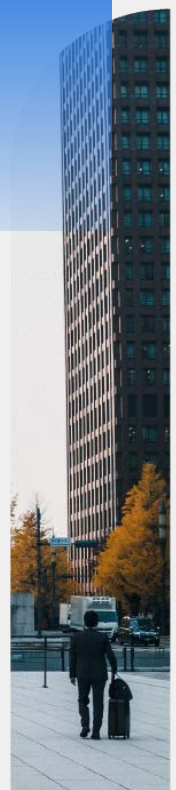
ZTNA-Intergration von zero Trust-Strategien

Forti Client



Controlware Security Day 2022

Need for Security Platform

Through 2021,
99% of vulnerabilities exploited will continue to be ones known by security and IT professionals for at least one year.

Need for Cyber Hygiene

Global Workplace Analytics

25-30% of the workforce will be working-from-home multiple days a week by the end of 2021

Work From Anywhere

Ponemon INSTITUTE

68% IT security professionals say their company experienced one or more endpoint attacks

Endpoint Protection Needed

Sources:

1. Gartner, Craig Lawson
2. Global Workplace Analytics
3. The Third Annual Study on the State of Endpoint Security Risk, Ponemon Institute, 2020

Fortinet Security Fabric

Broad

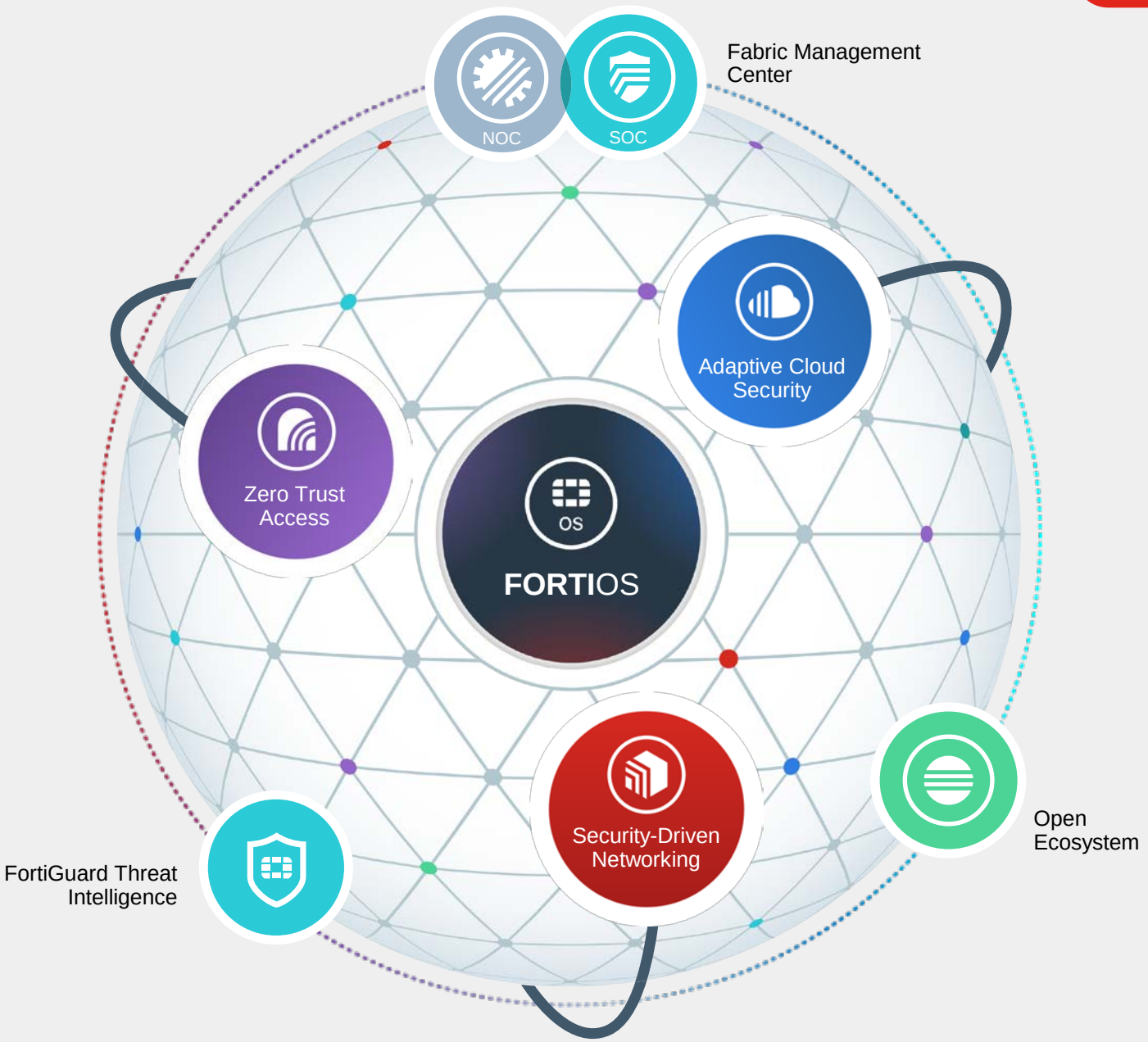
visibility and protection of the entire digital attack surface to better manage risk

Integrated

solution that reduces management complexity and shares threat intelligence

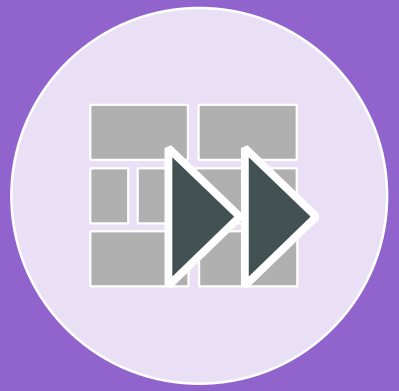
Automated

self-healing networks with AI-driven security for fast and efficient operations



FortiClient Integrated Threat Detections

THREAT INTELLIGENCE



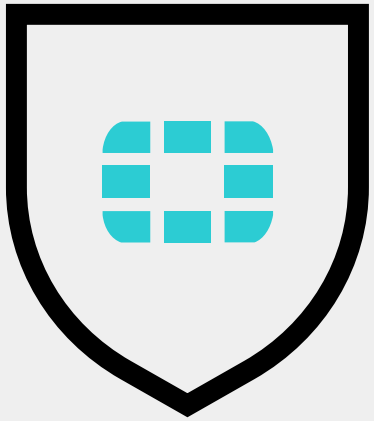
NEXT GEN FIREWALL

FILE DETONATION/ SANDBOXING

FORTIGUARD LABS

ANALYTICS & UEBA

FortiGuard



FortiGuard Labs Research

Fortinet's elite threat intelligence and research organization

Global Leadership & Collaboration

- Co-founded the Cyber Threat Alliance (CTA)
- Co –founded the World Economic Forum's Center for Cybersecurity

Threat Research with Actionable Insights

- Zero Day Research
- Adversary Playbooks

ML/AI Development and Training

- Leveraging AI/ML to provide timely and consistently top-rated protections

FortiGuard Security Services

Subscription Services providing automated updates to the Security Fabric

FortiGuard Labs Consulting

Before the Attack

- Penetration Testing
- Focused Threat Analysis
- Anti-Phishing Service
- Security Architecture Evaluation

During the Attack

Real-time security protection updates

After the Attack

Incident Response

Security Mastery

Cybersecurity workshops

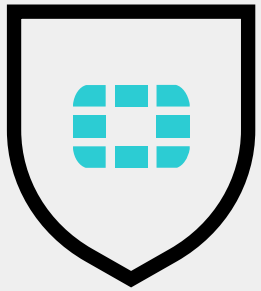
FortiGuard Security Services by Numbers

462K
Malicious Website Accesses Blocked Per minute

15M
Botnet C&C Attempts Thwarted Per minute

906
Zero Day Threats Discovered

136K
Phishing Blocked Per Minute



904K
Malware Programs Neutralized Per Minute

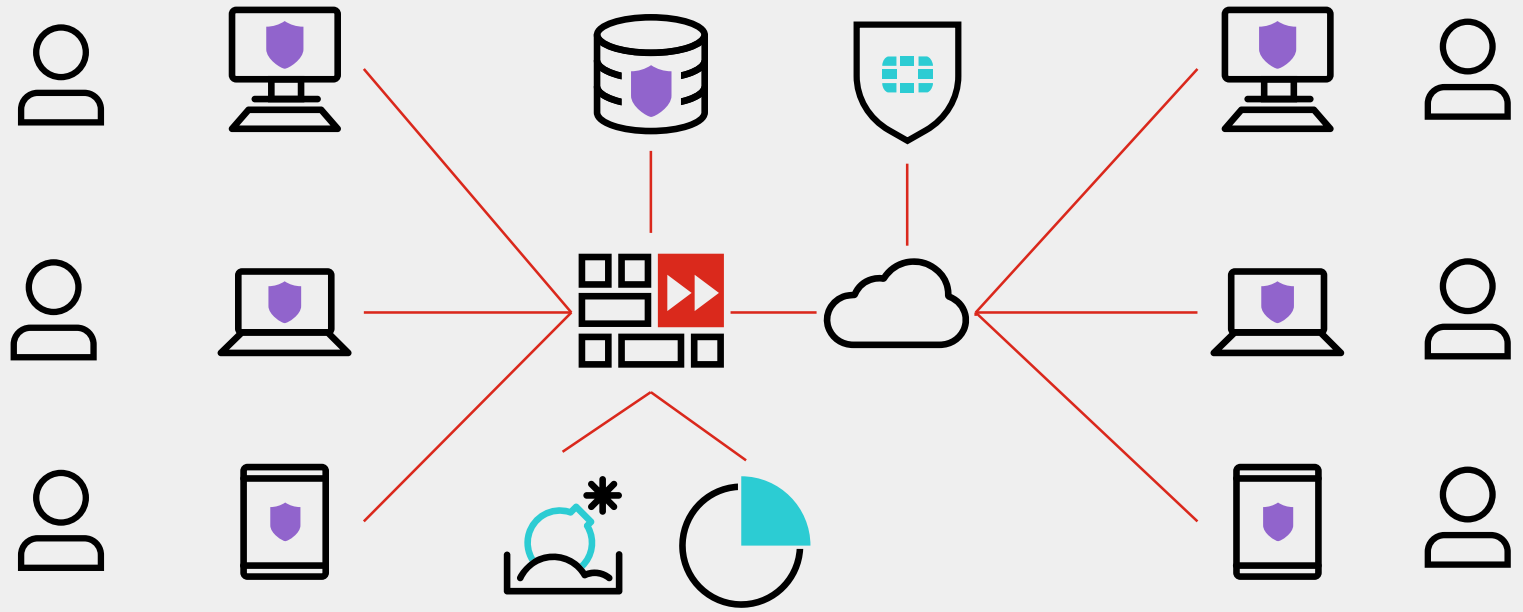
609K
Threat Research Globally Per Week

1.2 PB
Of Threat Samples

Near Zero
False positives per month

Zero Trust Access—Device Visibility & Control

FortiClient for Fabric Agent, Remote Access, and Endpoint Protection



Hygiene Control	Secure Remote Access	Endpoint Protection
Vulnerability scanning FortiGuard Web Filtering Patching Policy Dynamic grouping	Zero Trust Network Access (ZTNA) Secure Access Services Edge (SASE) Single Sign On (SSO) VPN (IPSec & SSL)	FortiGuard ML-based AV Sandbox & Sandbox integration Anti-exploit Automated containment

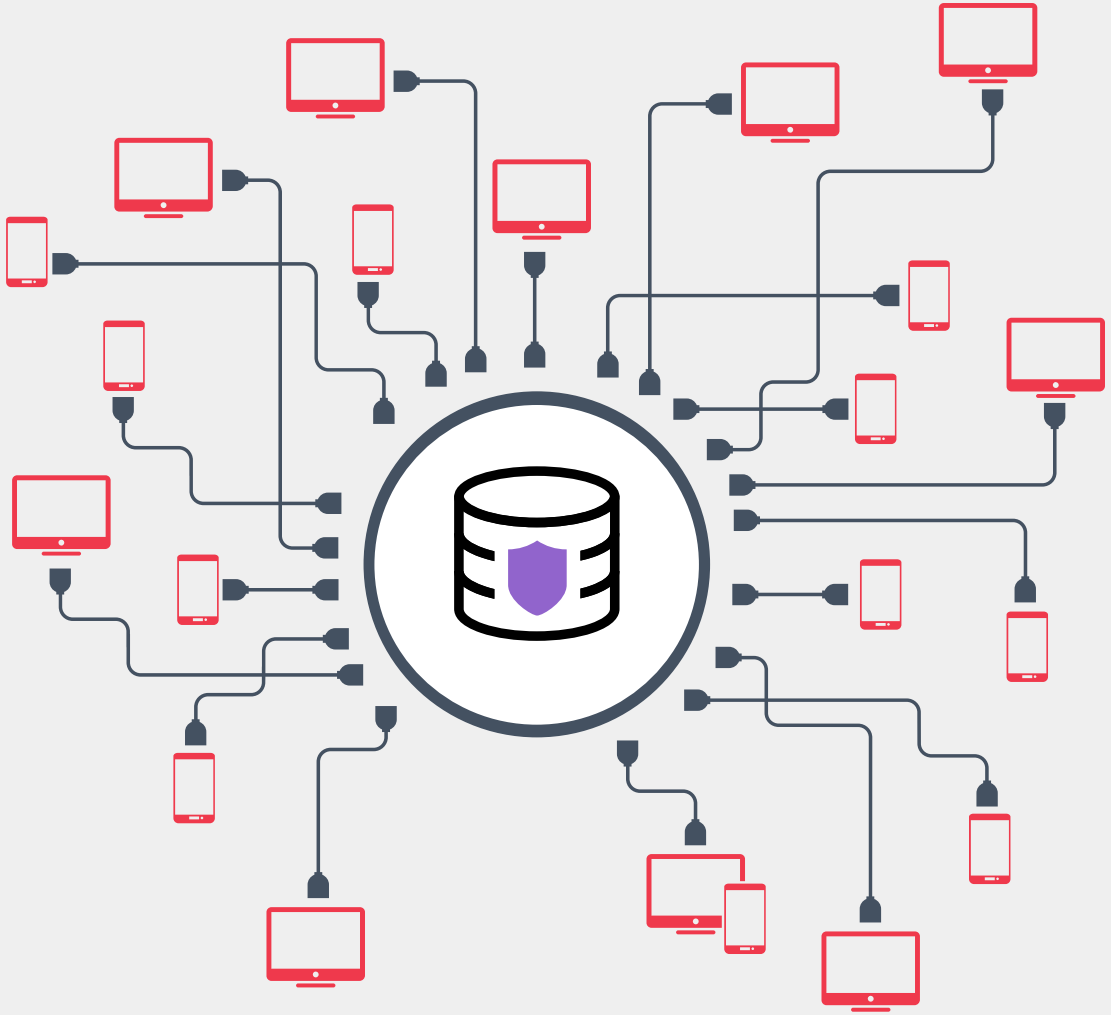
FortiClient Components

	VPN/ZTNA	EPP/APT
IT Hygiene/Fabric Agent		
Telemetry, Central Logging & Reporting	✓	✓
FortiGuard Web Filtering	✓	✓
Vulnerability & Remediation	✓	✓
USB Device Control	✓	✓
Secure Remote Access		
ZTNA Agent	✓	✓
SSL VPN	✓	✓
IPSec VPN	✓	✓
Protection		
FortiSandbox Integration (on-prem & cloud)	✓	✓
FortiClient Cloud Sandbox		✓
FortiGuard AI-powered NGAV		✓
Automated Quarantine		✓
Ransomware Protection		✓

Centralized Management

Enterprise Management System (EMS) or FortiClient Cloud

- Configure, deploy and manage FortiClient
  - Integrate with LDAP and other enterprise systems
- Real-time endpoint monitoring
- Threat summary, alert and notification
- Remote actions
  - Anti-malware scanning
  - Vulnerability scanning
  - Endpoint quarantine
- Software Inventory
- File quarantine management
- Highly scalable



FortiClient Components

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Automated Quarantine		✓
Ransomware Protection		✓

Fabric Agent Use Case

- Risk-based visibility
  - Identify unpatched vulnerabilities with patching options
  - Software inventory for visibility on installed application and versions
- Integrated and automated
  - Integrated with the Security Fabric
  - Automated response to contain incidents
- Compatibility with 3rd party vendors

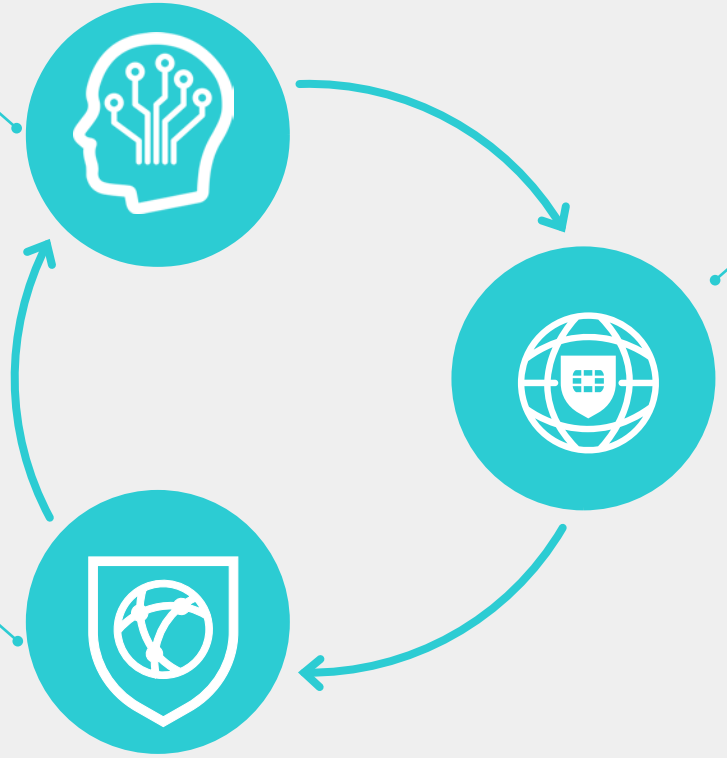
FortiGuard Web Filtering

AI-Analysis at Scale

- Supervised & unsupervised learning models
- Trained on large & diverse dataset from FortiGuard Labs

Defense in Depth

- Full spectrum of web protection against unknown & known threats
- Multiple layers of defense with near-zero false-negatives



Consistent Web Posture

- Across network, endpoints, and cloud
- Flexible Proxy Deployment (Explicit, Transparent, inline)

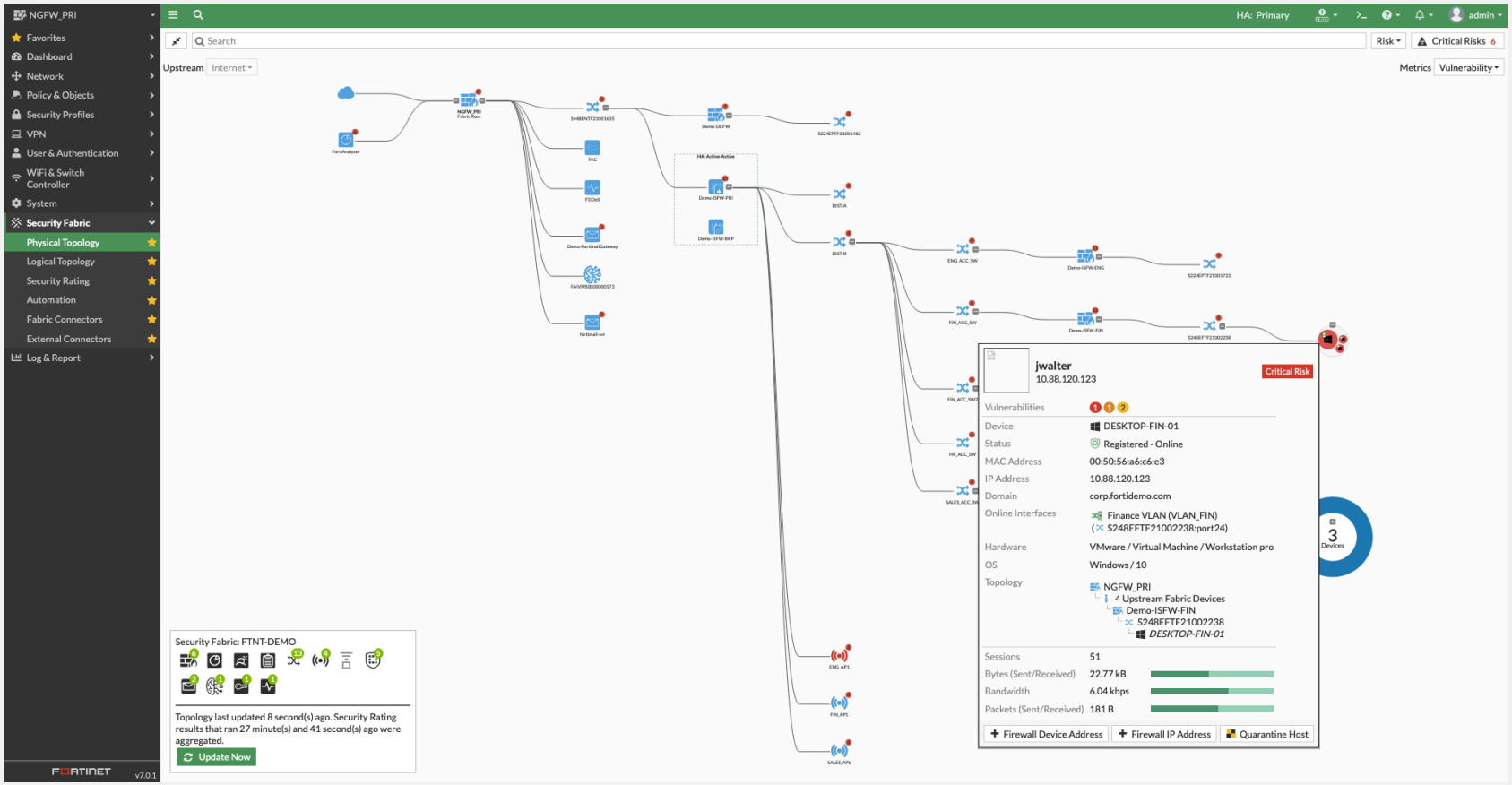
Vulnerability Name	FortiGuard ID	CVE ID	Category	Affected Endpoints	Patch Type
Cumulative Security Update for Internet Explorer	1492	CVE-2016-0178	OS	3	Patch
Firefox SVG Animation Remote Code Execution	31801	CVE-2016-9079	Browser	3	Patch
Sandbox restrictions not applied to nested frame elements	26051	CVE-2016-3223	AntiVirus	2	Patch
Security update available for Adobe Reader APSB17-01	38632	CVE-2017-2939	OS	2	Scheduled
Security Update for Group Policy					Scheduled
Security Update for Microsoft Graphics Component					Scheduled
Security Update for Microsoft RPC					Scheduled
Security Update for Microsoft Windows to Address Remote Code Executio					Scheduled
Security Update for Microsoft XML Core Services					Scheduled
Security Update for Netlogon					Scheduled
Security Update for Windows Print Spooler Components					Scheduled
Security Update for Windows Shell					Scheduled
Security Updates Available for Adobe Acrobat and Reader APSB16-09					Scheduled
Security Update for Adobe Flash Player					Scheduled
Security Vulnerability CVE-2016-5183 for Google Chrome					Scheduled
Security Vulnerability CVE-2016-5182 for Google Chrome					Scheduled
UI selection timeout missing on download prompts	26255	CVE-2016-0146	AntiVirus	1	Scheduled
Use after free mutating DOM during SetBody	22566	CVE-2016-0139	AntiVirus	1	Scheduled
WebGL content injection from one domain to rendering in another	27578	CVE-2016-0274	AntiVirus	1	Scheduled

Affected Endpoints

Hostname	User	Last Seen	Scan Time
AHarris-PC	Andrew	2017-02-05 12:32:21	2017-02-05 12:32:21
km-ftnt-PC	admin	2017-02-04 18:25:45	2017-02-04 18:25:45
TiaraQuan-PC	Administrator	2017-02-04 09:15:22	2017-02-04 09:15:22

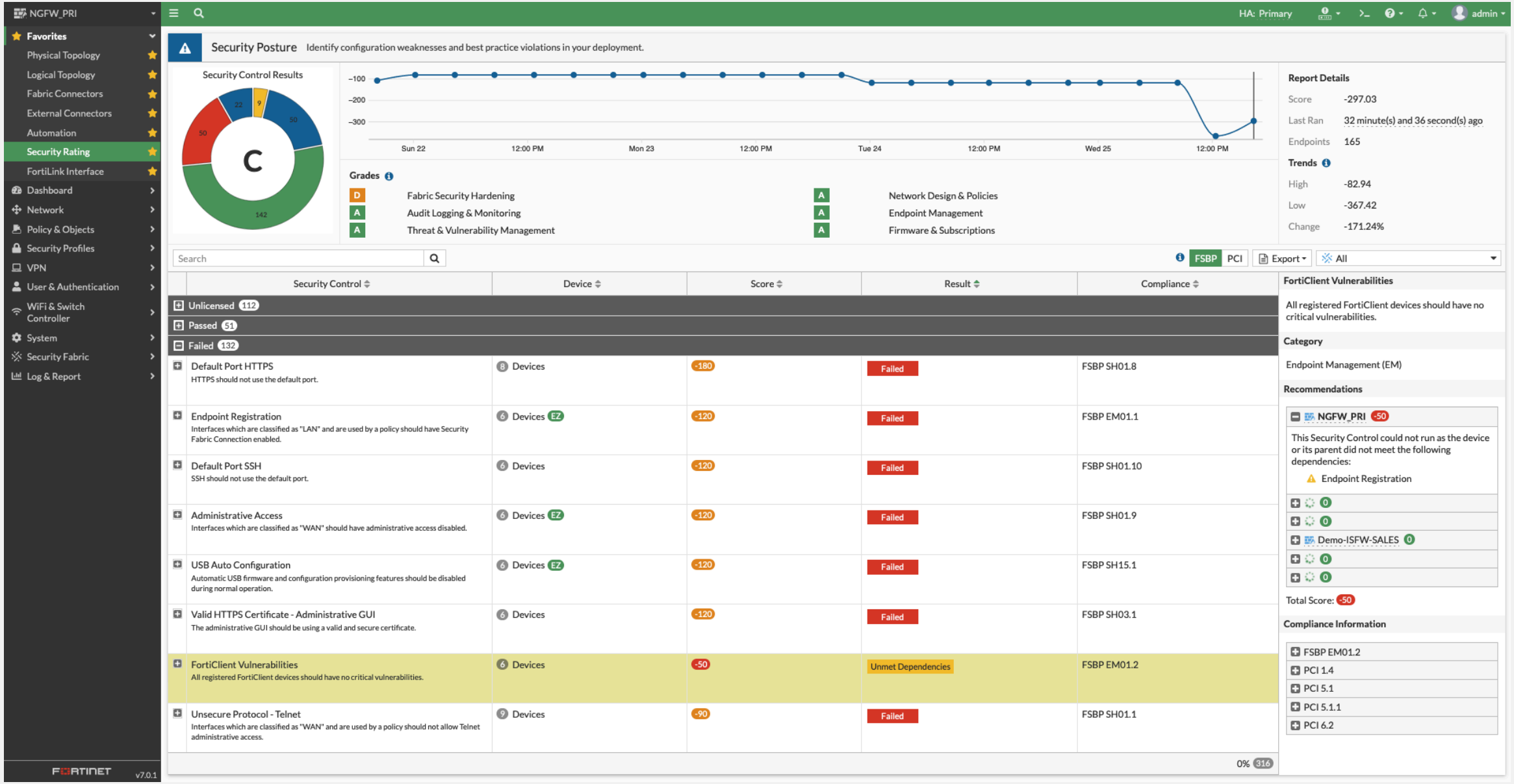
OK

Risk Visibility In The Network Context Endpoint Telemetry

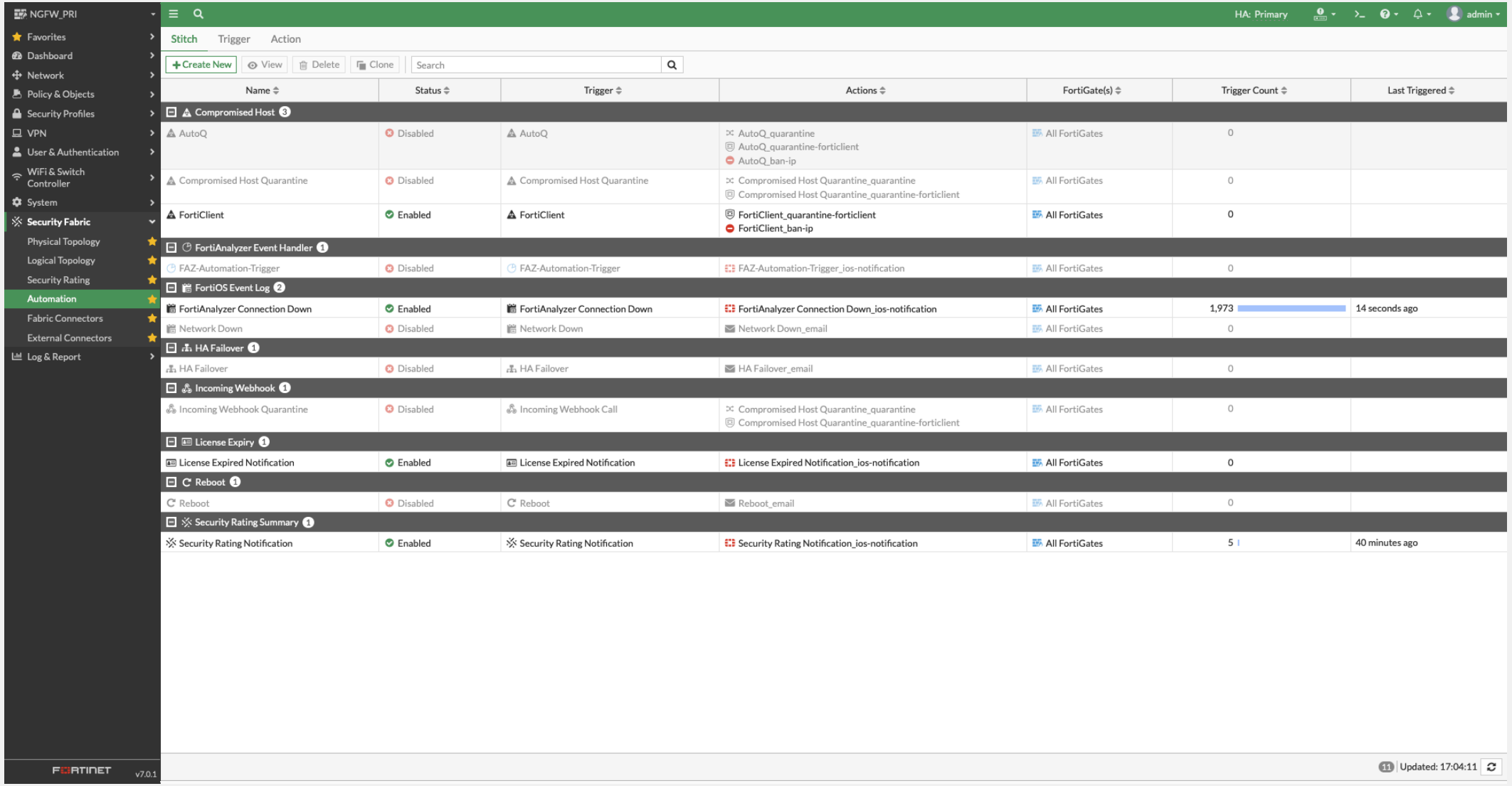


- Device information
  - OS
  - Co-relate multiple MAC
- FortiClient Status
- Endpoint Vulnerabilities
- Logged-in User
- User Avatar
- Social IDs
- Online/Off-line
- Endpoint events and logs

Security Rating

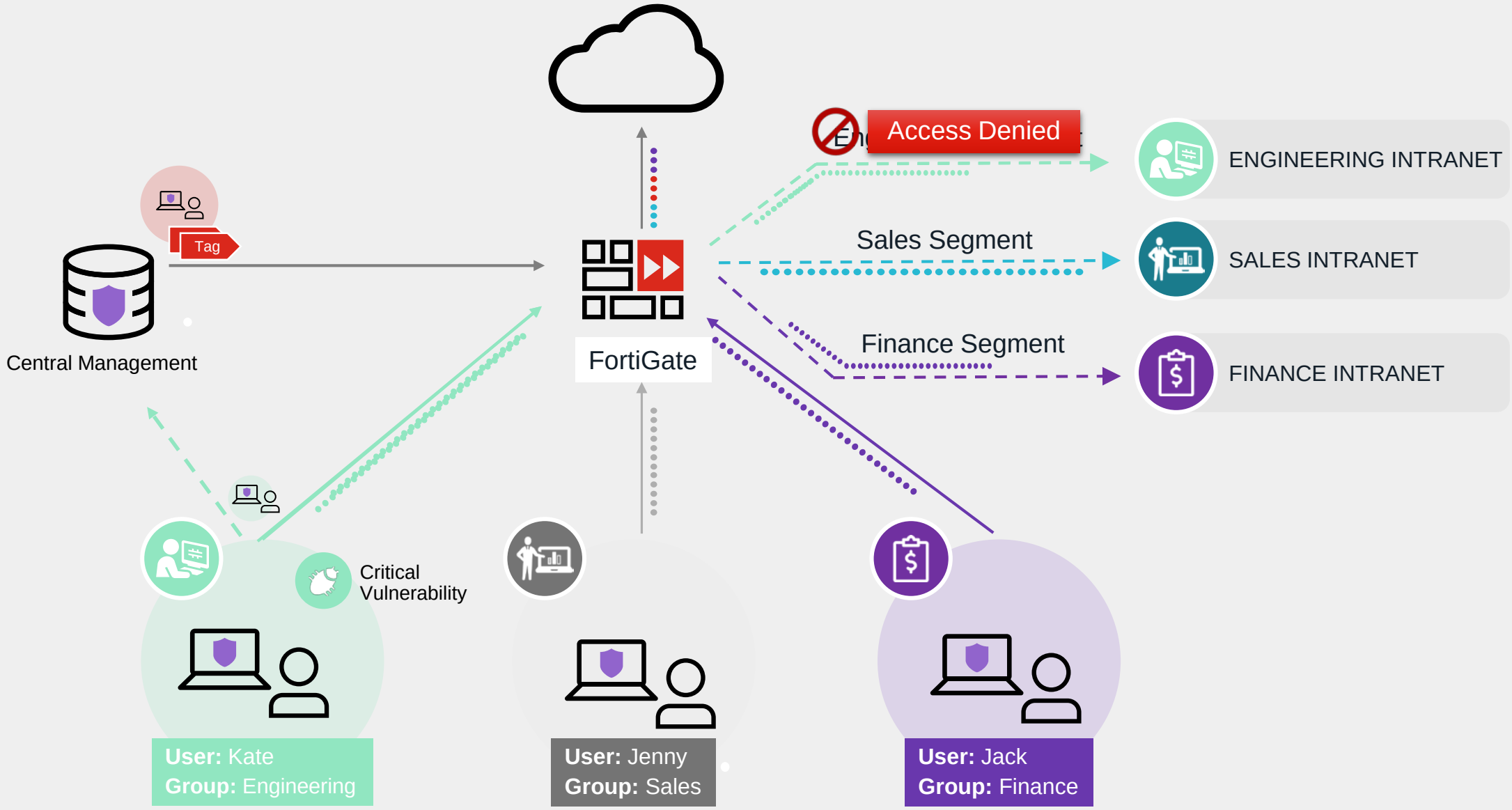


Automation



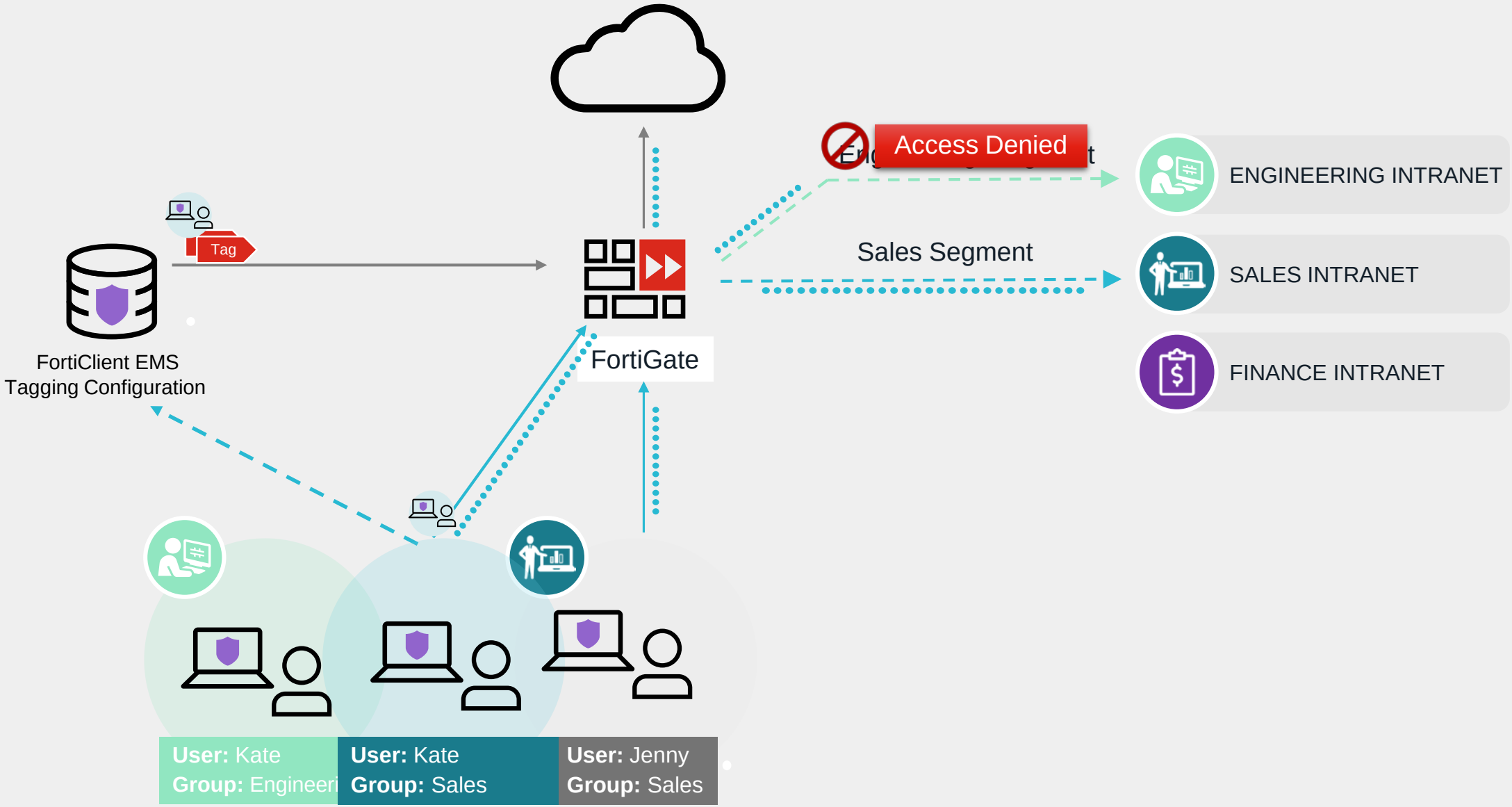
Zero-Trust Access Control

Use Case: Block Access for Security Risk Endpoints



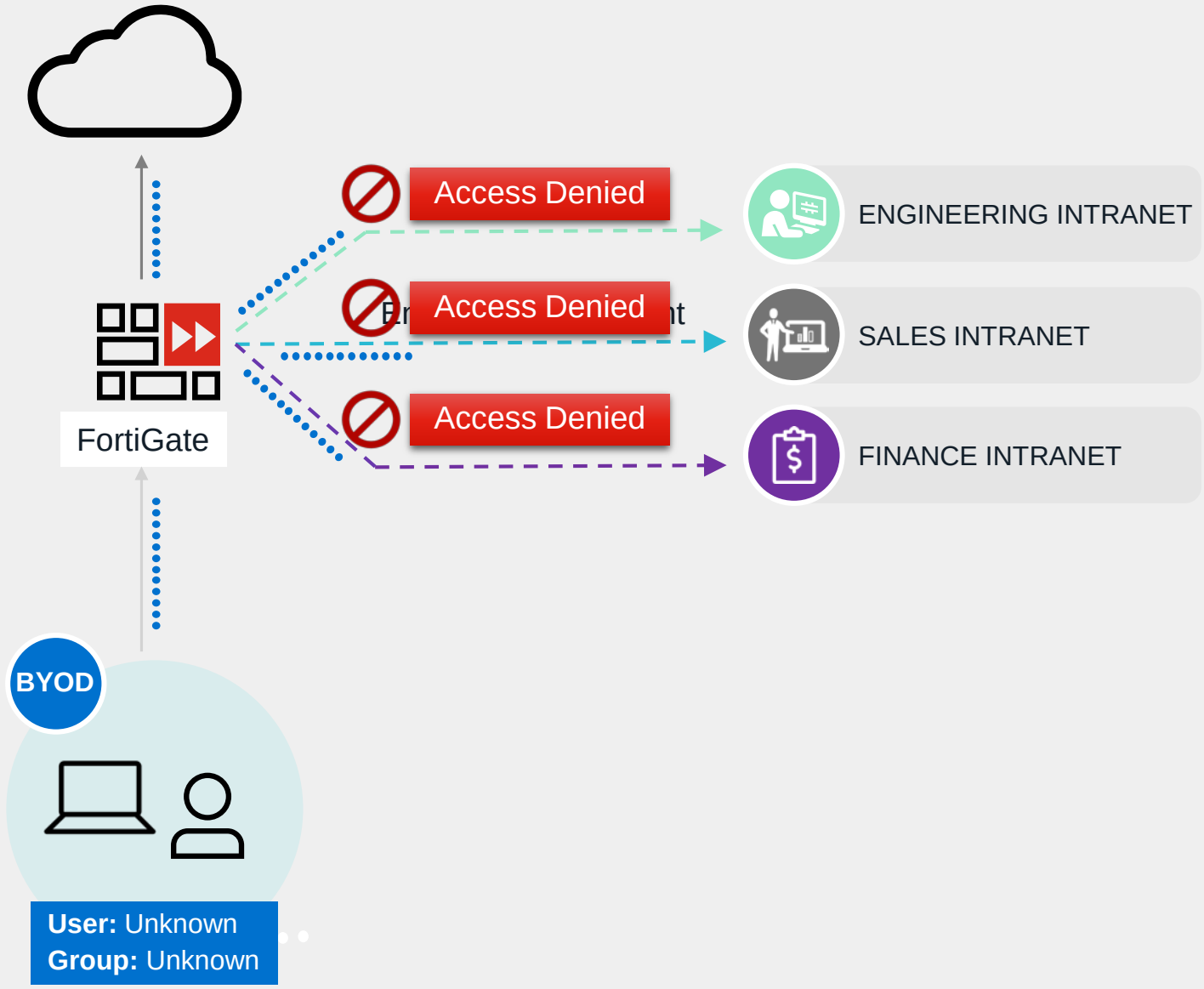
Zero-Trust Access Control

Use Case: Access Based on AD Groups



Zero-Trust Access Control

Use Case: Restricted Access for Unknown Endpoints



FortiClient Components

	VPN/ZTNA	EPP/APT
IT Hygiene/Fabric Agent		
Telemetry, Central Logging & Reporting	✓	✓
FortiGuard Web Filtering	✓	✓
Vulnerability & Remediation	✓	✓
USB Device Control	✓	✓
Secure Remote Access		
ZTNA Agent	✓	✓
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FortiSandbox Integration (on-prem & cloud)	✓	✓
FortiClient Cloud Sandbox		✓
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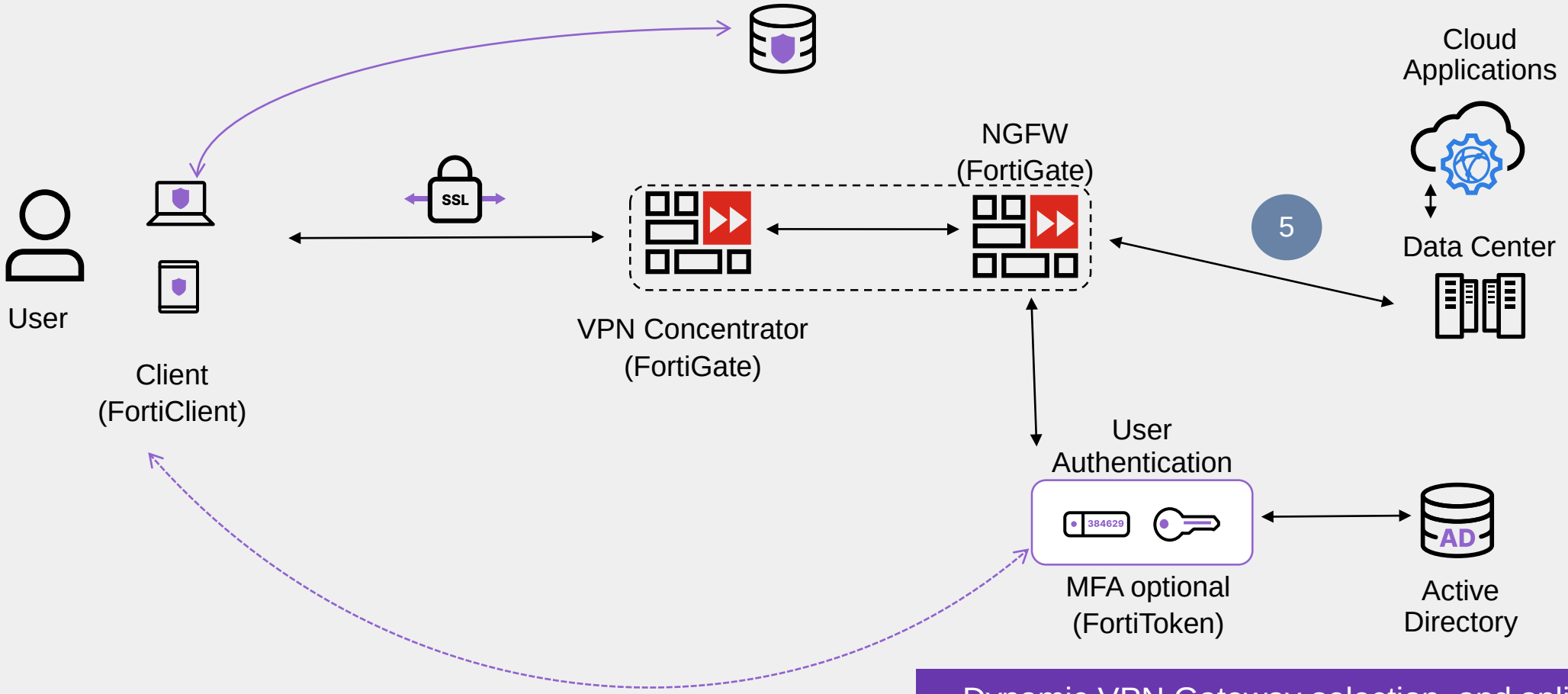
Automated Quarantine		✓
Ransomware Protection		✓

Virtual Private Networking (VPN) Technology

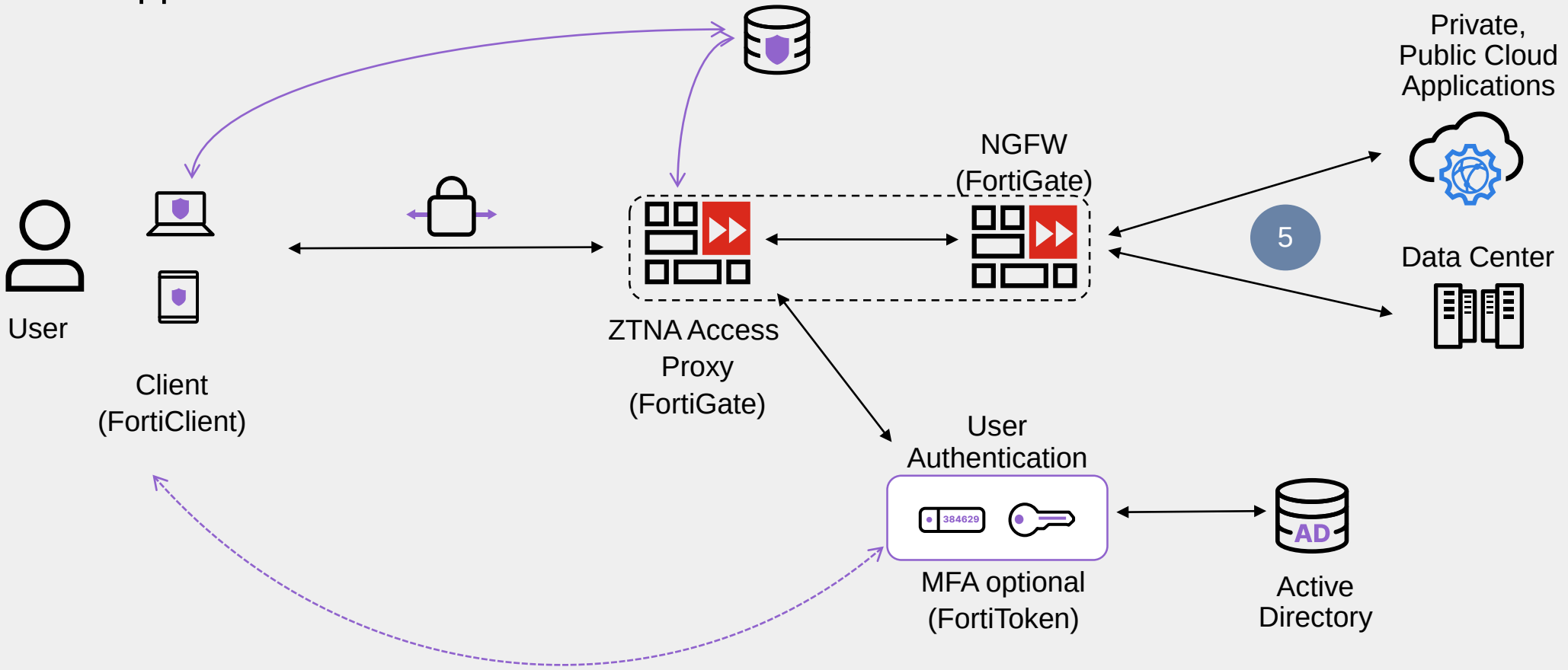
Access to the Network



- Dynamic VPN Gateway selection, and split tunneling
- Additional layers of security with MFA
- Single-Sign-on agent supports FortiAuthenticator

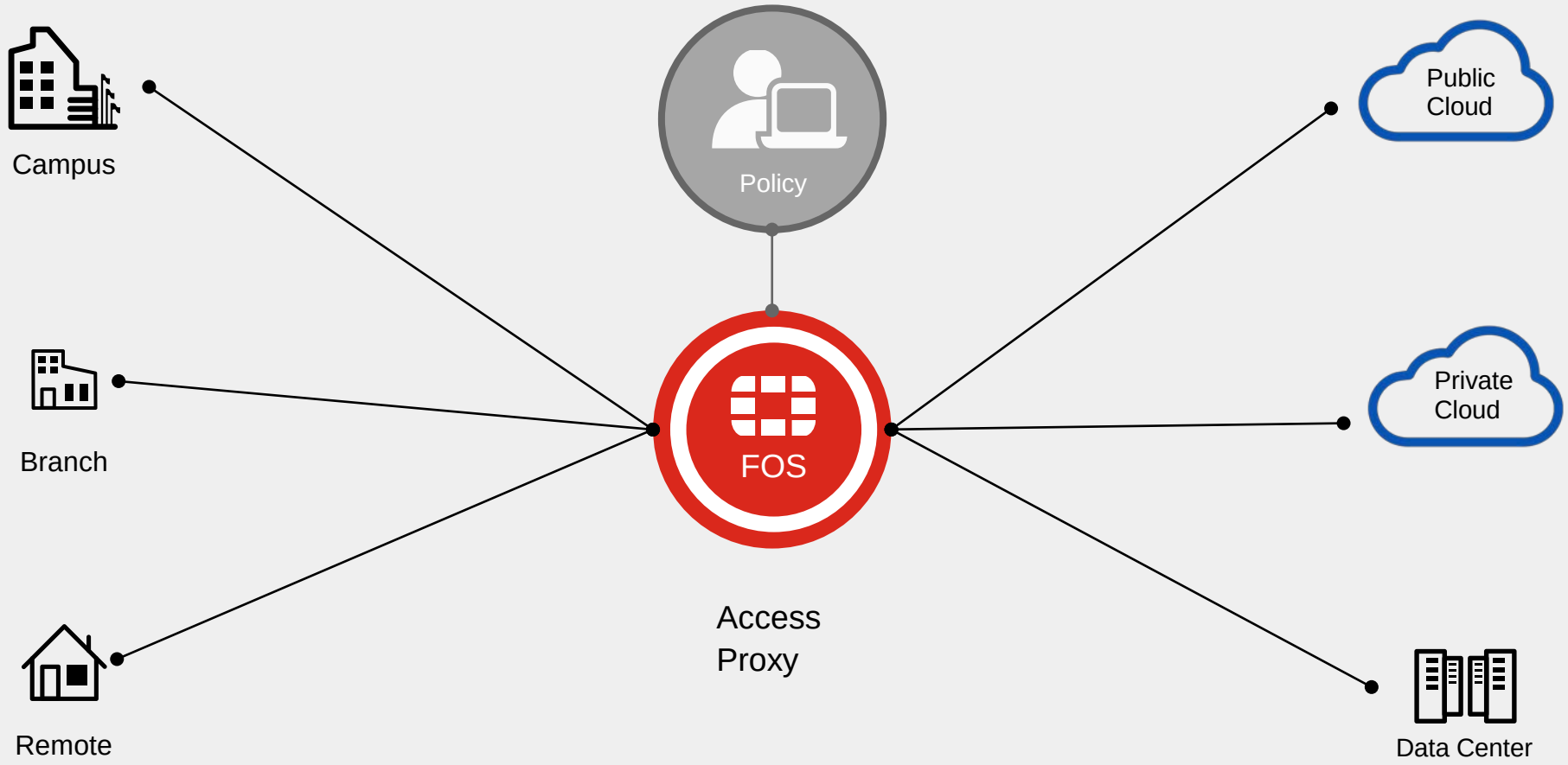
Zero Trust Network Access (ZTNA) Technology

Granular Application Access



- Automatic, transparent encrypted tunnels
- Split tunneling
- Per Session verification & identification
- Additional layers of security with MFA
- Single-Sign-on agent supports FortiAuthenticator

ZTNA Flexible Architecture



Wherever the user is

Verified user identity, device identity & posture check prior to access

Wherever the application is

Fortinet’s ZTNA

What’s it made of? Existing Fortinet Security Fabric Products

Core Elements

FortiGate

FortiClient / Central Management

- FortiGate builds the secure tunnel, maintains user group/application access table (FOS 7.0)
- FortiClient Central Management configures the ZTNA agent in FortiClient for the secure connection back to the FortiGate (FortiClient 7.0)
  - FortiClient Central Management: Either FortiClient EMS or FortiClient Cloud
- Authentication Solution
  - FortiAuthenticator, FortiToken or any 3rd party supported by the Security Fabric

Fortinet ZTNA advantages

Complete coverage vs. other ZTNA solutions

- Leveraging existing investments in on-prem Firewalls
  - Most ZTNA solutions are SASE-only options with expensive charges for company-wide coverage
  - Leverage SD-WAN, SD-Branch capabilities

- Improved Security (“Secure ZTNA”)
  - Extend FortiGate protection to wherever you are
  - Traffic traversing Industry-leading FortiGate technology

- No Licenses Required
  - Simply a feature in FOS & FortiClient to turn on!

Evolution of VPN tunnels

Bringing Zero Trust principles to remote access

- Ongoing verification
  - Per session user identity checks
  - Per session device posture checks (OS version, A/V status, vulnerability assessment)
- More granular control
  - Access granted only to specific application
  - No more broad VPN access to the network
- Easier user experience
  - Auto-initiates secure tunnel when user accesses applications
  - Same experience on and off-net

FortiClient Components

	VPN/ZTNA	EPP/APT
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Detect and Block Malware and Advanced Threats

Sandbox Integration

- Detect advanced or custom malware
- Automatic file submission for analysis
- Threat intelligence sharing across enterprise

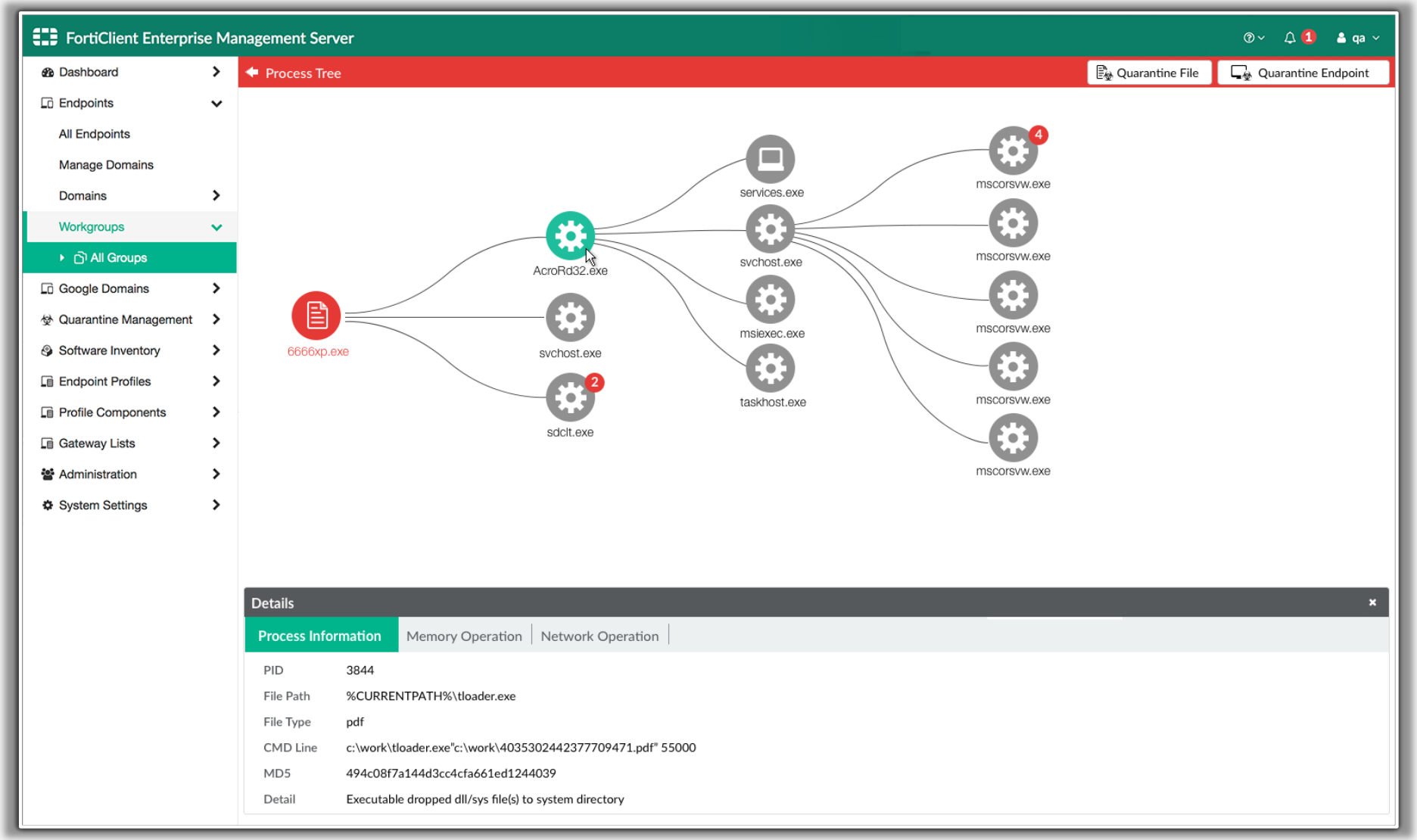
Anti-Malware

- Pattern-based (CPRL) antimalware engine
- Detect polymorphic malware
- Block known attack channels and malicious website
- Big data analysis, machine learning and AI in the Cloud

Anti-Exploits (exploit protection)

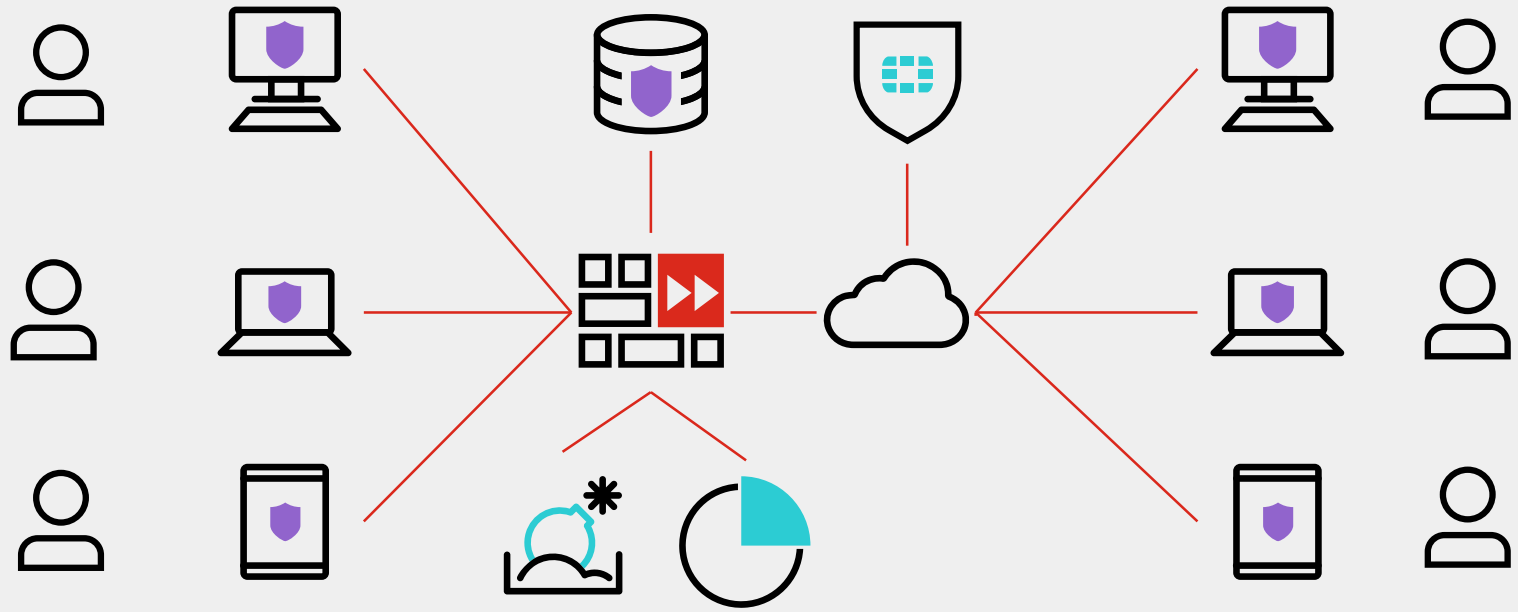
- Behavior-based detection
- Can detect Advanced malware and ransomware typically package an exploit
- Prevents attacks that leverage PowerShell or other scripts

Enhanced FortiSandbox Integration



Zero Trust Access—Device Visibility & Control

FortiClient for Fabric Agent, Remote Access, and Endpoint Protection



Fabric Agent & Hygiene Control	Secure Remote Access	Endpoint Protection
Vulnerability scanning FortiGuard Web Filtering Patching Policy Dynamic grouping	Zero Trust Network Access (ZTNA) Secure Access Services Edge (SASE) Single Sign On (SSO) & SAML support VPN (IPSec & SSL)	FortiGuard ML-based AV Sandbox & Sandbox integration Anti-exploit Automated containment


FORTINET

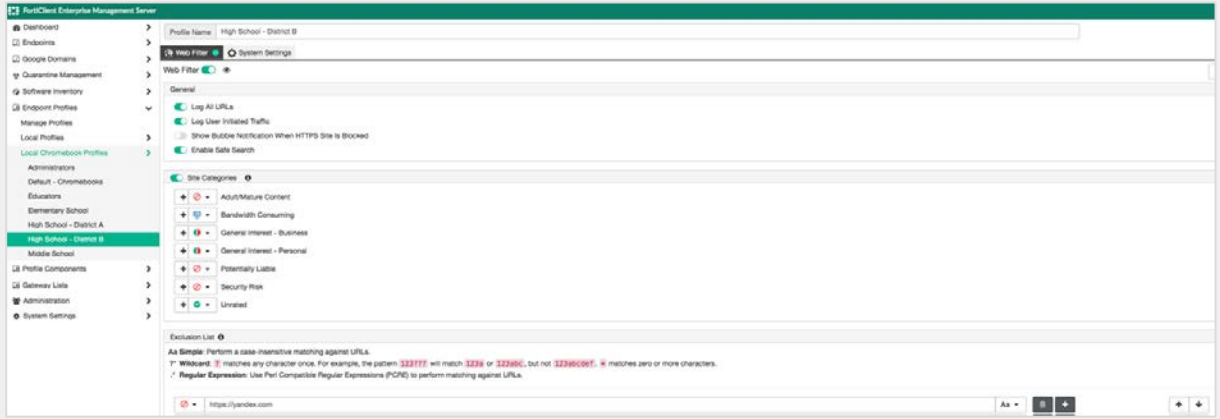
Education

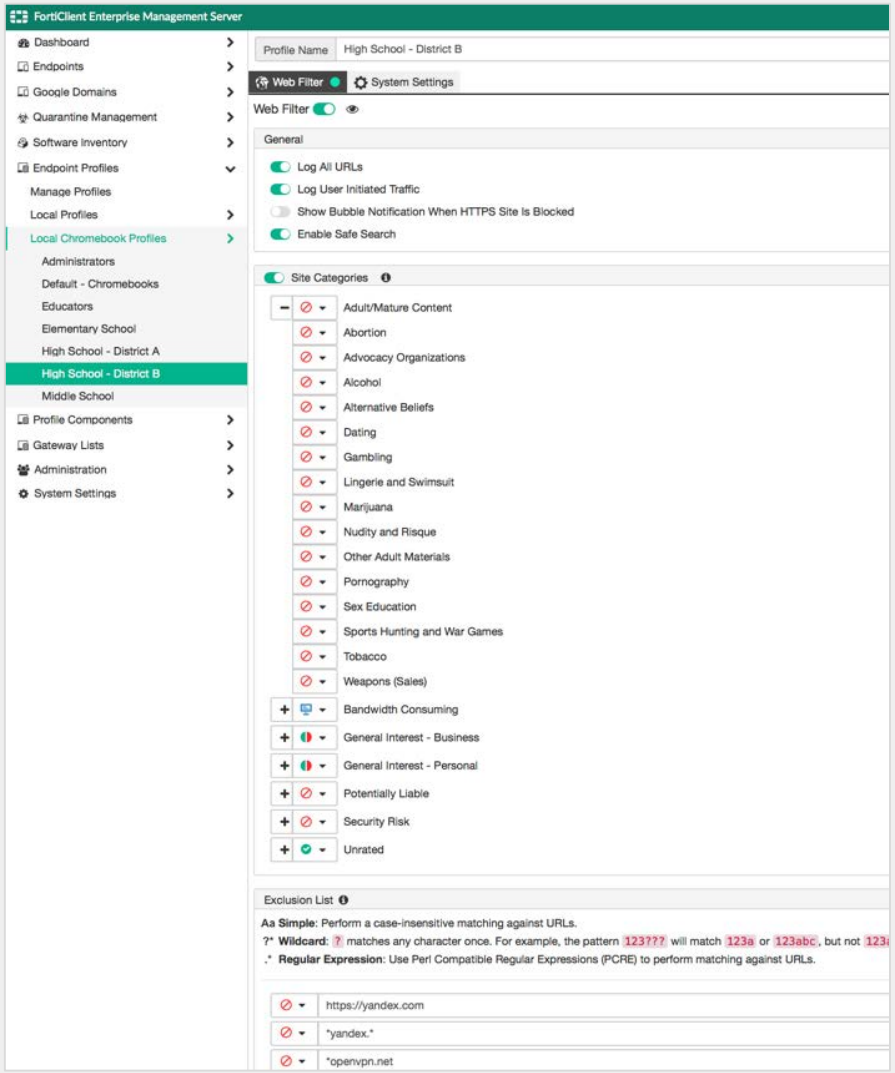
Protecting Students on the Internet

- Students must be protected from inappropriate content
- Internet browsing must be transparent—visible/logged/reported

Web Filtering

- 75+ URL categories
- More than 43 million rated websites, and 2 billion+ web pages
- Works with Google Safe Search
- Includes whitelisting and blacklisting of websites
- Monitor all web browser activity





Web Filtering Across all Popular OSs

	WINDOWS	MAC OS X	ANDROID	iOS	ChromeBook	Linux
SECURITY FABRIC COMPONENTS						
Endpoint Telemetry[1]	✓	✓	✓	✓	✓	✓
Compliance Enforcement[1]	✓	✓	✓	✓		✓
Endpoint Audit and Remediation with Vulnerability Scanning[1]	✓	✓				✓
Automated Endpoint Quarantine	✓	✓				
HOST SECURITY AND VPN COMPONENTS						
Antivirus	✓	✓				✓
Anti-Exploit	✓					
Sandbox Detection	✓					✓ *
Web Filtering[2]	✓	✓	✓	✓	✓	
Application Firewall[1]	✓	✓				
IPSec VPN	✓	✓	✓	✓		
SSL VPN[3]	✓	✓	✓	✓		✓


FORTINET

Endpoint & Network Security Integration Check List

Visibility & Control	Threat Intelligence Sharing	Alert Resolution	Automation	Open Ecosystem
✓ Can you see all devices and identify them?				
✓ Can you monitor the device and associated risks? i.e. unpatched vulnerability? Outdated applications? Indicator of compromise?				
✓ Enforce control on a network level? Ensure security hygiene?				
✓ Threats intelligence aggregated to the vendor's "cloud" then push down?				
✓ Can threats intelligence discovered in one endpoint/location shared in real time instantaneous with the rest of the enterprise regardless of its location?				
✓ Alert resolution? Threat verification?				
✓ Can you set policy to automate response—contain threats automatically, quarantine compromised hosts?				
✓ How open is the integration?				

Endpoint Product Positioning