operating System



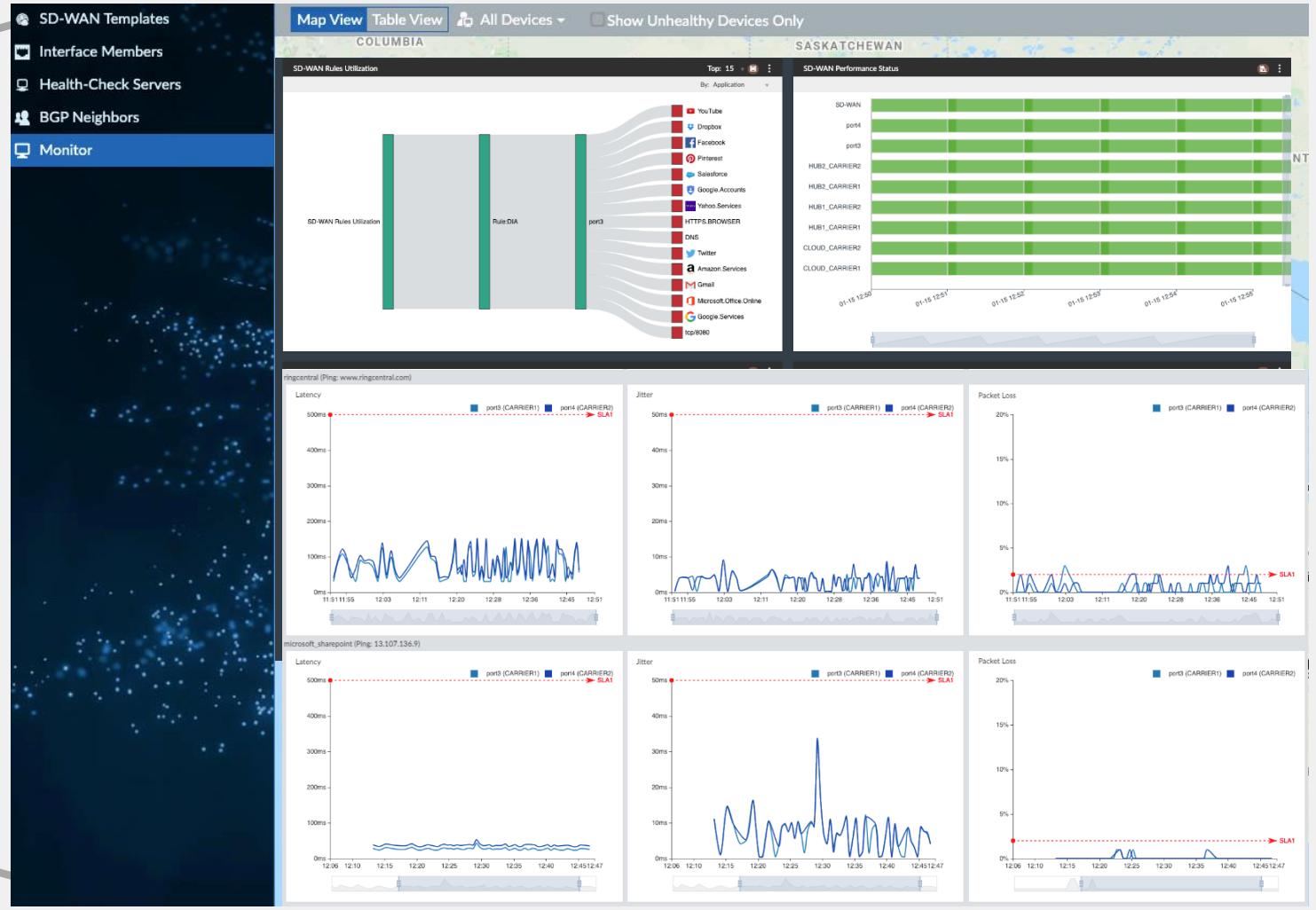
Efficient Operations with Centralized Management

Unified NOC + SOC Dashboard

Network Performance

Application Performance

Application Session Analytics



Fortinet SD-WAN Validation

Recognized As a Leader for Network Firewalls and WAN Edge Infrastructure

2020 Magic Quadrant for WAN Edge Infrastructure

2020 Magic Quadrant for Network Firewalls

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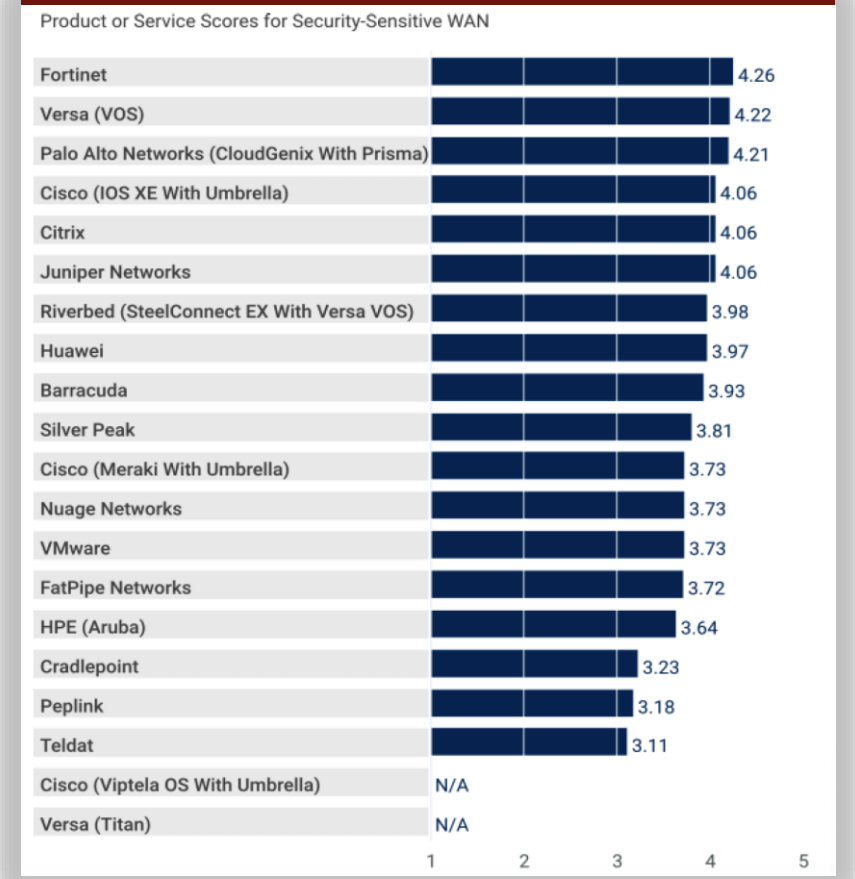
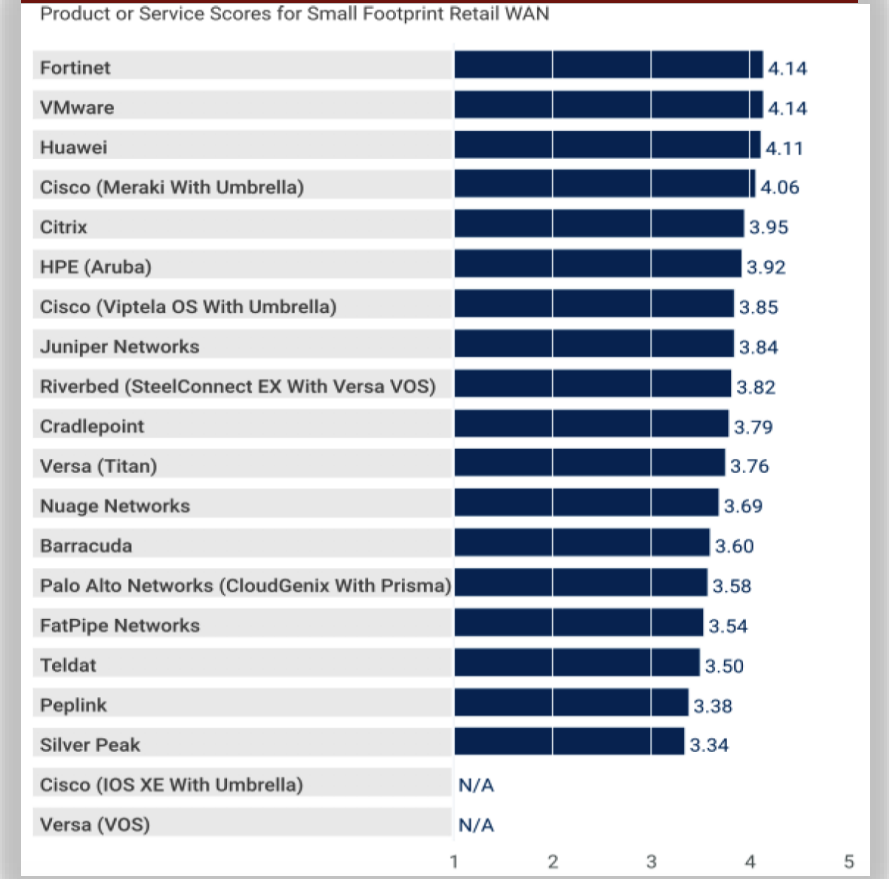
Gartner’s Critical Capabilities for WAN Edge Infrastructure

Security-Sensitive WAN Use-case



Fortinet is ranked **Highest** in the Security-Sensitive WAN and Small Footprint Retail WAN Use Cases

Small Footprint Retail Use-case



Gartner Critical Capabilities for WAN Edge Infrastructure, Jonathan Forest, Mike Toussaint, Mark Fabbi, 30 September 2020

This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from Fortinet

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A Gartner Peer Insights Customers' Choice™

Highest Customer Reviews Received for WAN Edge Infrastructure Segment

Voice of the Customer

Ranked among Businesses across Industries, Regions and sizes

4.7/5 Rating 339 Reviews

Gartner peerinsights customers' choice 2021™

Customer Success

Global SD-WAN Customer Success Examples

- **Fortune 500 – Large Enterprise**
- 1200 locations in North America
- 65% Cost reduction with consolidation
- Deployed sites in 9 months with ZTP

Fortinet won against

- *Cisco ISR Router*
- *Cisco Meraki*

- **Global 1000 – Large Enterprise**
- 700 locations in 50 Countries
- 10X Improved user experience
- 50%+ reduced network set-up time

Fortinet won against

- *Cisco ISR Router*
- *VMWARE VeloCloud, Versa*

- **1800 locations in Europe**
- 50% reduction in MPLS cost
- 99% increased business continuity
- Expanded to SD-Branch

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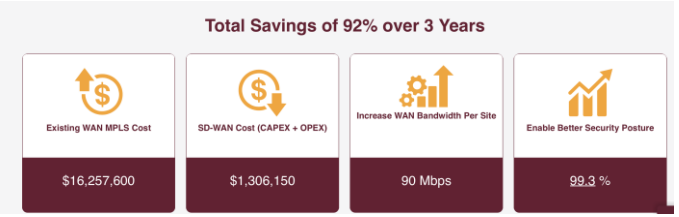
SD-WAN Tools and Resources

ROI CALCULATOR

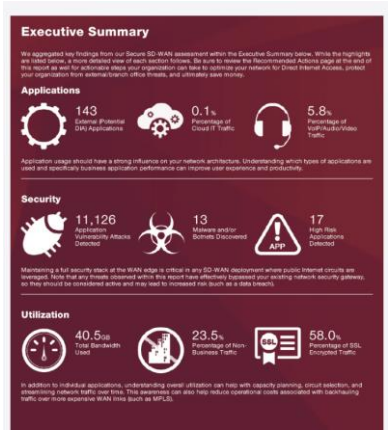


Fortinet SD-WAN Real-World ROI Study

CUSTOMER WINS

30+ Global Customer Case studies

CTAP ASSESMENT

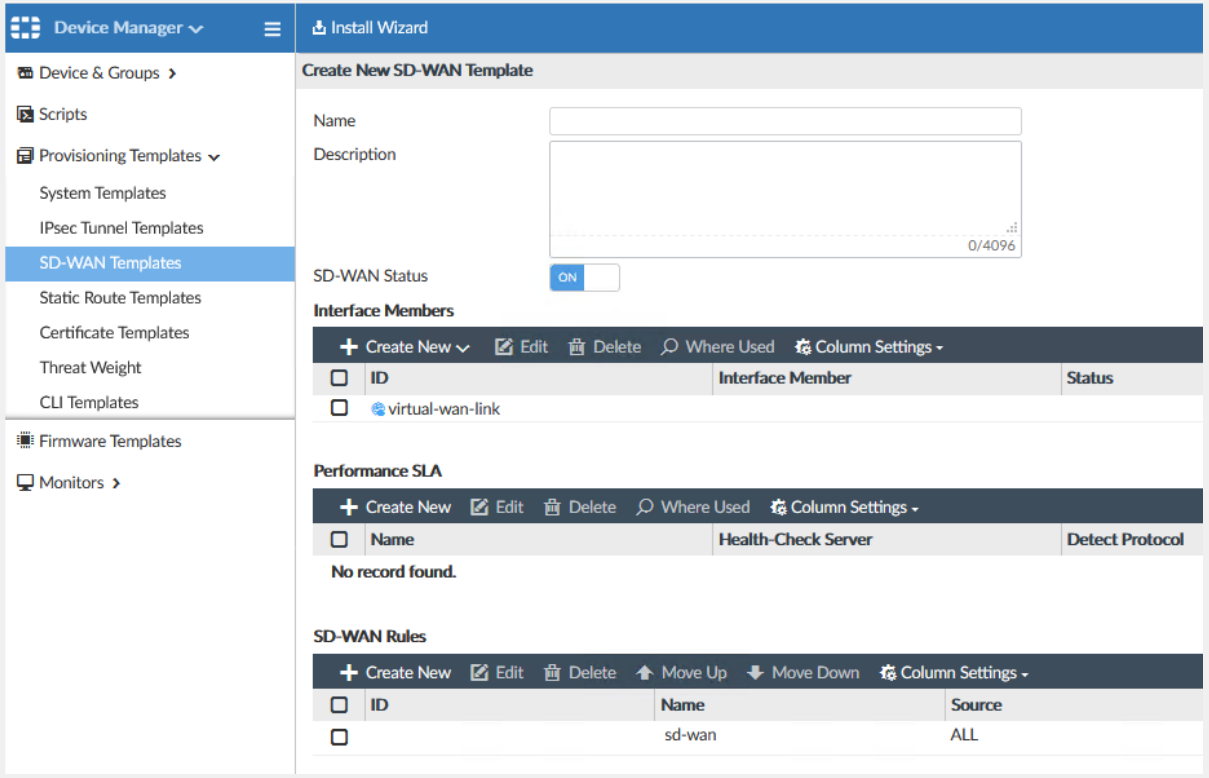


400+ customers completed SD-WAN Assessment

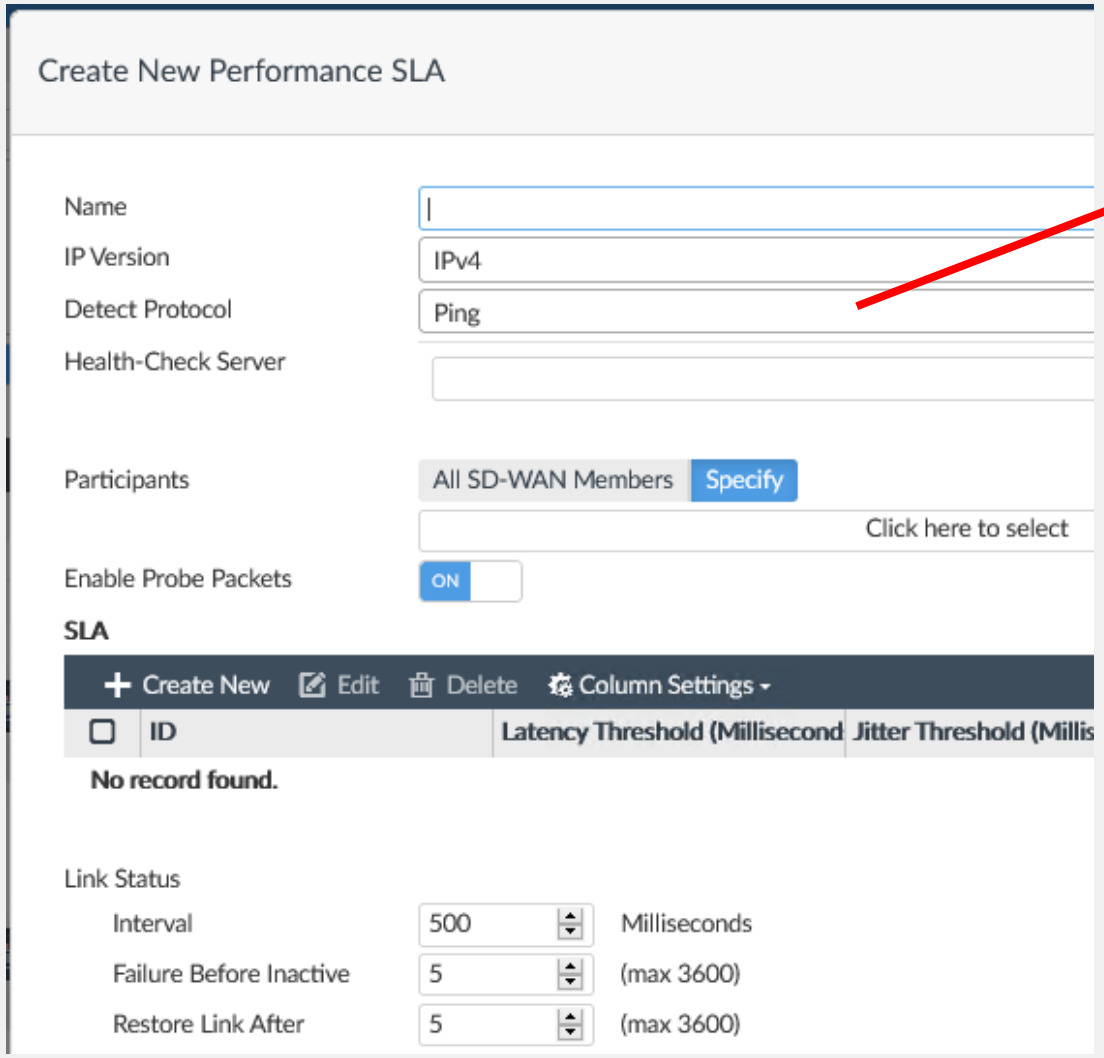
Configuring Secure SD-WAN

Configuring Secure SD-WAN

- Basic steps
  - Setup the VPNs
    - VPN Manager > IPsec VPN
  - Configure shared resources
    - Interface members
    - Health-check servers
    - BGP neighbors
    - Input interfaces
  - Create templates
  - Assign templates to devices



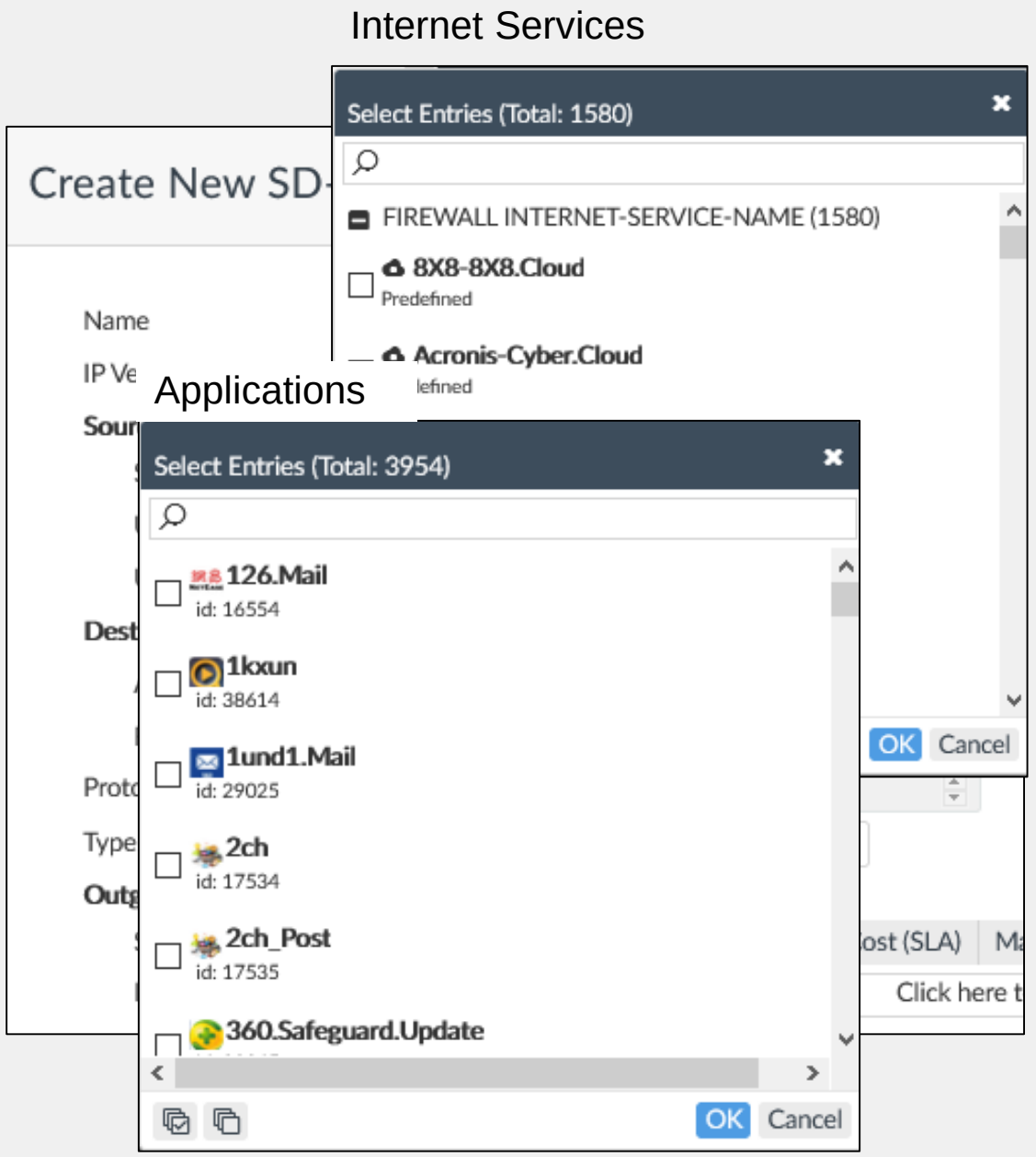
Performance SLA—Link Health Monitor



- FortiManager link health monitor options:
  - DNS, HTTP, PING, TCP echo, UDP echo, TWAMP, TCP Connect, and FTP

SD-WAN Rules

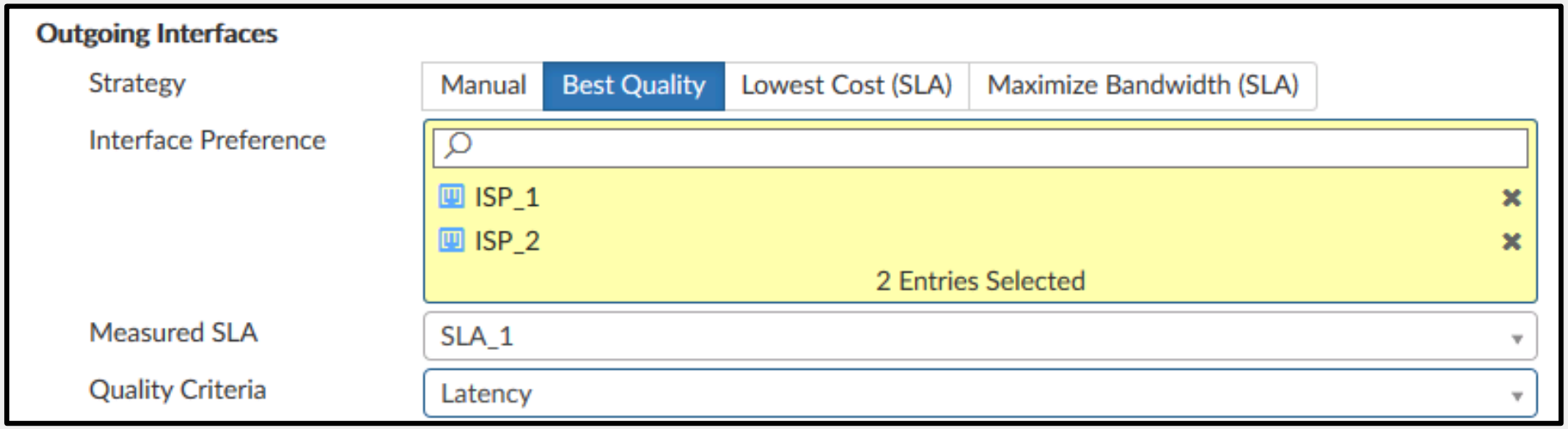
- Rules can match traffic based on:
  - Source IP address, destination IP address, or port number
  - Internet services database (ISDB) address object
  - Users or user groups
  - Type of service (ToS)
- Use rules to route traffic through the member interfaces that best fit your needs
- Rules can be created for specific Internet Services or Applications

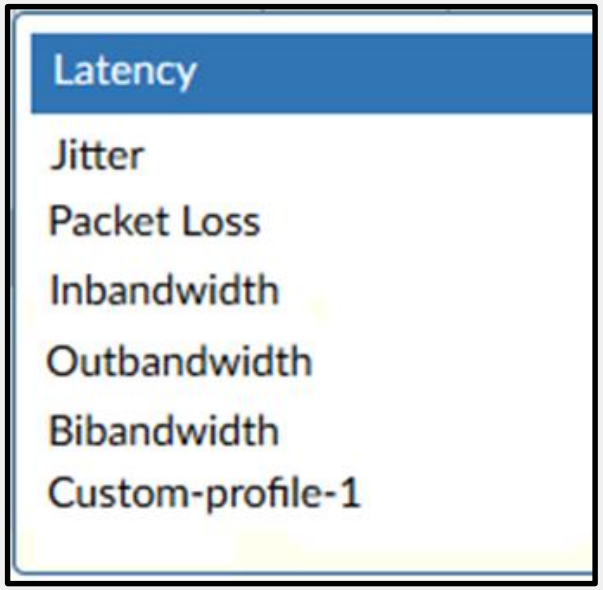


SD-WAN Rules—Manual

- Introduced in FortiOS 6.2
- Use a manual rule to pin one or more applications to a specific SD-WAN member interface

SD-WAN Rules—Best Quality

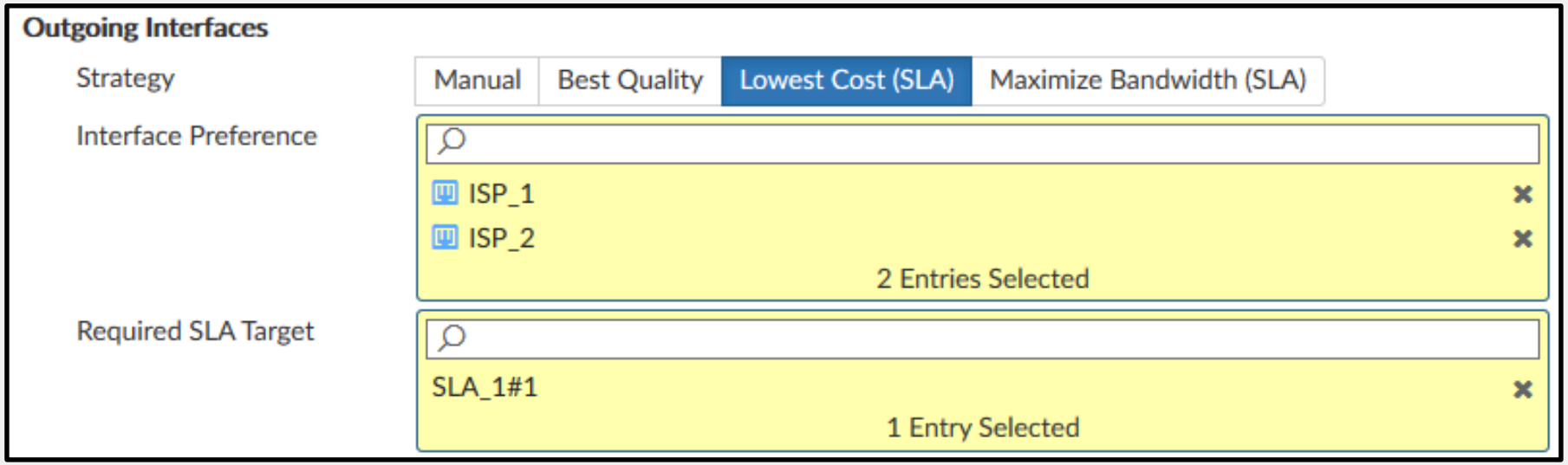




Custom-Profile-1

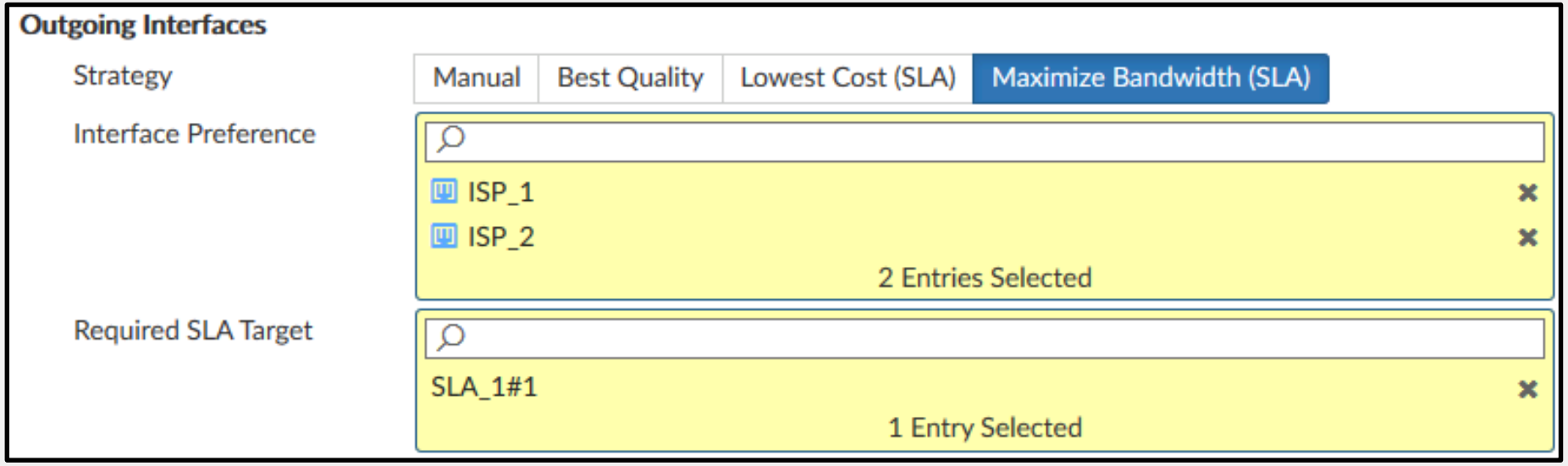
Link quality = (a*latency)+(b*jitter)+(c*packet loss)+(d/bandwidth)

SD-WAN Rules—Lowest Cost (SLA)



- All of the traffic that matches the rule will be directed to a single interface
- Uses the cost value of the SD-WAN member interface

SD-WAN Rules—Maximize Bandwidth (SLA)



- Introduced in FortiOS 6.2
- Load balances multiple sessions across participating SD-WAN members that meet the SLA

Conclusions:

- Customers want WAN with local internet breakout
  - SD-WAN enables local internet breakout but this means added security risks
  - Most SD-WAN vendors do not have robust NGFW security
    - Many SD-WAN vendors recommend multiple devices for SD-WAN and security
    - Multiple devices add to the complexity and cost
- What customers need is Secure SD-WAN
  - A single device handles both the security and the SD-WAN needs

Key Takeaway

- FortiGate changes the conversation from SD-WAN to Secure SD-WAN
  - Best of breed integrated SD-WAN networking and security capabilities in a single device reduces TCO
- FortiGate is SD-WAN ready:
  - Purpose-built security processor (ASIC) for high reliability
  - Enhanced application aware WAN path controller for QoS
  - Security Fabric ready for easy visibility and control
  - FortiManager enables single pane management across thousands of enterprise branches
  - 360 Protection is the most comprehensive protection bundle

Fortinet Fast Track Training Qualifies for (ISC)² credits

Earn 1 credit for every hour of Fast Track training, up to 8 hours per day towards maintaining your CISSP certification.

Log into your (ISC)² CPE Portal to claim your credits:

- **Ask your instructor for a course completion certificate**
- **Course Name:** Constructing a Secure SD-WAN Architecture
- **Number of training hours:** 4 hours
- **(ISC)² CISSP Domain 4:** Communication and Network Security
- Provide the **date** you completed the training

FORTINET NSE Training Institute

(ISC)² CPE SUBMITTER

Fortinet provides ILT Training

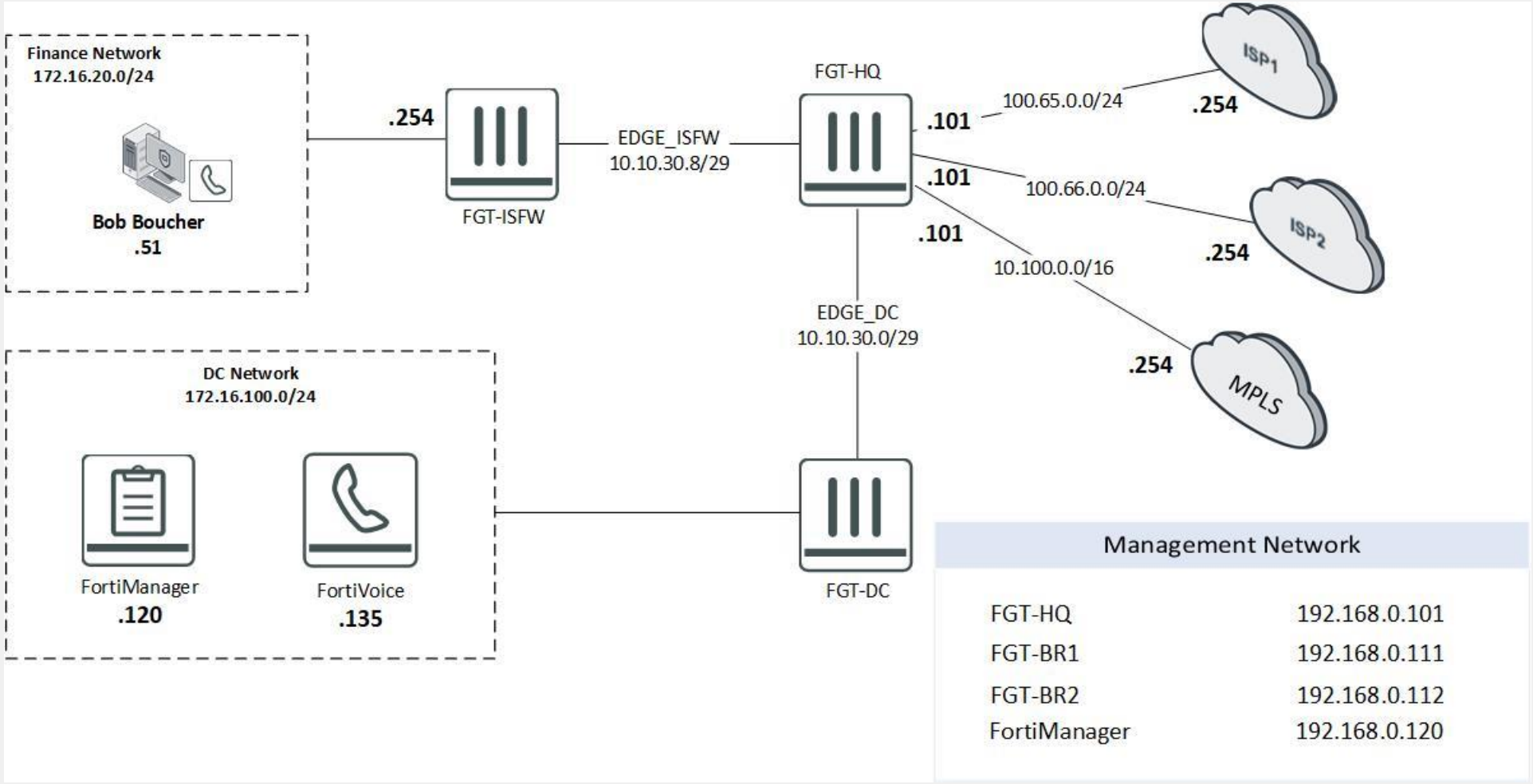
Log into https://training.fortinet.com to find out more:

- **A full range of Instructor led, product based training courses leading to certification, based on lectures and labs.**
- **Free Cybersecurity Training**
  - **Advanced training** for security professionals.
    Technical training for IT professionals.
    Awareness training for teleworkers.

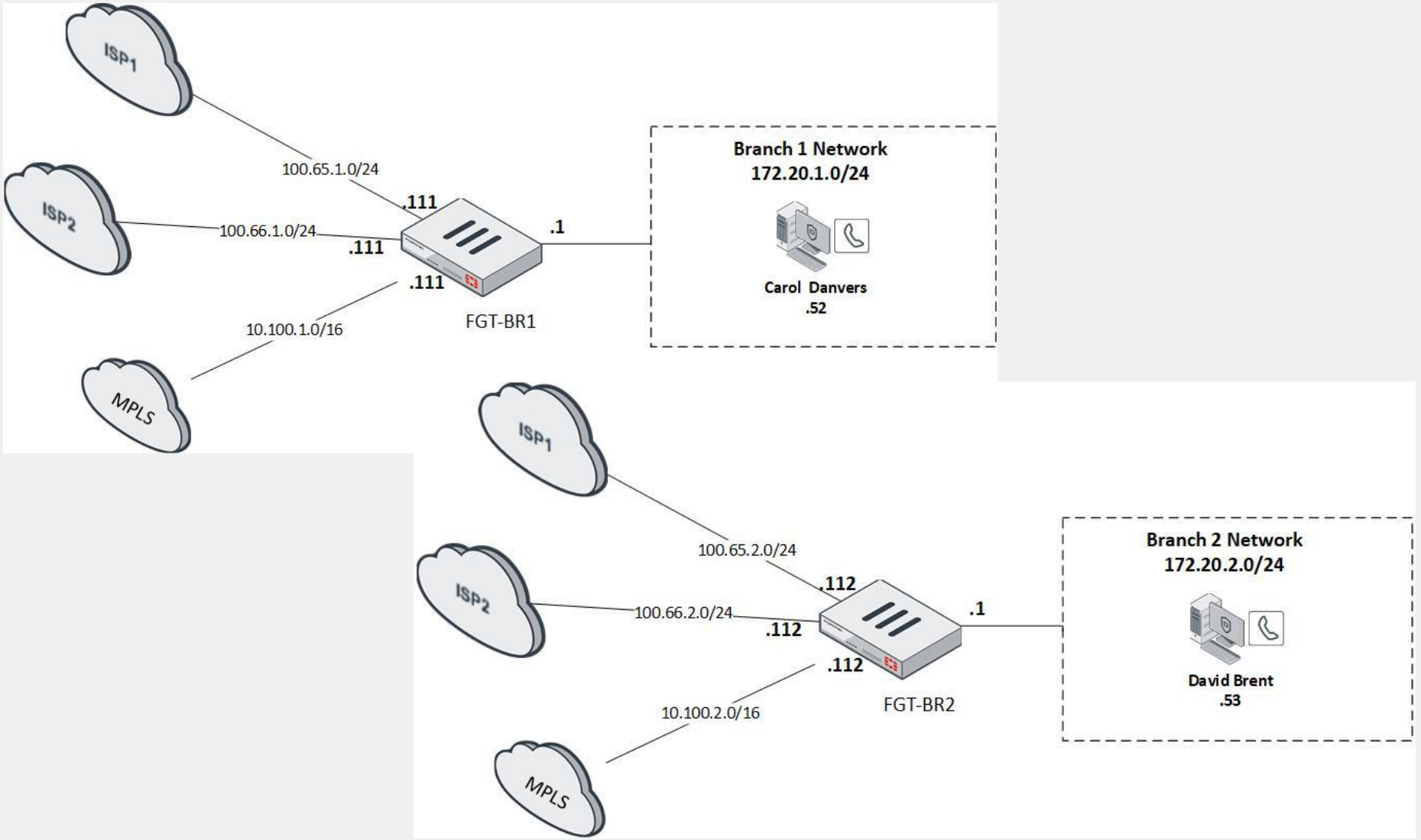
FORTINET NSE Training Institute

Lab Exercise: SD-WAN

Lab—Network Diagram



Lab—Network Diagram



Instructor Notes

Instructor Notes

- The following slides are informational and can be used for the following:
  - To remind instructors how to interact with the Fast Track labs
  - To help students get started using the hands-on lab

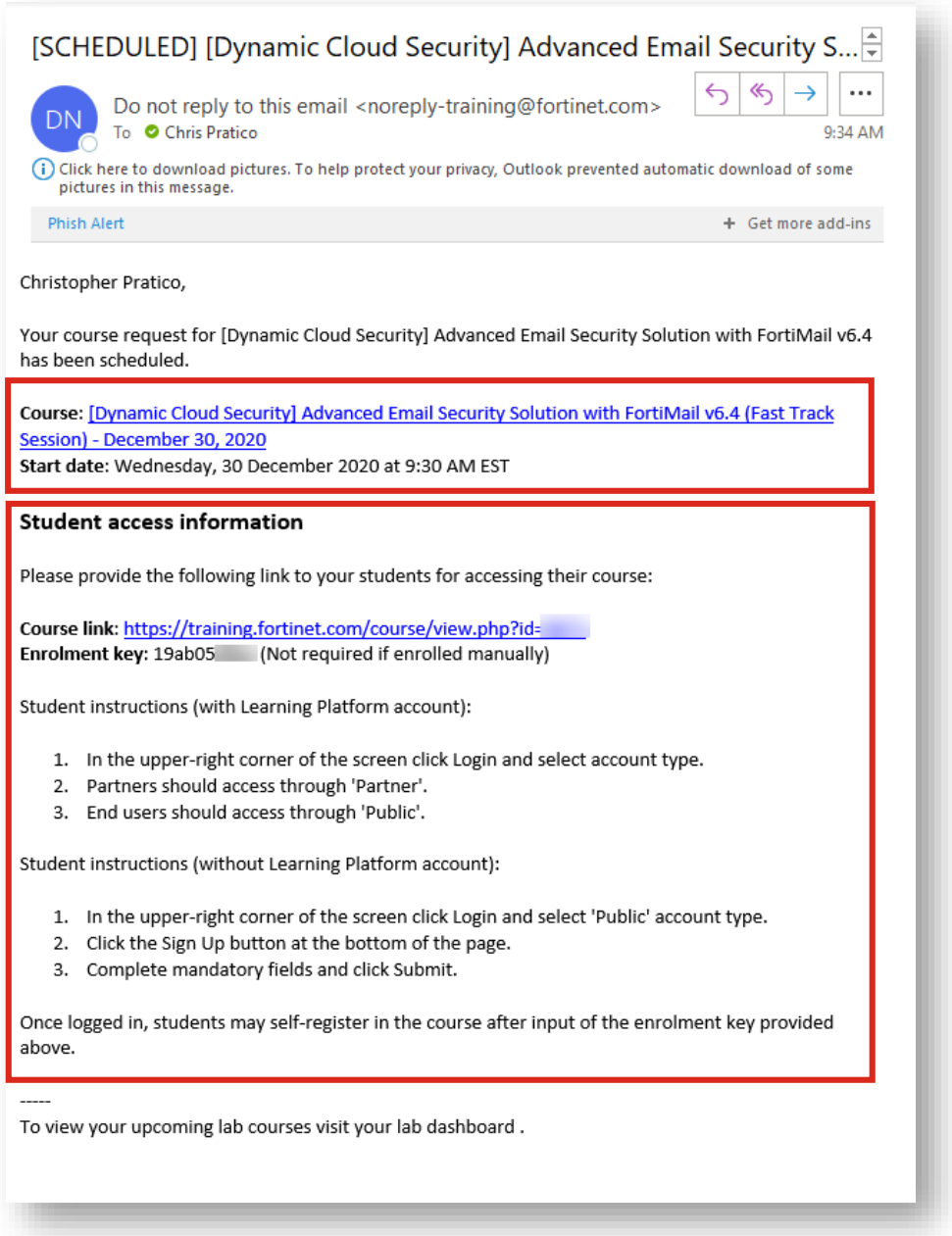
- Feel free to use some, all, or none of the slides as part of your session

- The interfaces should be fairly intuitive; therefore, it is recommended to keep the initial instruction short and then assist students individually as needed

Student Access

- The student course link and enrolment key is provided via email after the session has been approved

- Instructions for access can be forwarded to students


[SCHEDULED] [Dynamic Cloud Security] Advanced Email Security S...

DN Do not reply to this email <noreply-training@fortinet.com>
To Chris Pratico 9:34 AM

Click here to download pictures. To help protect your privacy, Outlook prevented automatic download of some pictures in this message.

Phish Alert + Get more add-ins

Christopher Pratico,

Your course request for [Dynamic Cloud Security] Advanced Email Security Solution with FortiMail v6.4 has been scheduled.

Course: [Dynamic Cloud Security] Advanced Email Security Solution with FortiMail v6.4 (Fast Track Session) - December 30, 2020
Start date: Wednesday, 30 December 2020 at 9:30 AM EST

Student access information

Please provide the following link to your students for accessing their course:

Course link: https://training.fortinet.com/course/view.php?id=
Enrolment key: 19ab05 (Not required if enrolled manually)

Student instructions (with Learning Platform account):

1. In the upper-right corner of the screen click Login and select account type.
2. Partners should access through 'Partner'.
3. End users should access through 'Public'.

Student instructions (without Learning Platform account):

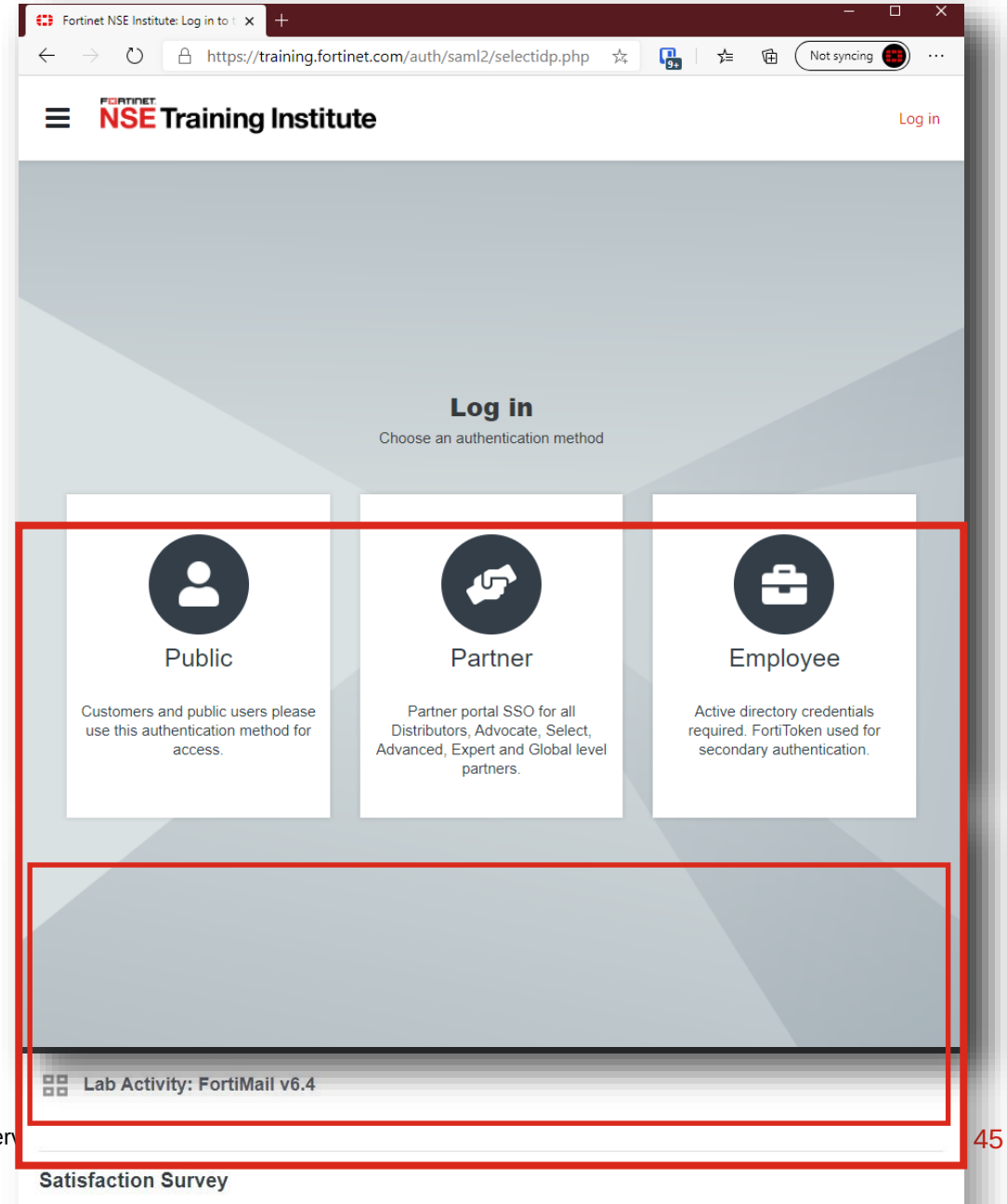
1. In the upper-right corner of the screen click Login and select 'Public' account type.
2. Click the Sign Up button at the bottom of the page.
3. Complete mandatory fields and click Submit.

Once logged in, students may self-register in the course after input of the enrolment key provided above.

To view your upcoming lab courses visit your lab dashboard .

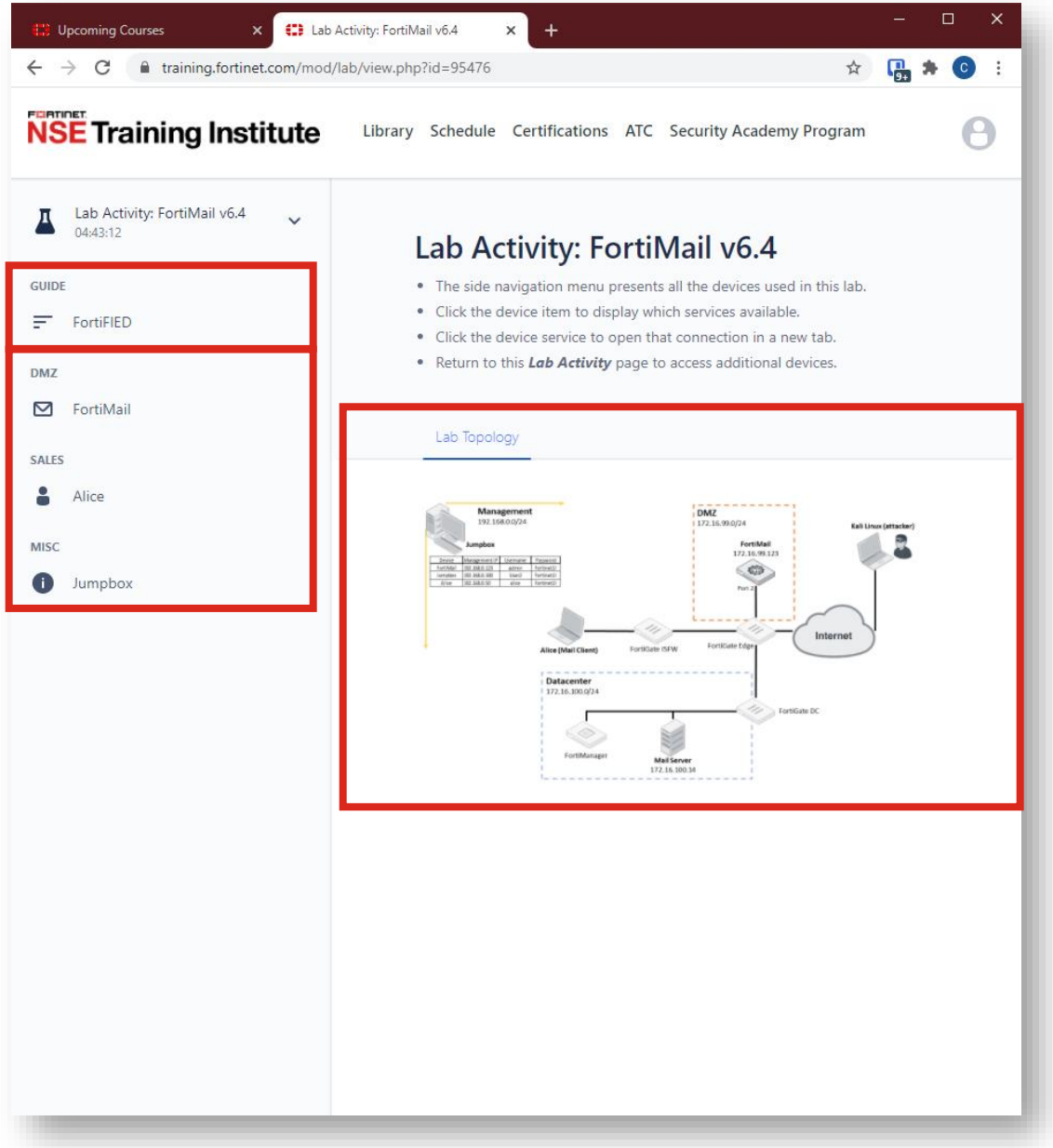
Fast Track Course

- Log in via the appropriate authentication method
- Enter the provided enrolment key
- The hands-on Lab accessible from **Lab Activity** link
- Course content is available for download after completing the hands-on lab and short survey



Lab Activity

- Students individual hands-on lab environment
- Reference lab topology
- Online **FortiFIED** lab guide
- Direct access to lab devices

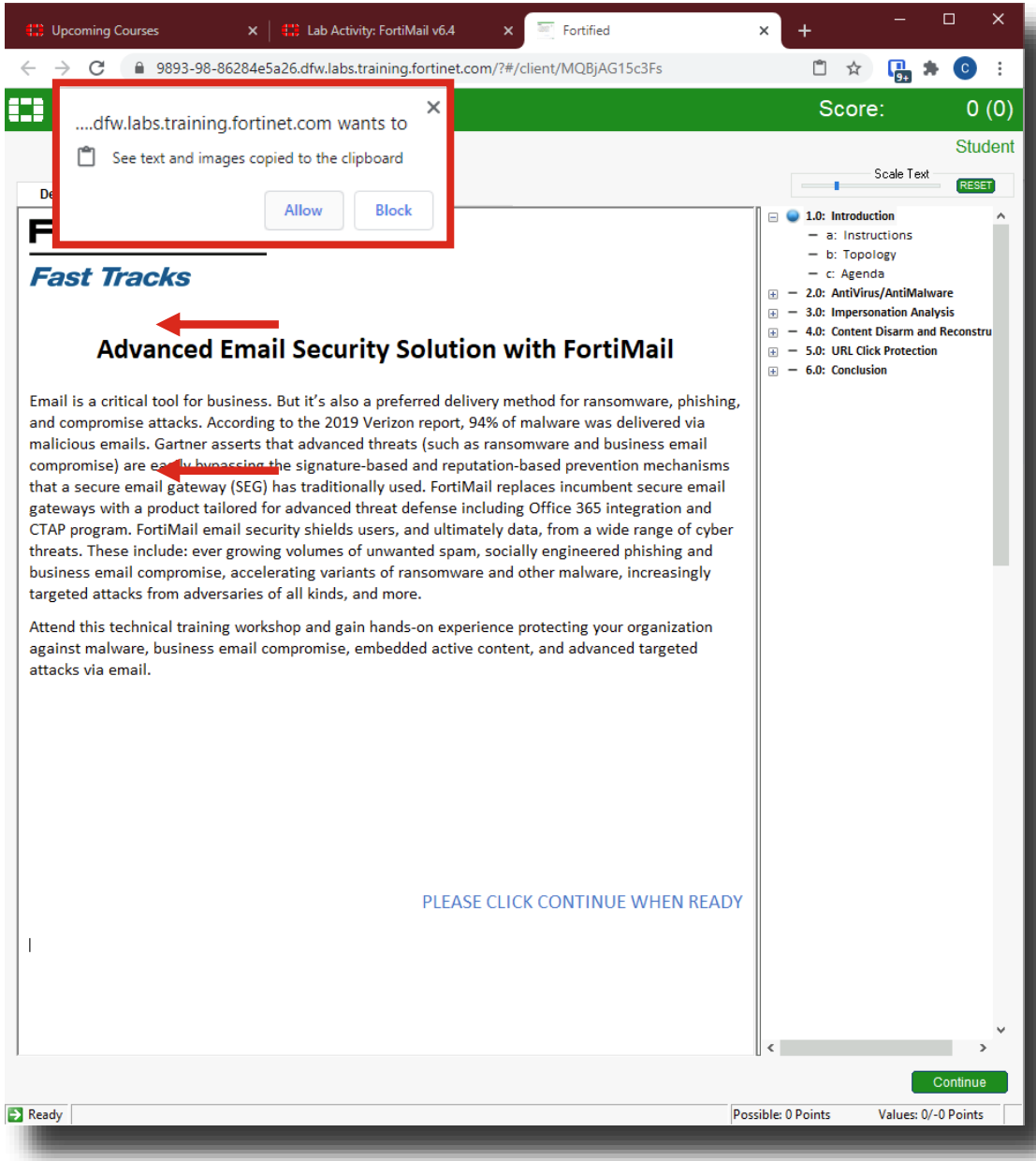


FortiFIED Lab Guide Access

1. From the **Lab Activity** page click **FortFIED** on the navigation sidebar.

2. Click the **RDP** connection to open a new tab containing the lab guide.

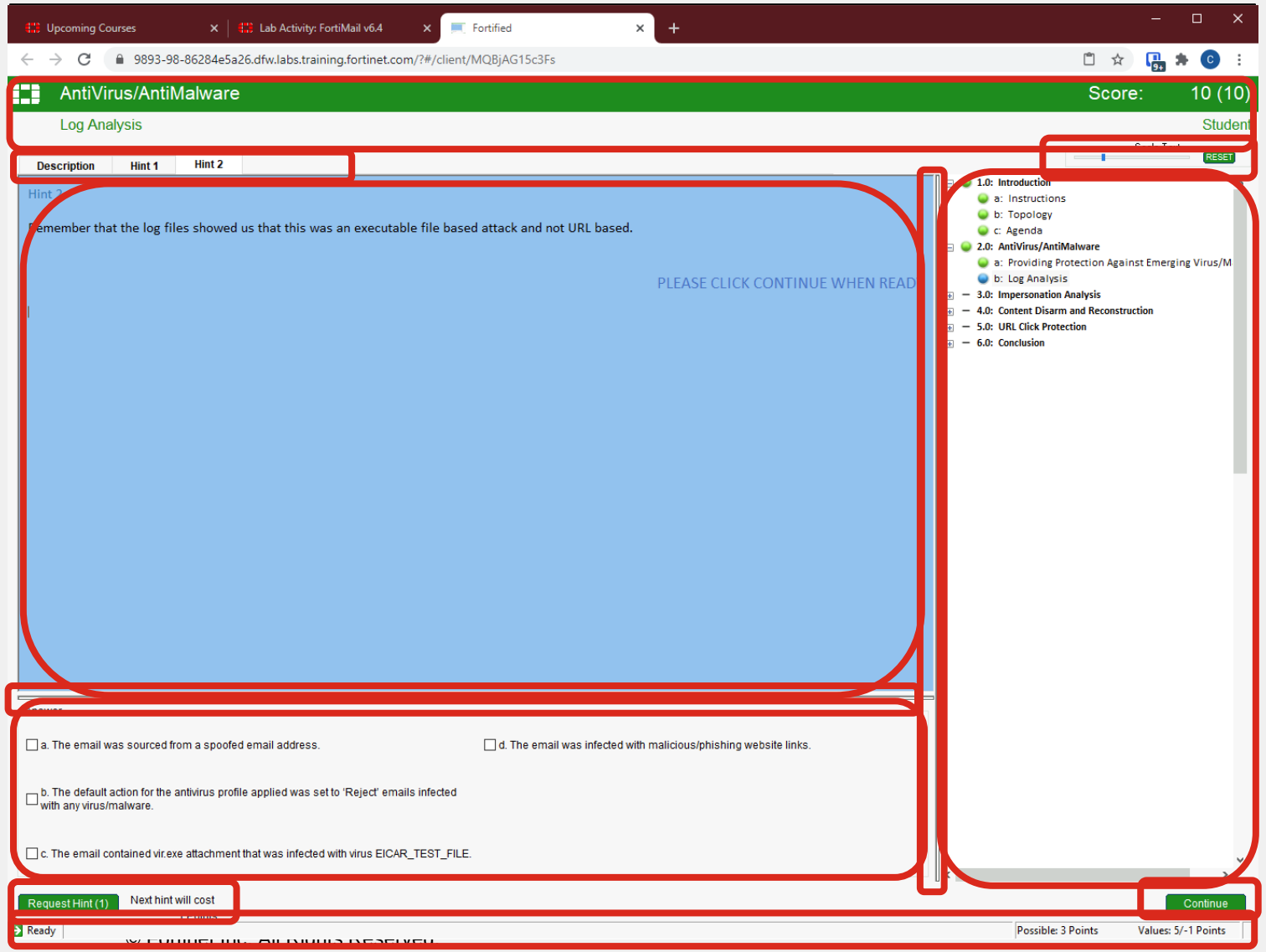
3. If displayed, allow the browser to copy/paste tab contents to the clipboard.



FortiFIED Interactive Lab Guide

Stop and Think Objective

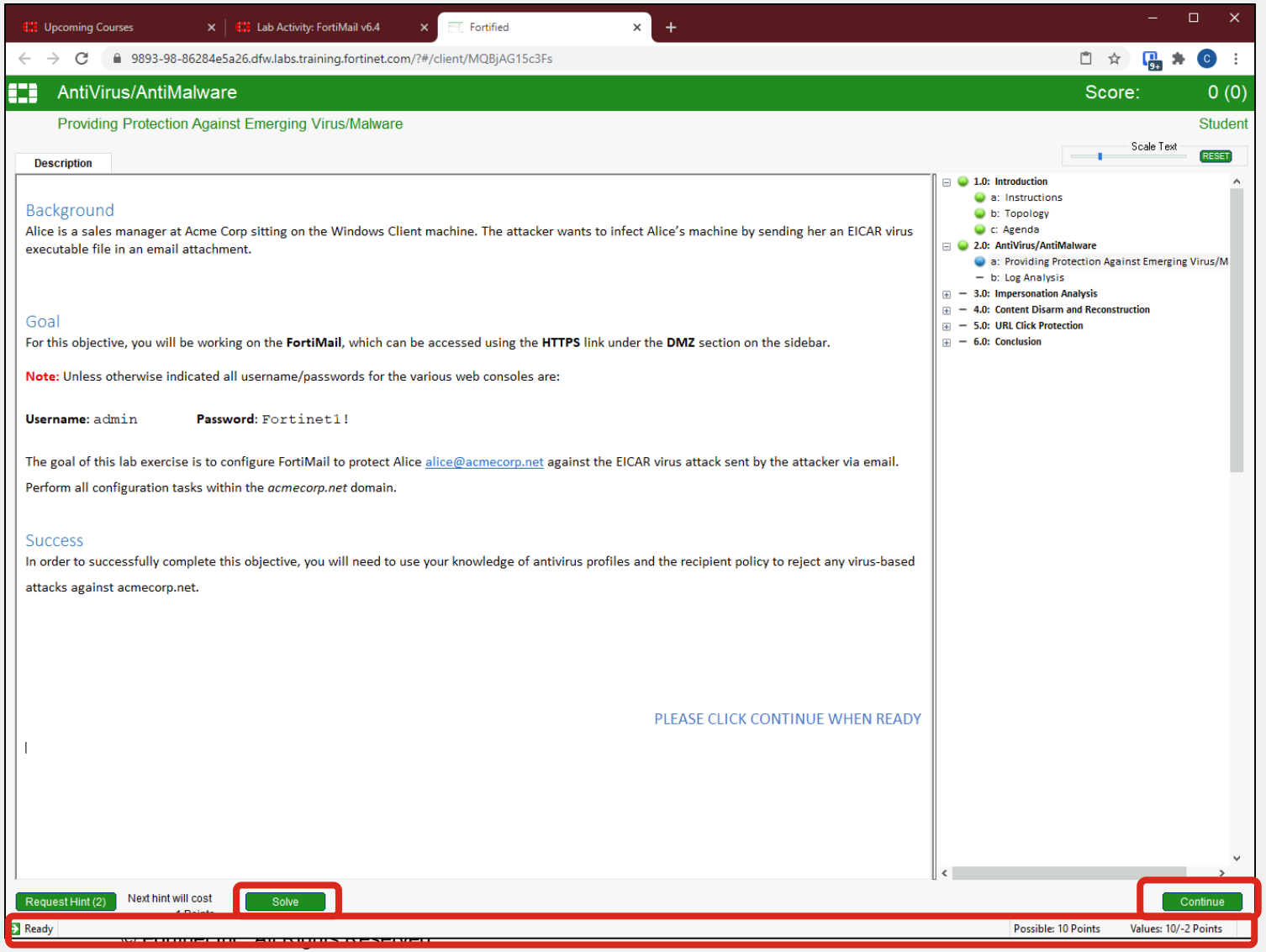
- Enter a name
- Application banner
- Objectives list
- Display tabs
- Rich text
- Answer choice
- Continue button
- Status bar
- Scale text slider
- Resize display bar
- Hints



FortiFIED Interactive Lab Guide

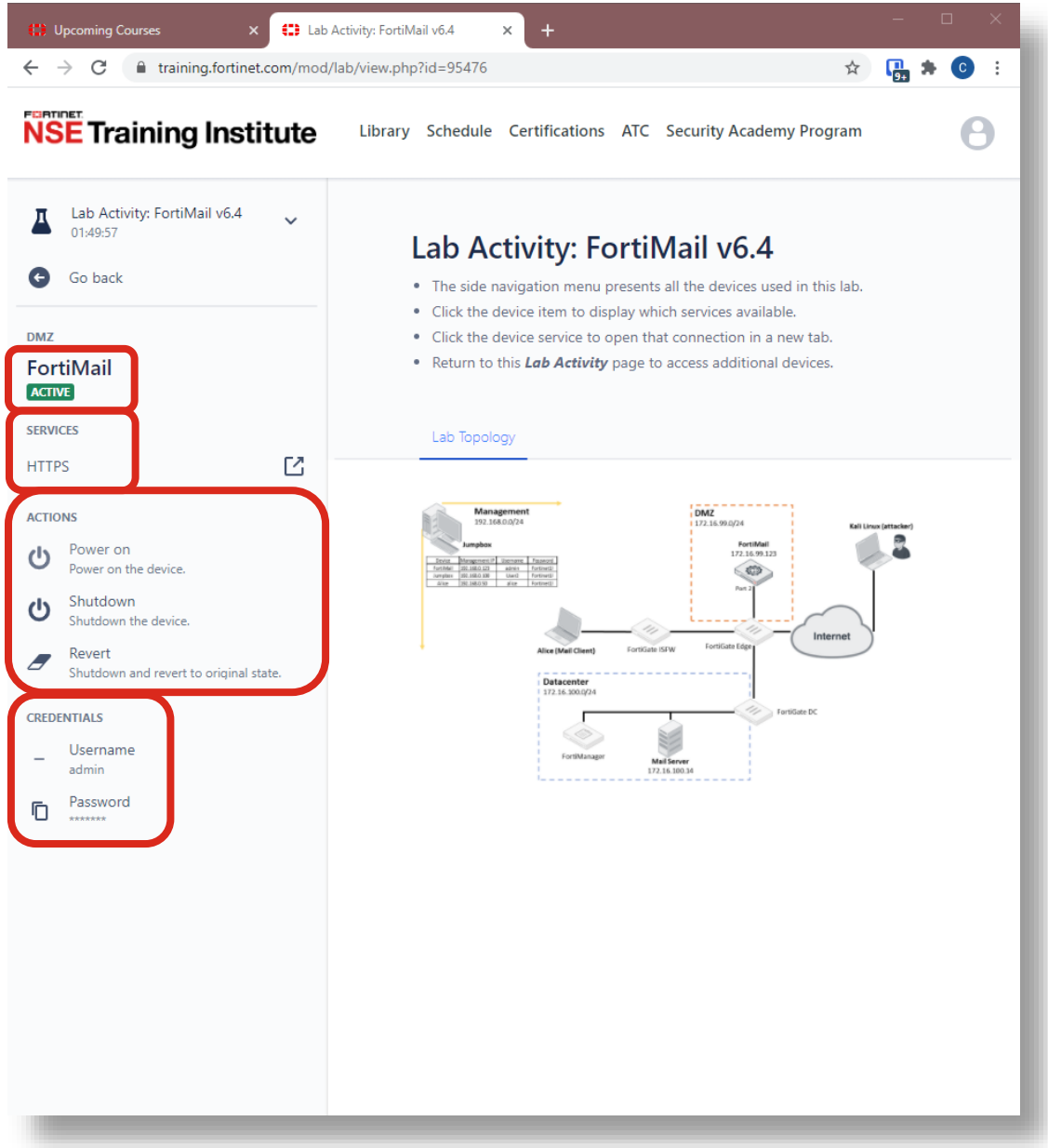
Task Objective

- Task success is determined by script after clicking **Continue**
- **Success** or **Failure** will be indicated on the **status bar**
- **Solve** may be available on some objectives (use with caution)



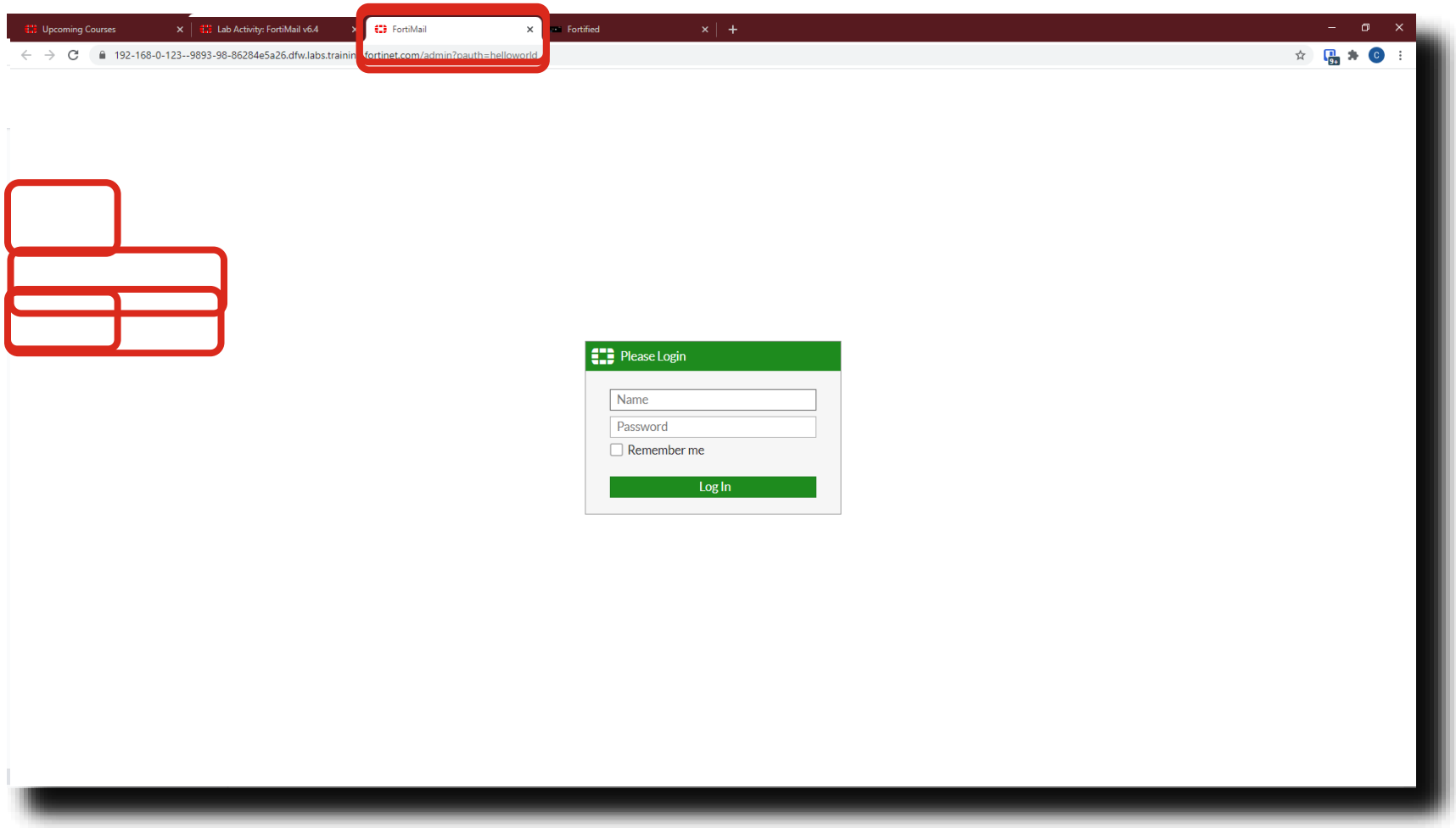
Device Access

- Status
  - Active / Inactive / Unknown
- Services
  - RDP / HTTPS / SSH
  - Click to open in a new tab
- Actions
  - Power on / Shutdown / Revert
- Credentials
  - Click to copy to clipboard



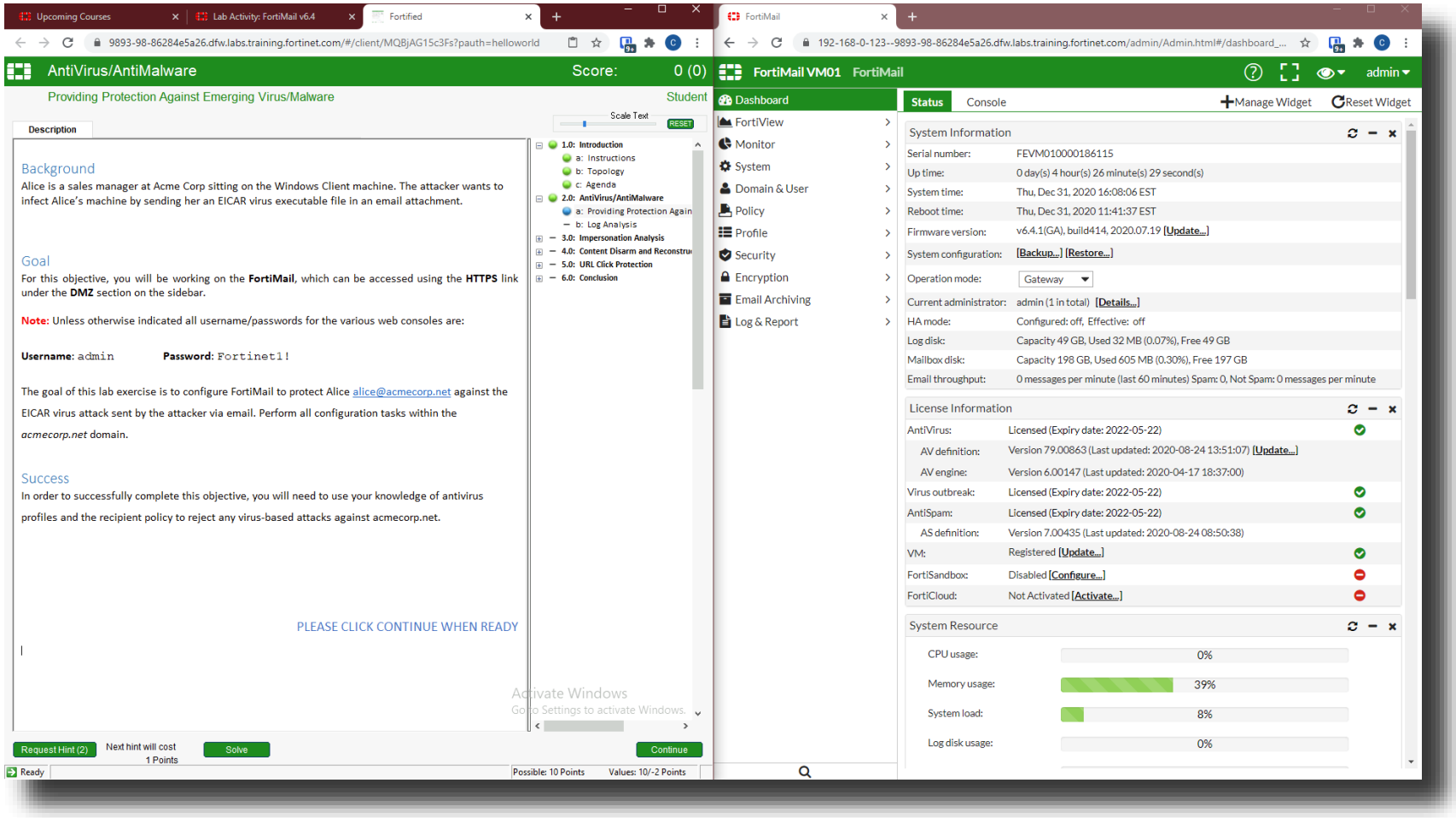
Window Adjustments

- Access the FortiFIED lab guide
- Access any other device



Window Adjustments for Single Monitors

- Drag tab from browser to separate
- Place windows side-by-side according to personal preference
- Complete hands-on lab



Use Tablet as a Secondary Monitor

- Open the browser and go to https://training.fortinet.com
- Log in and find your Fast Track course that is in progress
- Access devices as normal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