Cloud Service Provider Security Posture

Ensuring Security in Cloud Computing

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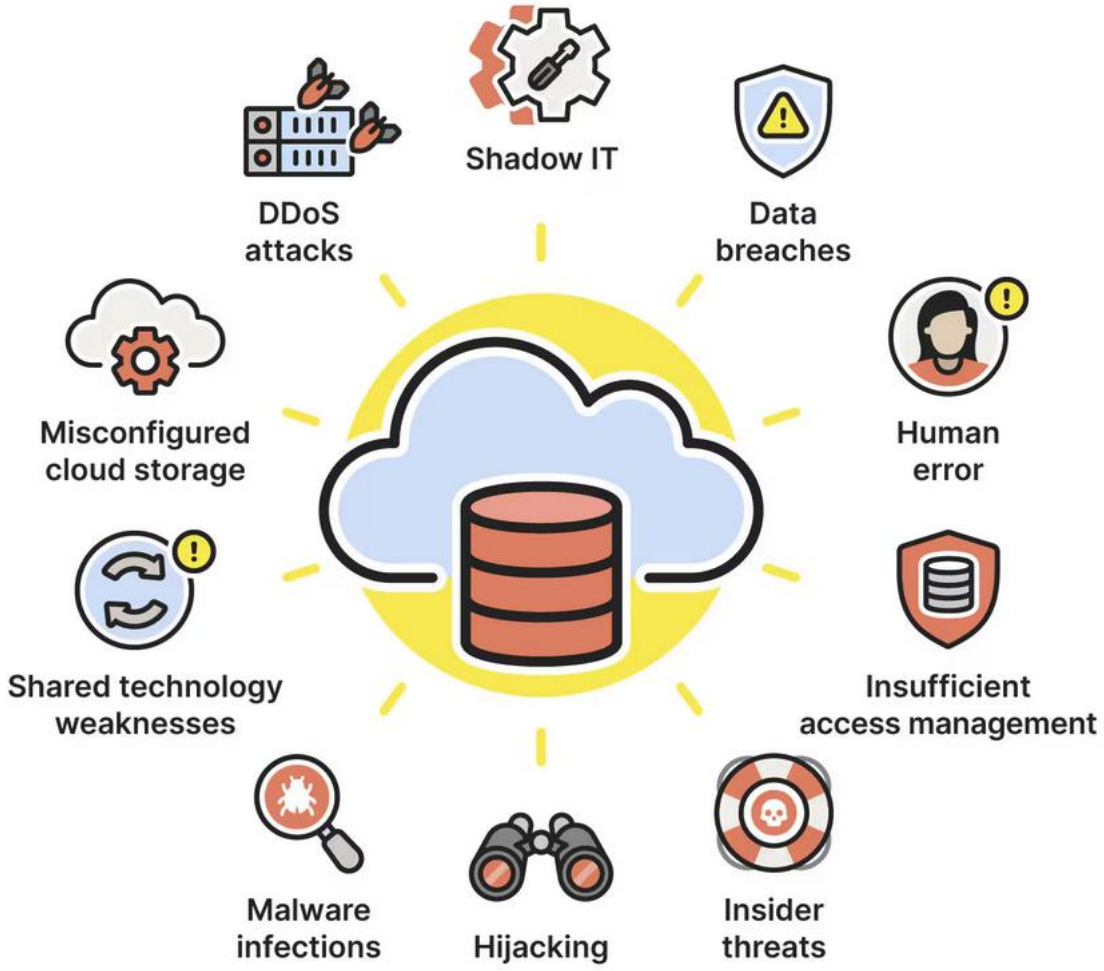
Challenges and Risks

Common Security Risks and threats:

Data breaches
Insider threats
Misconfigurations
Lack of compliance

How CSPs Address These Risks:

Continuous monitoring and threat intelligence
Security training and best practices for users
Regular security audits and compliance checks



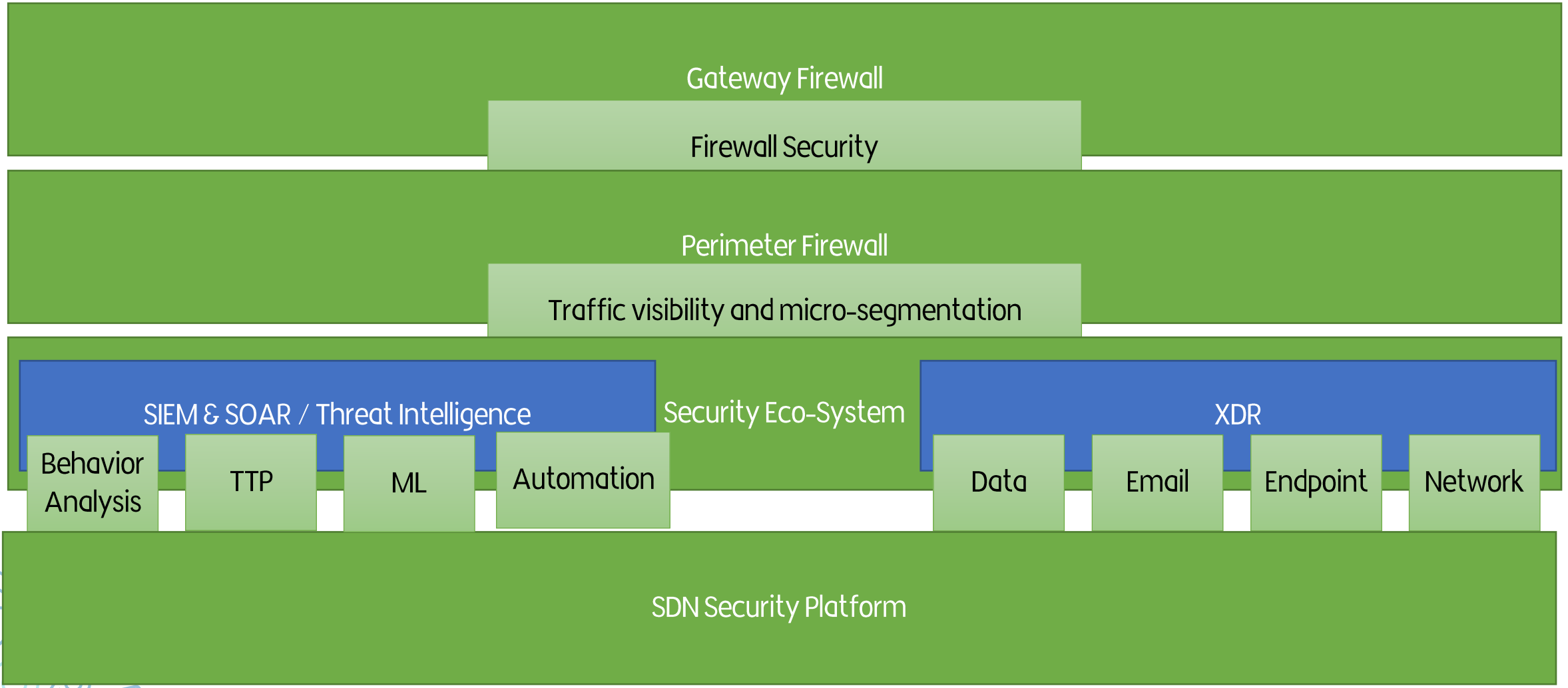
CSP Security Stack

Cloud Service Providers (CSPs) offer a comprehensive security stack to ensure the protection of data, applications, and infrastructure within the cloud. This stack includes various components that work together to provide robust security.

Components

- Identity and Access Management (IAM): Manages user identities and controls access to resources.
- Data Protection: Ensures data is encrypted both at rest and in transit.
- Network Security: Protects against network-based threats through firewalls, DDoS protection, and secure configurations.
- Security Monitoring and Incident Response: Continuously monitors the cloud environment for threats and provides tools for incident response.
- Compliance and Governance: Ensures adherence to industry standards and regulatory requirements.
- Application Security: Protects applications from vulnerabilities and attacks through secure development practices and runtime protection.

Sohobcom Security Stack



Identity and Access Management (IAM)

Key Features:

- User Authentication: Ensures users are who they claim to be through passwords, biometrics, or multi-factor authentication (MFA).
- Access Controls: Assigns permissions to users and roles to control access to resources.
- Single Sign-On (SSO): Allows users to log in once and gain access to multiple systems without re-authenticating.

Benefits:

- Reduces risk of unauthorized access.
- Simplifies user management and improves user productivity.

Security Analytics

Key Features:

- Threat Detection: Identifies and responds to threats in real-time.
- Data Correlation: Correlates data from various sources to detect complex attacks.
- Incident Response: Provides tools for investigating and mitigating security incidents.

Benefits:

- Enhances visibility into security threats.
- Reduces response time to security incidents.

Unified Threat Protection

Key Features:

- Firewall: Controls incoming and outgoing network traffic.
- Antivirus: Scans for and removes malware.
- Intrusion Prevention System (IPS): Detects and blocks network-based attacks.

Benefits:

- Provides comprehensive protection against a wide range of threats.
- Simplifies security management with an all-in-one solution.

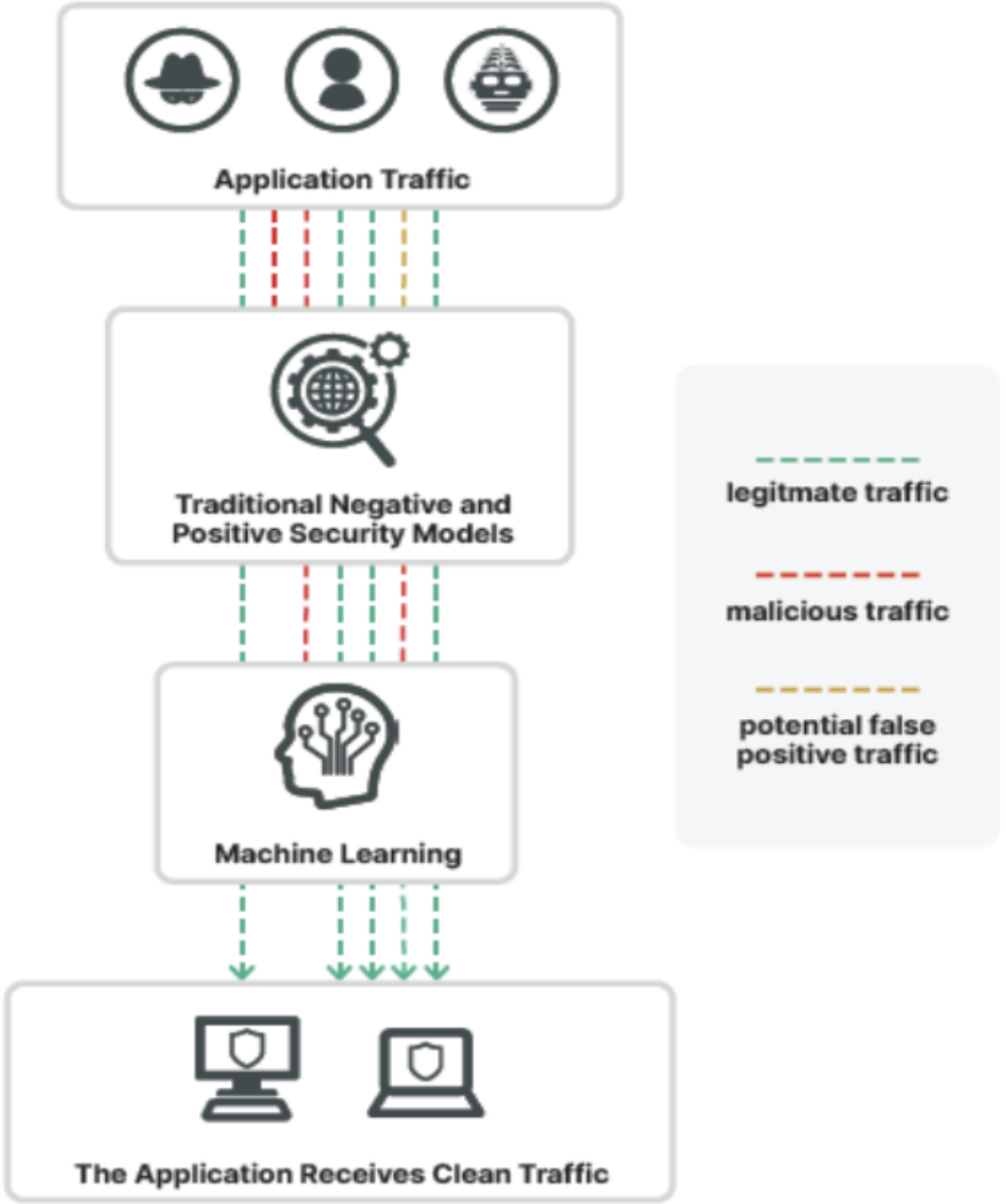
Web Application Firewall

Key Features:

- Web Application Security: Protects web applications from attacks like SQL injection and cross-site scripting (XSS).
- Bot Mitigation: Detects and blocks malicious bots.
- API Security: Protects APIs from abuse and attacks.

Benefits:

- Ensures the security and integrity of web applications.
- Enhances protection against automated threats.



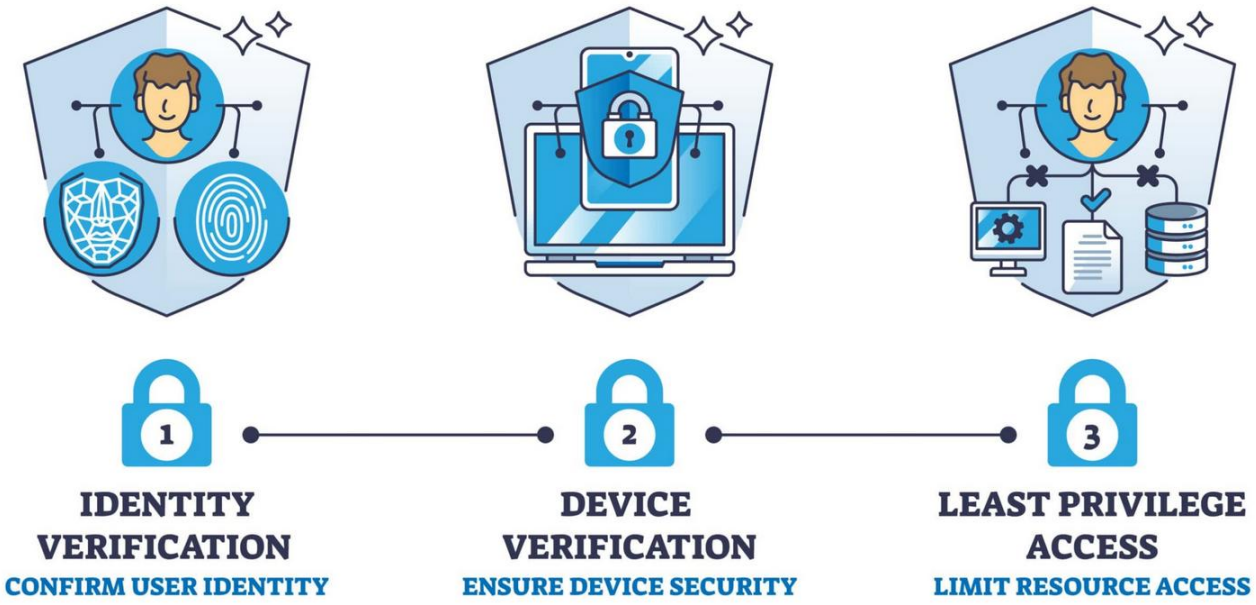
ZTNA

Key Features:

- Micro-Segmentation: Divides networks into smaller, isolated segments.
- Access Control: Grants access based on user identity and context.
- Continuous Monitoring: Continuously verifies trust before granting access.

Benefits:

- Enhances security by limiting access to only what is necessary.
- Reduces the risk of lateral movement within the network.



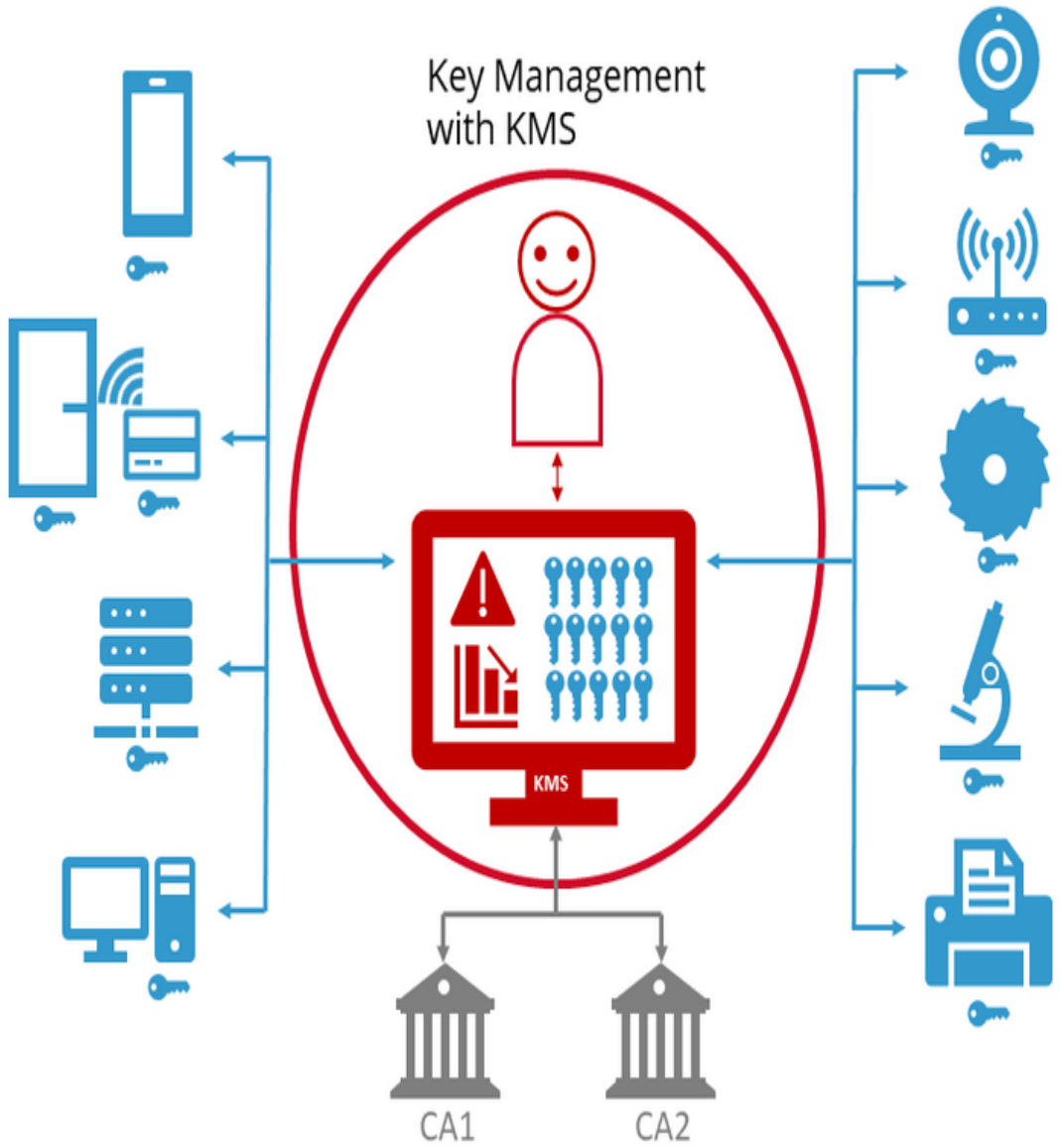
Key Management Service (KMS)

Key Features:

- Key Creation and Rotation: Creates and rotates encryption keys securely
- Access Control: Manages access to encryption keys.
- Auditing: Provides logs of key usage for auditing.

Benefits:

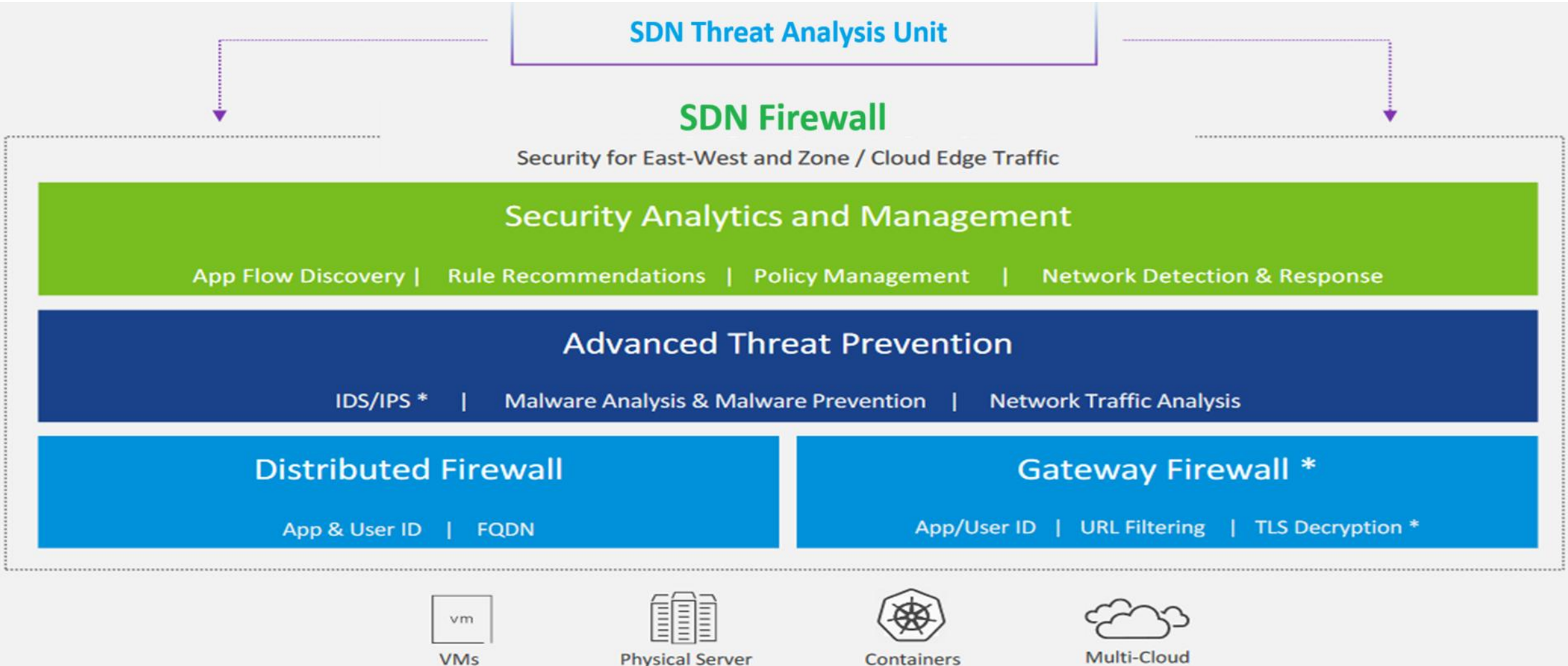
- Enhances data security through effective key management.
- Simplifies compliance with data protection regulations.



SDN Advanced threat protection

SDN Firewall

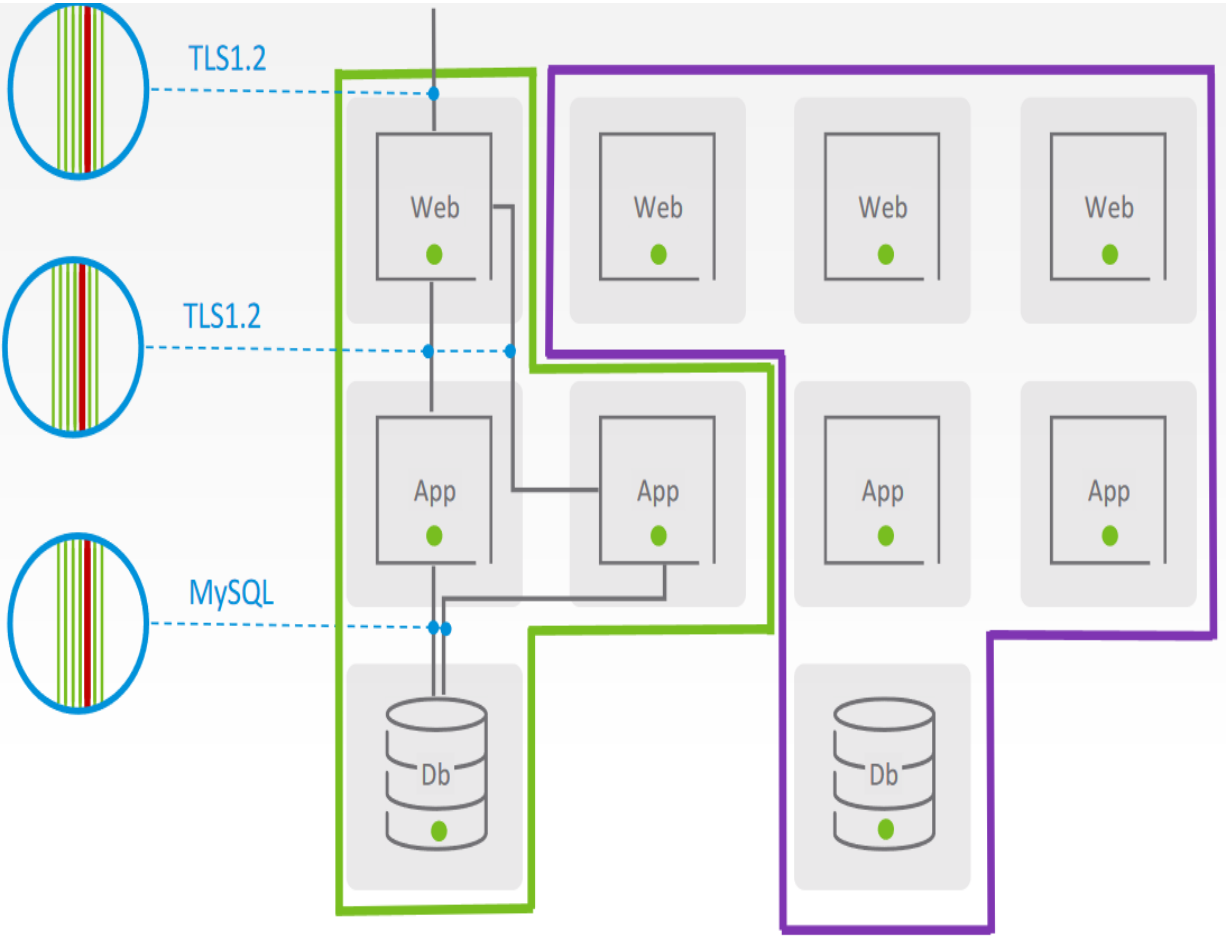
- Access Control + ATP + Analytics and Management



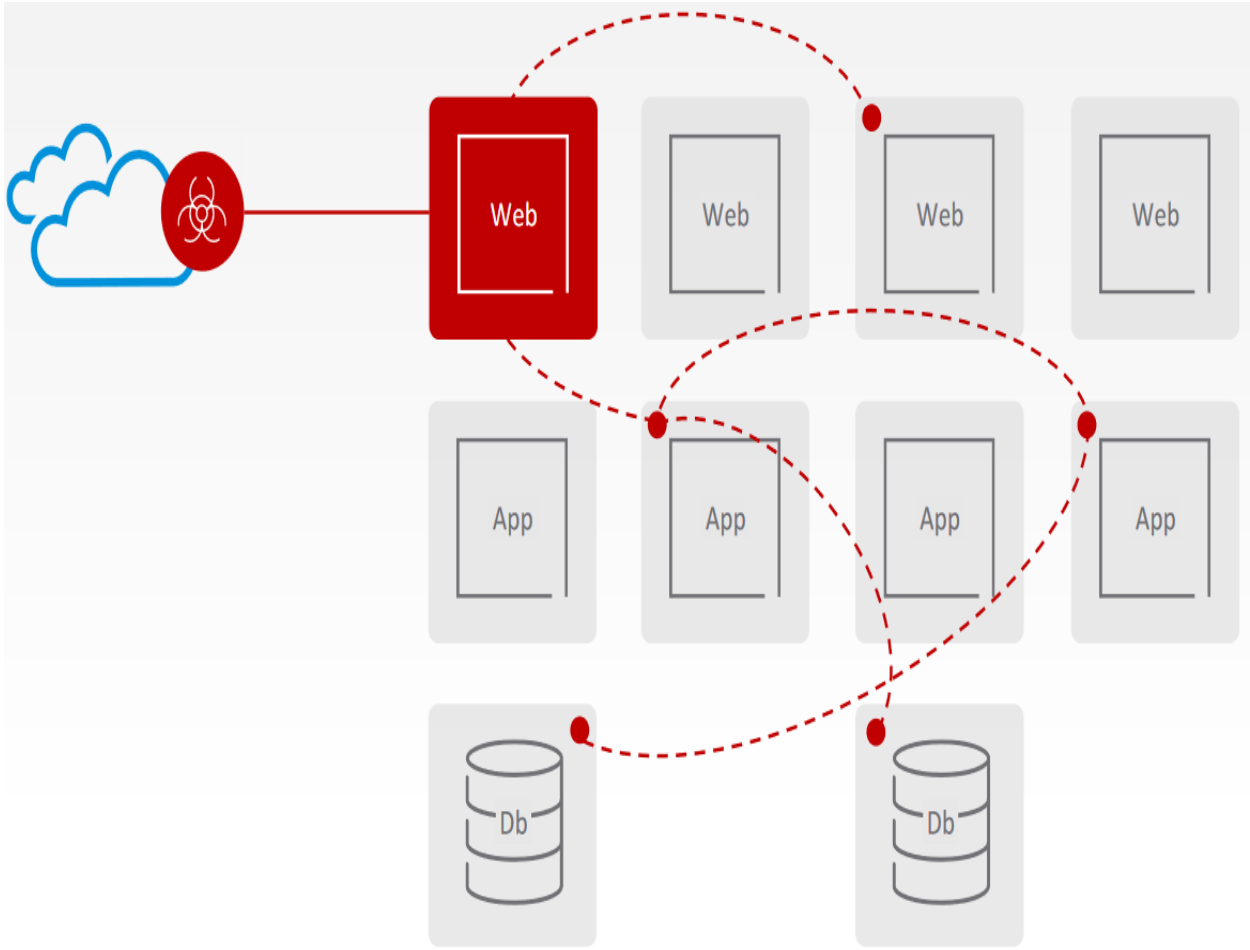
SDN Advanced threat protection

SDN Firewall

Segmentation

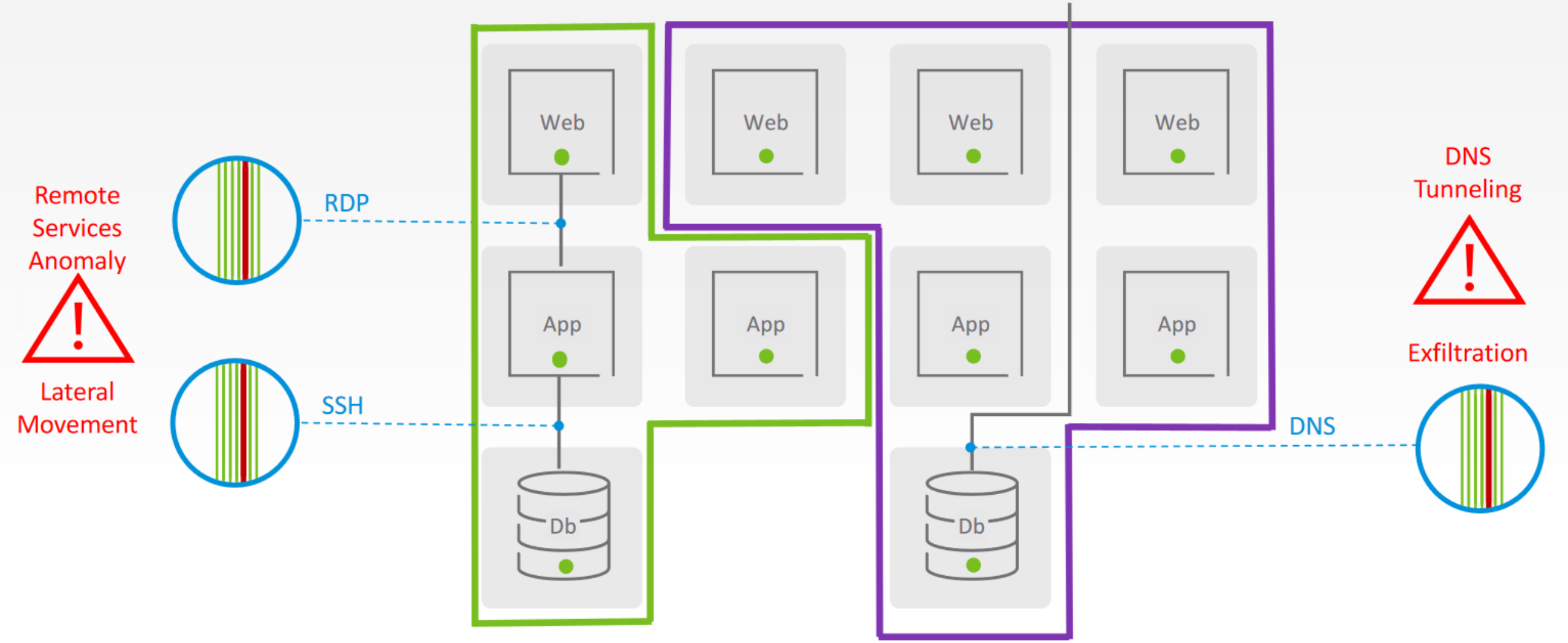


Perimeter



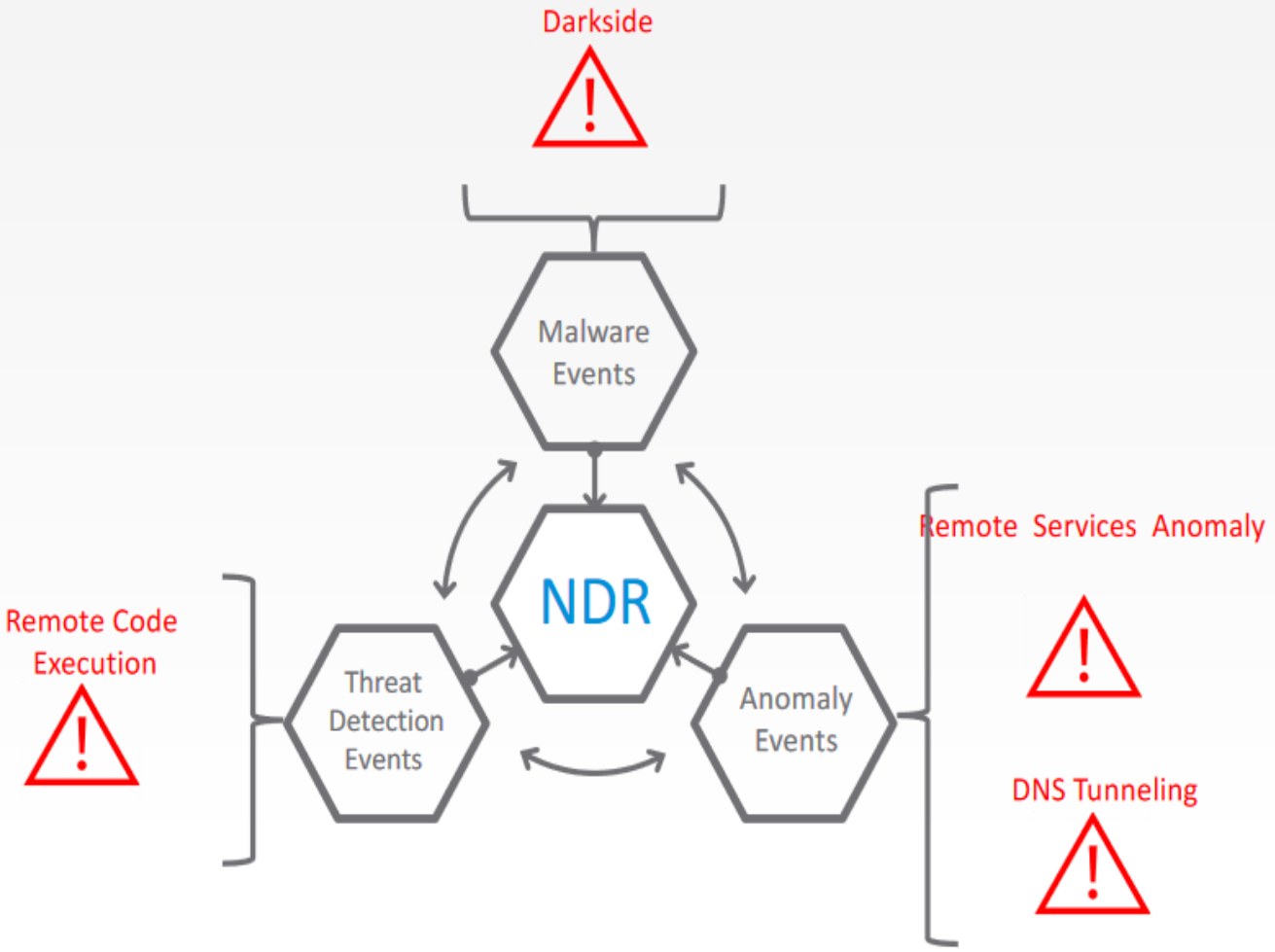
SDN Advanced threat protection

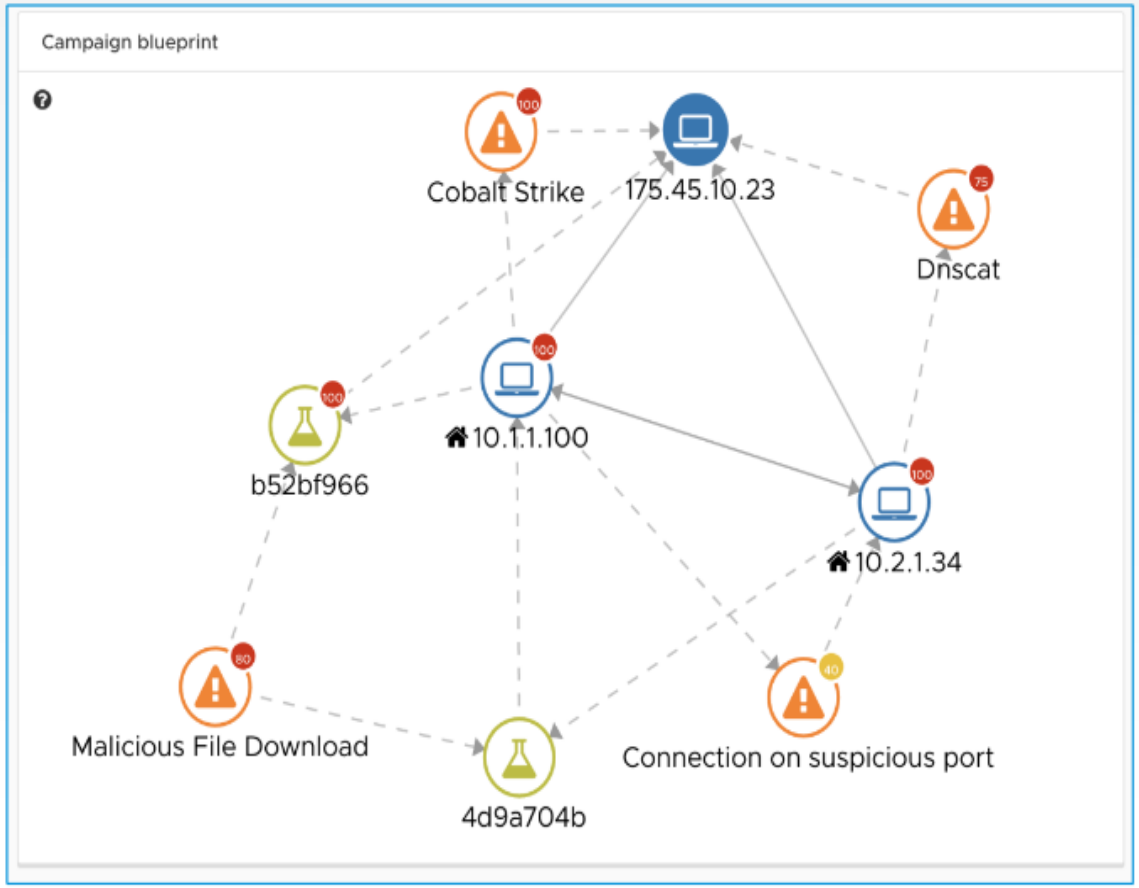
Network traffic Analysis



SDN Advanced threat protection

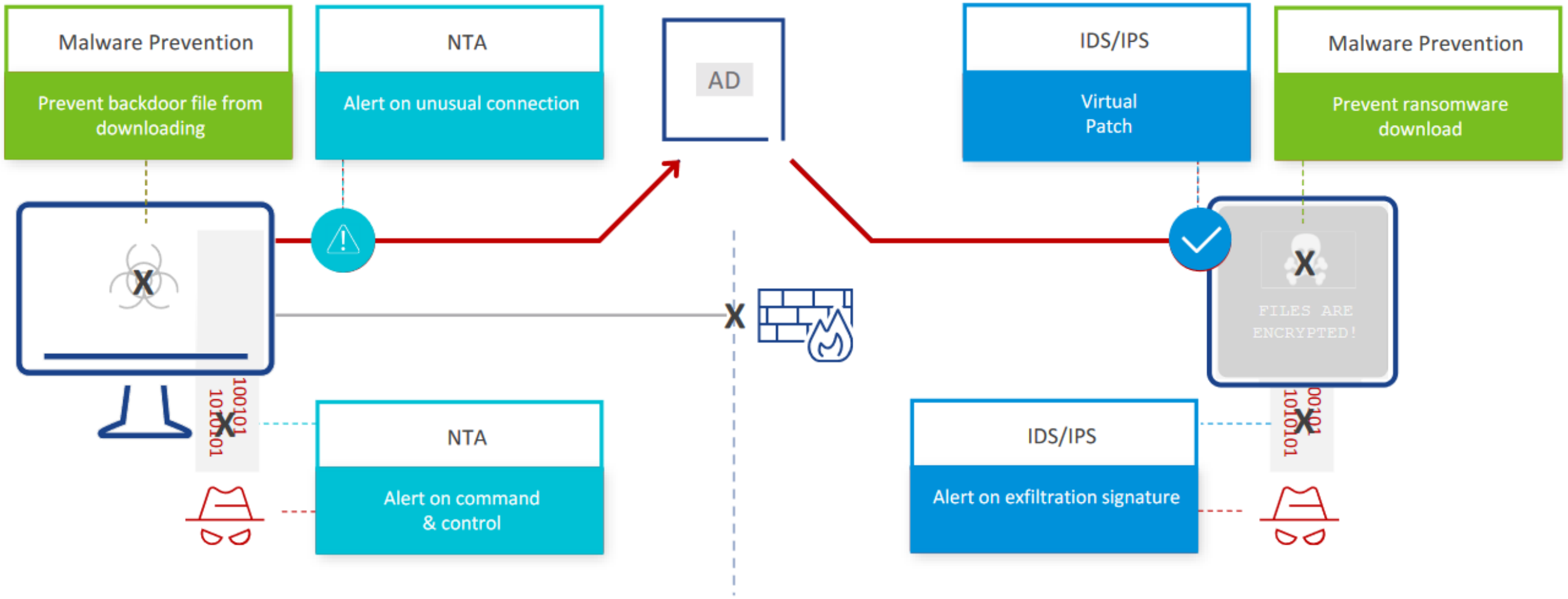
Network Detection & Response





SDN Advanced threat protection

Visibility & Enforcement across the Attack Chain



SDN Advanced threat protection

Example: post exploit tools detection

Firewall

<Block>

Unneeded communication to/between zones/apps/tiers/shared services

RDP/SMB where not needed

Use of insecure protocols

L7 protocol tunneling

IDPS

<Detect/Prevent>

Kerberos Auth. Compromises

Brute Force Login Attempts

Service/Vulnerability Scanning

Exploitation of Services

SSH connections on unusual ports

RDP Anomalies

Cobalt Strike/ Metasploit on the network

NTA

<Detect>

Suspicious LLMNR/NBT-NS Responses

Port scanning & sweeping

Suspicious remote connections like RDP

Unusual connections/ports on other internal hosts

Unusual volume of traffic dropped by FW

Malware Prevention

<Detect/Prevent>

Internal malicious file transfers

SDN Advanced threat protection

Example: Ransomware protection

Firewall

<Block>

Unneeded outbound access

Access to known bad domains

IDPS

<Detect/Prevent>

Ransomware C2/Beacon Traffic

Hostile Domain Lookup

Malicious SSL Certificate

Ransomware sending encryption key

Ransomware File Request

NTA

<Detect>

Unusual network traffic patterns

Data Download Anomalies

Beaconing

Malware Prevention

<Detect/Prevent>

Download of known malicious files

Download of unknown malicious files through static and Dynamic Analysis of File Behaviors

Analyze network behavior of ransomware to create IDPS signatures

Thank You

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