
HAFS
Distributeur à valeur ajoutée
VOTRE PARTENAIRE TECHNOLOGIQUE
POUR DES INFRASTRUCTURES IT SÉCURISÉES ET PERFORMANTES
EXPERTISE
Des solutions adaptées à chaque environnement
CONFIANCE
Un partenaire fiable à vos côtés
PERFORMANCE
Des infrastructures sécurisées et évolutives
SUPPORT
Un accompagnement technique de qualité
HAFS
Distributeur à valeur ajoutée
Des solutions IT innovantes pour un monde connecté et sécurisé
WIRELESS RADIO
Connectivité sans fil haute performance
RÉSEAUX & SÉCURITÉ IT
Des réseaux fiables et sécurisés
VIRTUALISATION CLOUD
Des solutions Cloud flexibles et évolutives
CYBERSECURITY
Protéger vos données et vos systèmes
VIDÉO PROTECTION
Solutions de vidéosurveillance intellligentes
HCI STOCKAGE SAUVEGARDE
Stockage, sauvegarde et haute disponibilité
SOLUTIONS IT | CYBERSÉCURITÉ | CLOUD | INFRASTRUCTURE RÉSEAU | STOCKAGE | PROTECTION

Hillstone Breach Detection System (BDS) I-Series

Integrative Cybersecurity

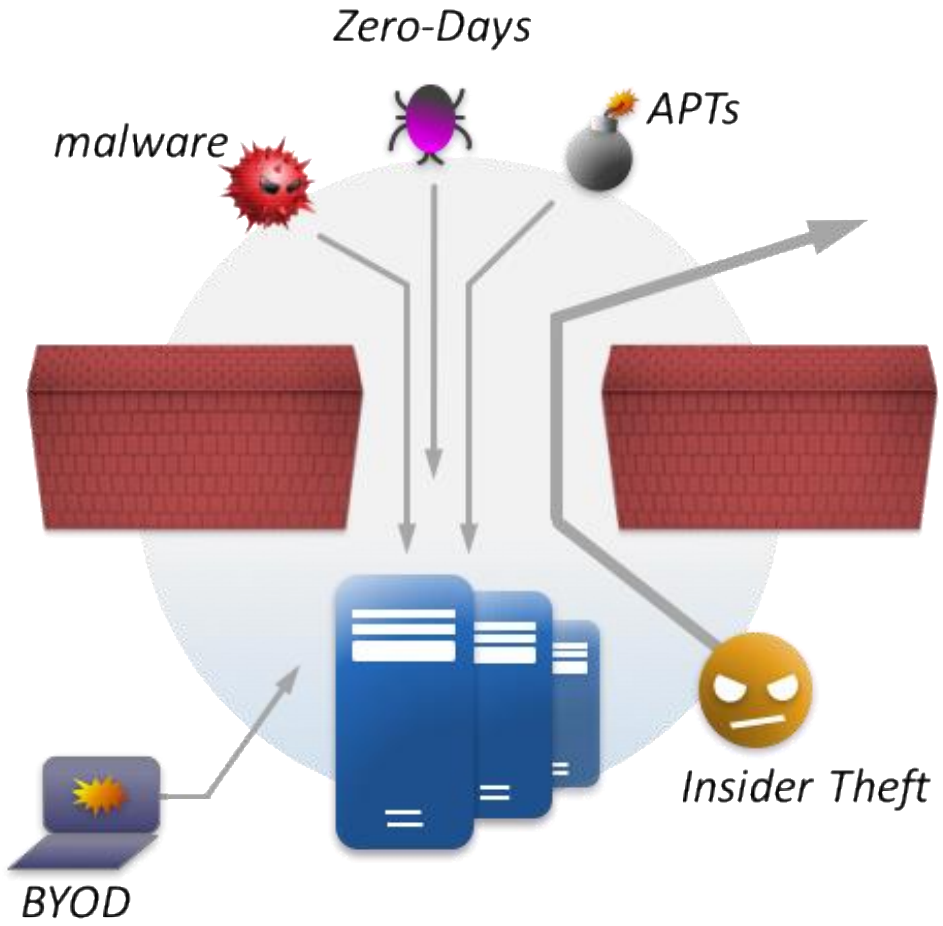
Visionary. AI-powered. Accessible.

Agenda

- Today’s Intranet Security Reality
- Hillstone BDS Value Proposition
- Hillstone BDS Portfolio
- Deployment Scenarios & Case Studies

Today’s Intranet Security Reality

Internal Network Breaches Occur at an Alarming Rate



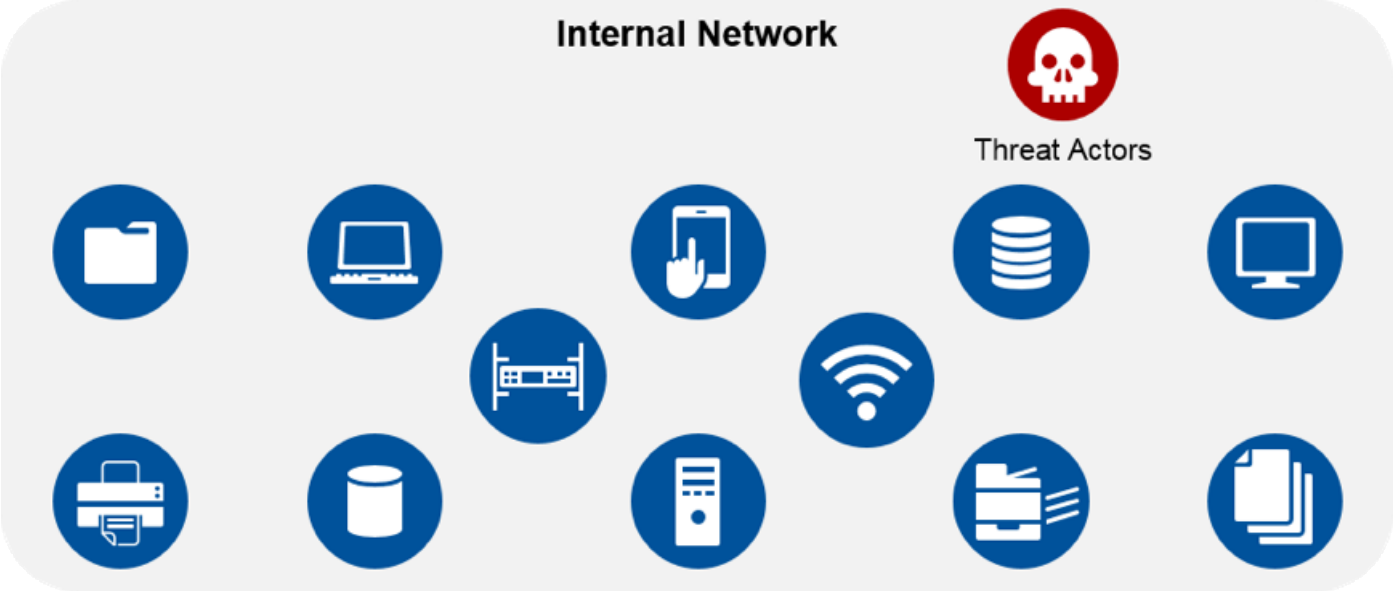
Traditional signature defenses can only stop old "**amateur**" attacks

New, **sophisticated** attacks breach every network.

"*In 60% of cases, attackers are able to compromise an organization within **minutes**.*"

– Verizon 2015 DBIR

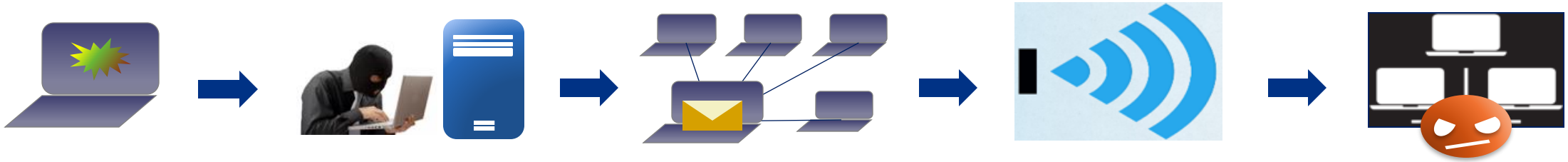
Threat Spreads Easily in Flat Internal Networks…



"…regardless of their motivation, should adversaries gain a foothold on your internal network, they can pivot through and access anything on your internal network. This is a primary reason modern breaches are so devastating in terms of the amount of data lost and the dwell time spent on an organization's network before being discovered. As a result, lateral movement detection/prevention has become an area of considerable focus"

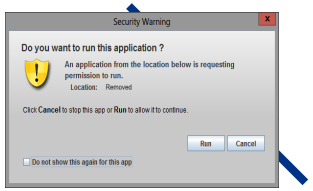
-Source: Gartner (September 2016)

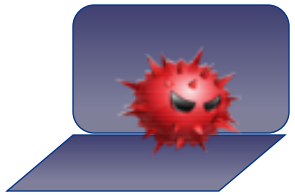
Interrupts Critical Servers and Business Continuity



- Phishing occurs when staff surf the internet
- C&C
- Hacker completely controls the host
- Fake internal email and attachment propagates damage internally
- More hosts are compromised
- Host loses control
- Launches DDoS from inside
- Results in server, firewall break-down
- Ultimately, network and business are down

Breaches Sensitive Data Through Compromised Host





- Phishing occurs when staff surf the internet

- Inject malware with fake or expired antivirus software signatures

- Antivirus software fails to detect malware
- Malware is executed

- C&C
- Downloads PE file
- Hacker completely controls the host

- Database server is breached through the compromised host

Hillstone BDS Value Proposition

Hillstone NDR Product BDS

Hillstone NDR product BDS detects and responds to Advanced Network Threats

Threat Detection	Deep Visibility	Digital Forensics & Incident Response(DFIR)	Effective Mitigation
ABD/ATD/WEB	IOCs	Attack Chain	Admin Actions
NTA/Deception	Dashboards	MITRE ATT&CK	Blacklist / Whitelist
Threat Correlation	Risk/Threat/Traffic	Rich Forensics	Block with Firewall
…	…	…	…

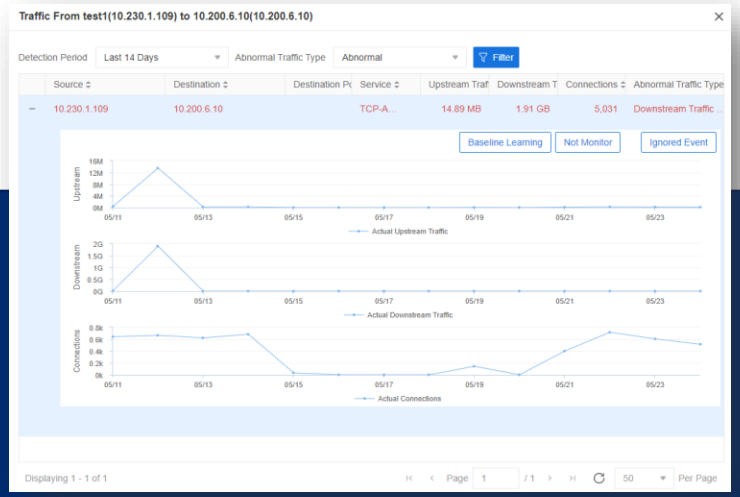
ML-based Analytics for Abnormal Behaviors

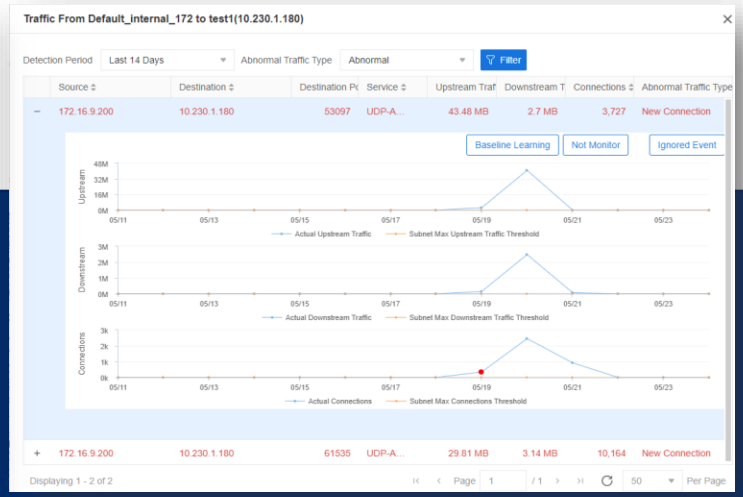
Learn and Establish Normal Traffic Baseline and Threshold

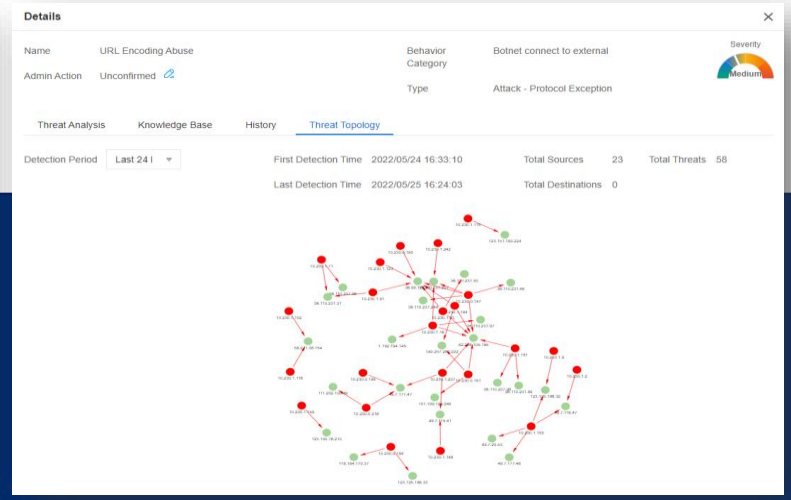
Detect Traffic Trend and Identify Abnormal Traffic Behaviors

Monitor Normal and Abnormal Traffic for each server/host

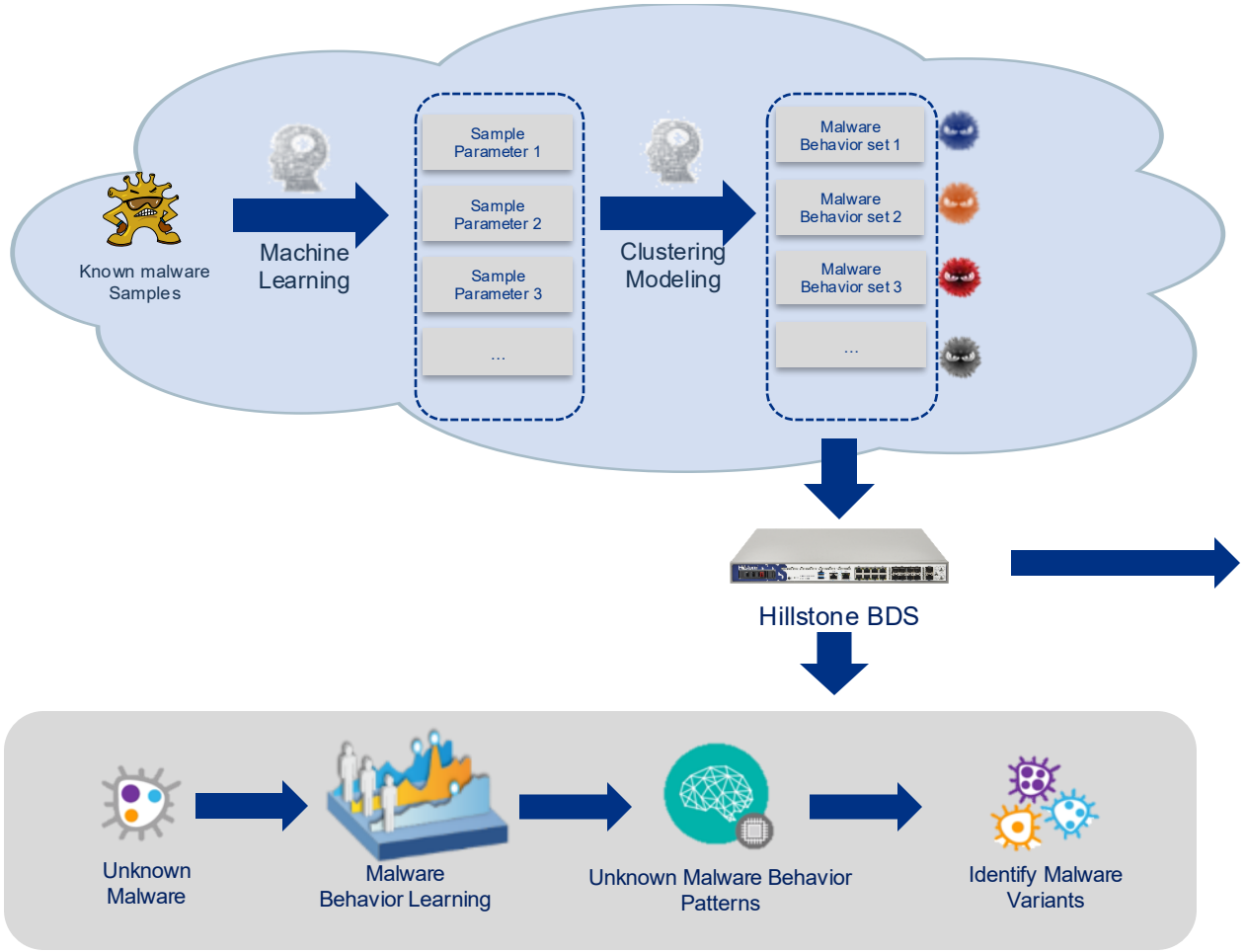
ML-based behavior analytics for URL, UEBA, threat correlations etc.

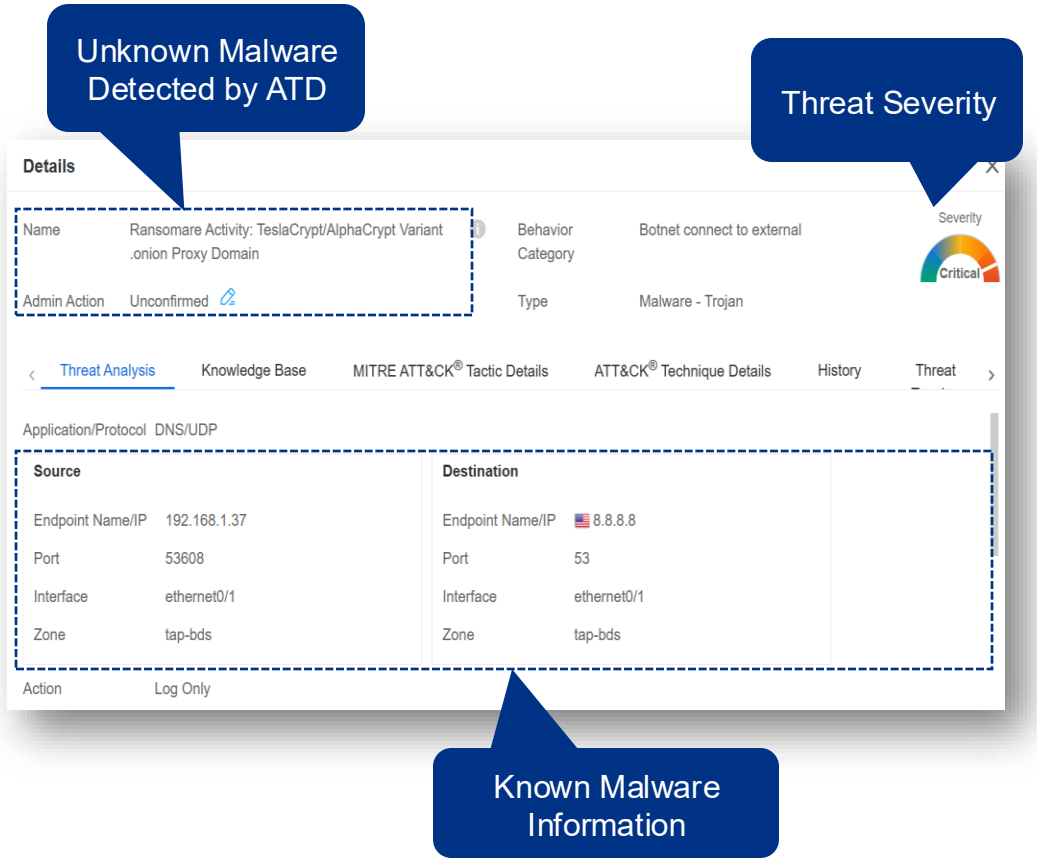




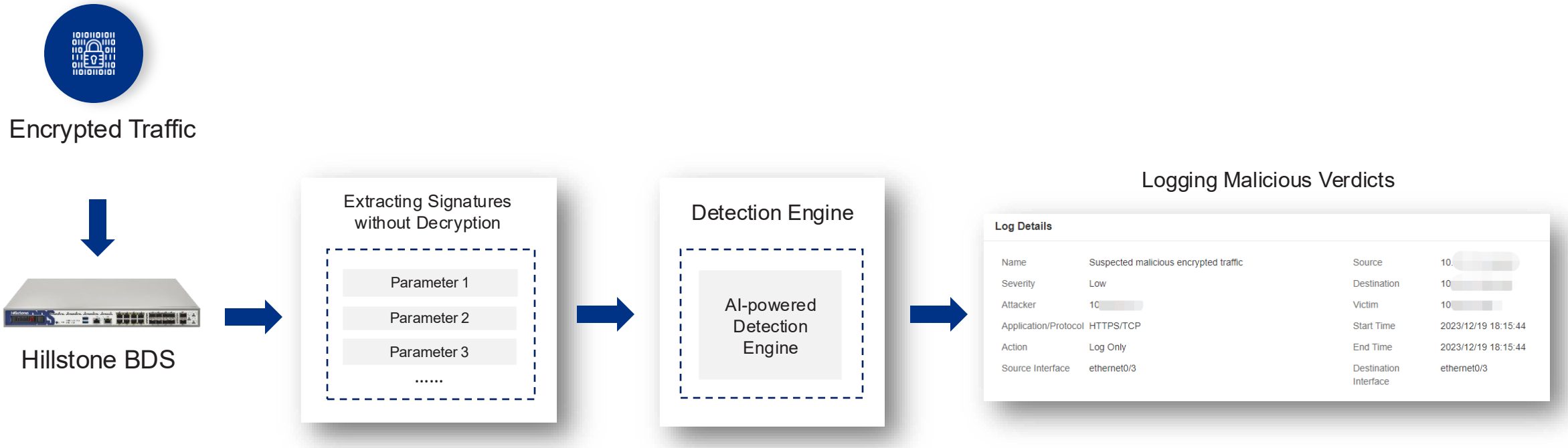


Detection: Advanced Threat Detection (ATD)



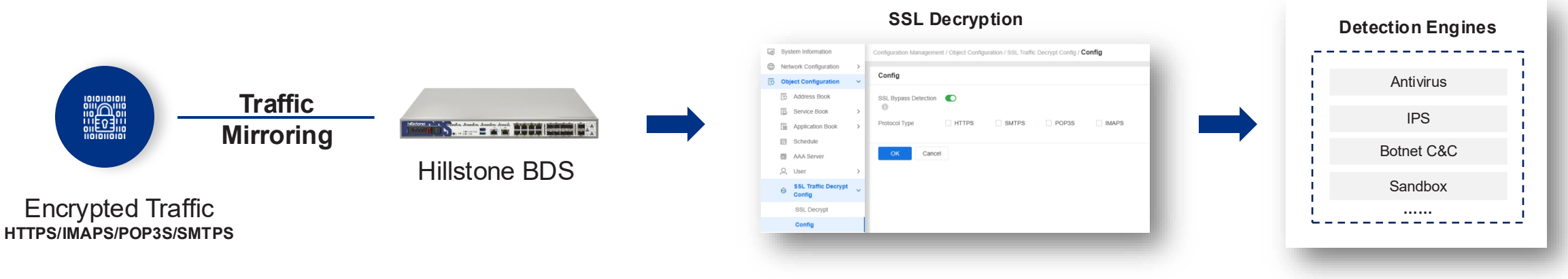


Detection: Abnormal Encrypted Traffic Detection



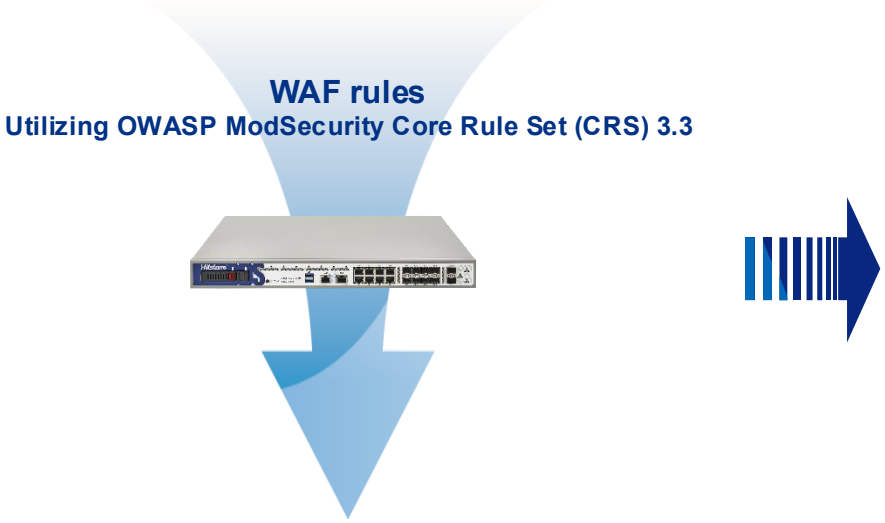
Leverage AI-powered technology to detect abnormal encrypted traffic without decryption

Detection: Threat Detection for Encrypted Traffic with SSL Decryption in TAP Mode



Comprehensive Threat Detection for Encrypted Traffic with SSL Decryption in TAP Mode

Detection: WEB Attacks Detection

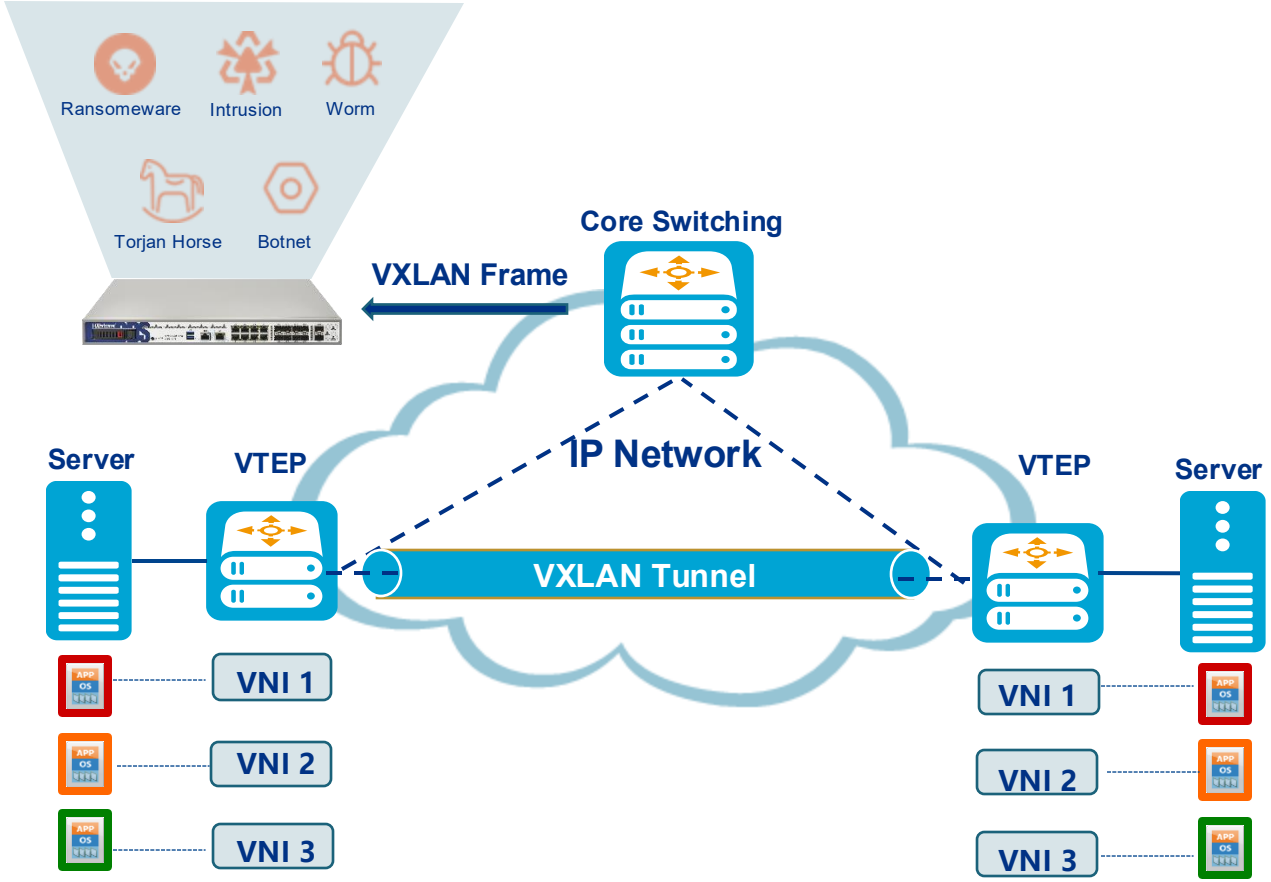


Detect and analyze threats for WEB servers and applications

WEB Attacks Detection

DDoS Attack	Injection Attack
Cross-site Attack	
Abnormal HTTP	Special Vulnerability Attack
Information Leakage	Malicious Software
Illegal Access to Resources	Malicious Network Scanning

Detection: VxLAN Frame Detection

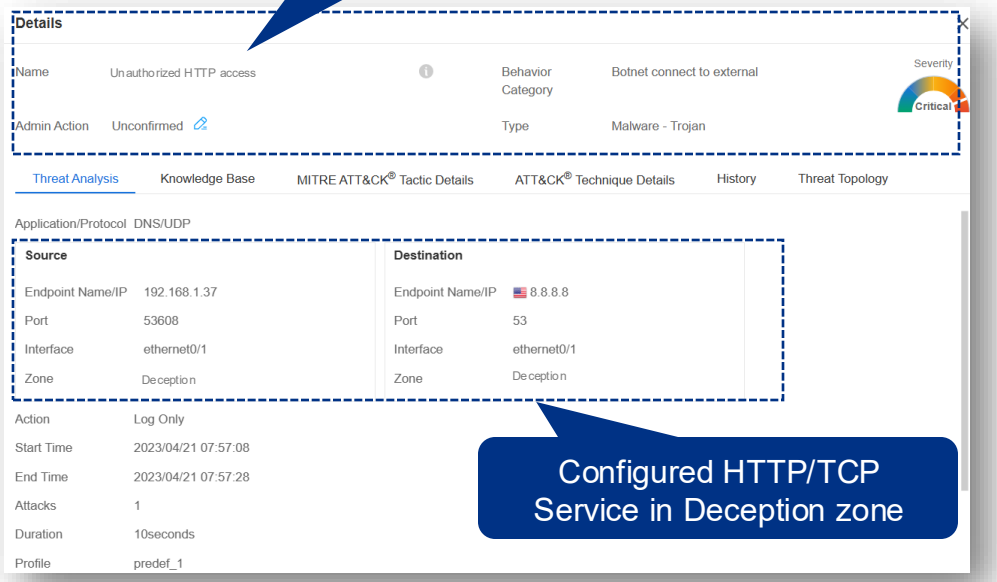


Detect VXLAN frame with UDP port 4789 as the destination port

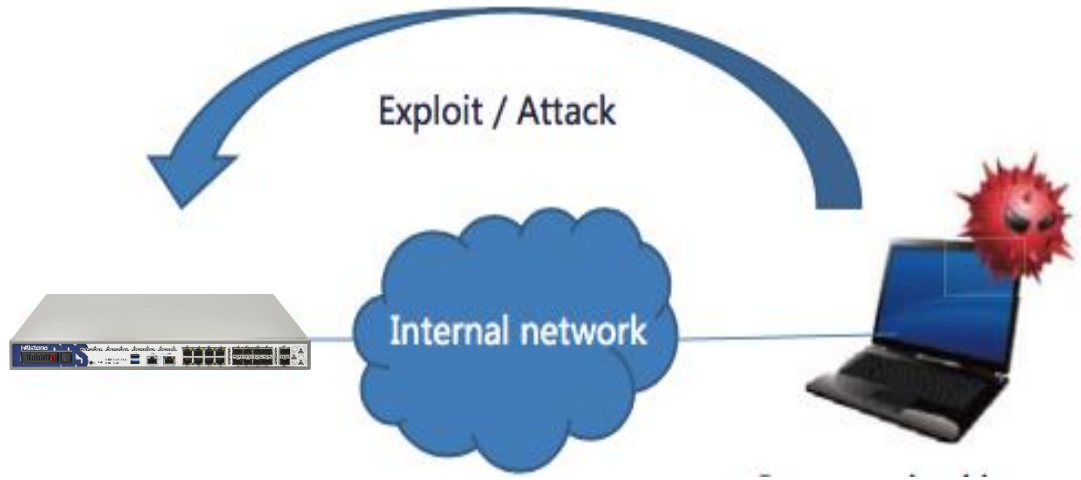
Do NOT detect non-VXLAN traffic whose destination port is UDP 4789

Detection: Deception Technology

Unauthorized HTTP access detected by Deception engine



Configured HTTP/TCP Service in Deception zone



Simulate services in Deception zone, when a hacker visits these services, the attack will be detected

Detection: Dual Antivirus Detection Engine

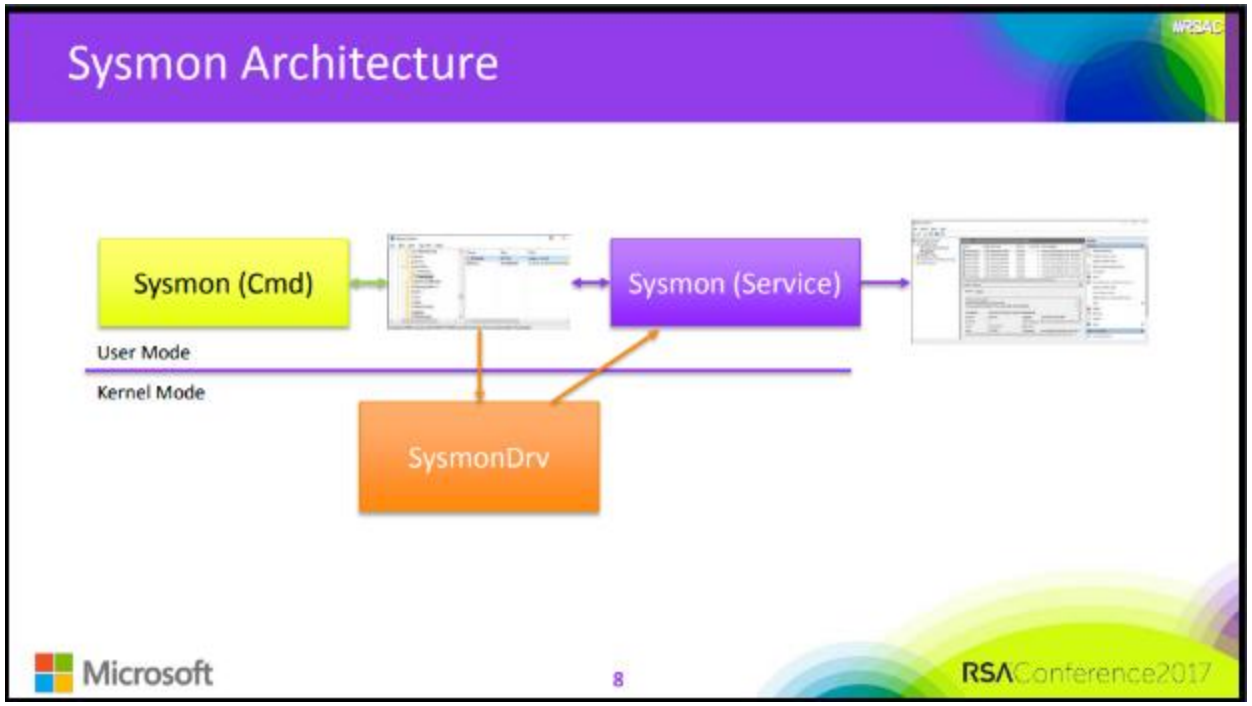
Hash-Based Detection

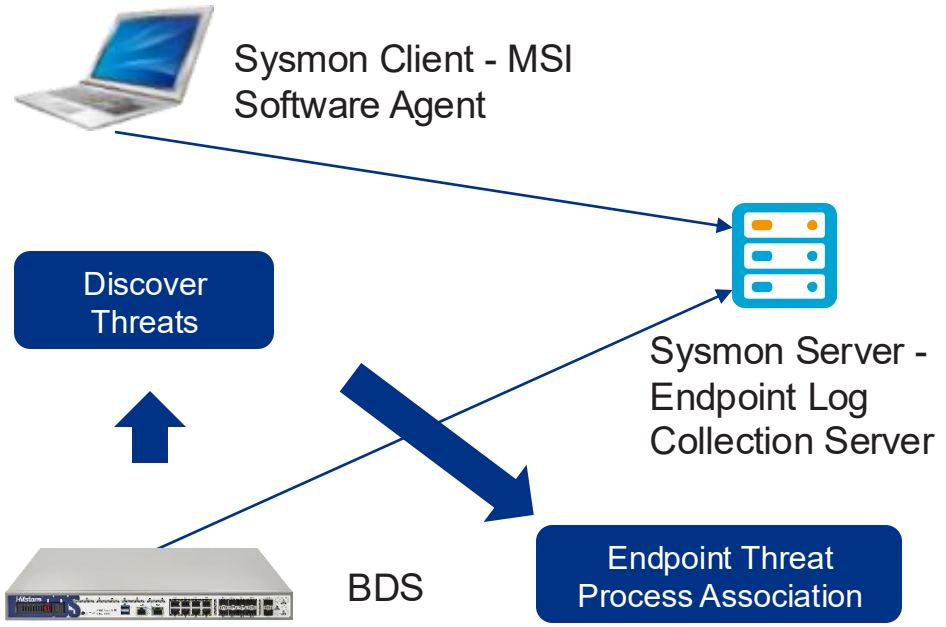
- MD5 file hash-based
- Support all files
- Use Case: Known virus detection

AI-Powered Detection

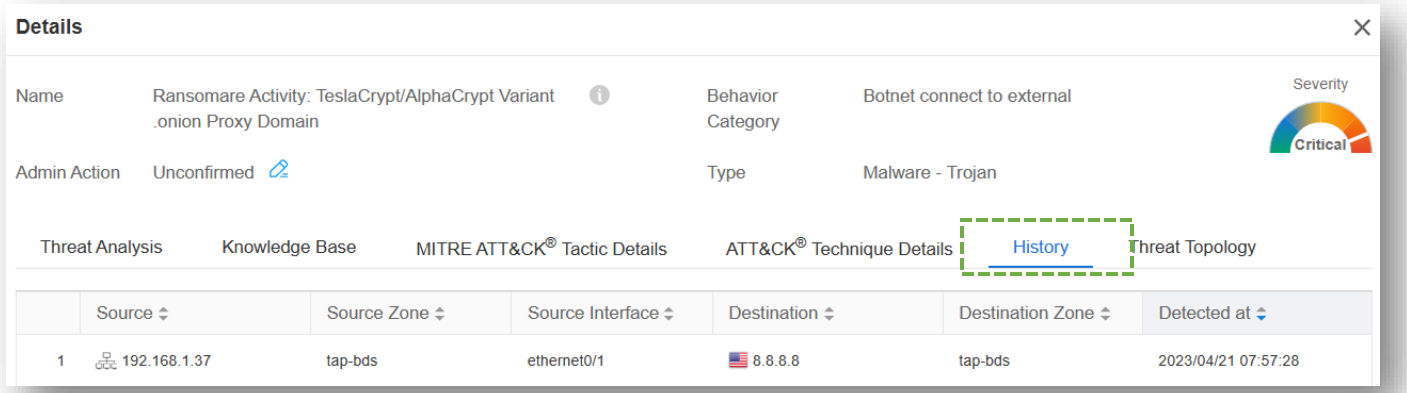
- File characteristics analysis
- Support PE/PDF/Office/ELF files
- Use Case: Unknown/variant viruses detection

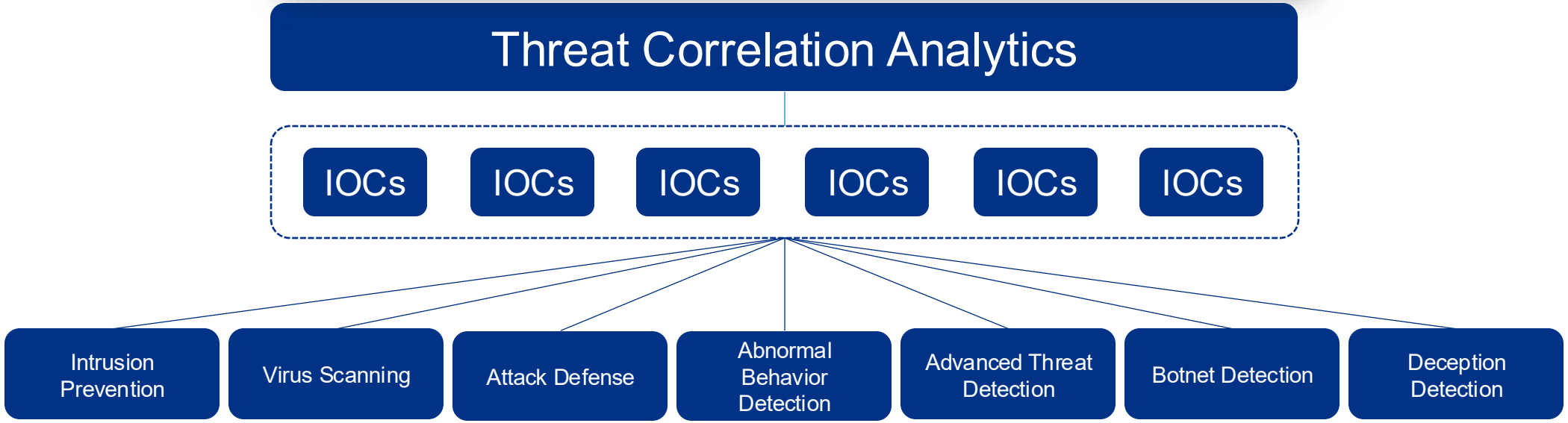
Detection: Sysmon Endpoint Service Integration





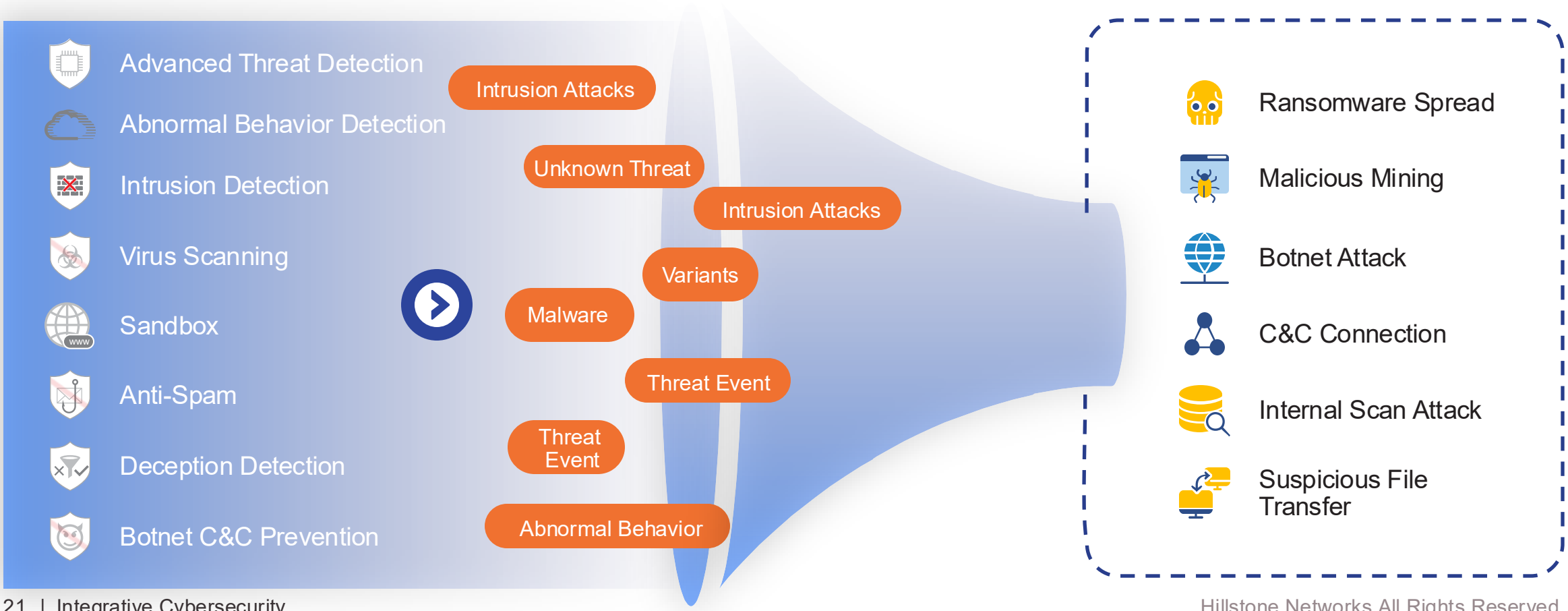
Detection: Detection Efficacy and Lower False Positive





Visibility: Indicator of Compromises (IOCs) Threats

Threat detection engines detect threat events	Threat correlation analysis	IOCs



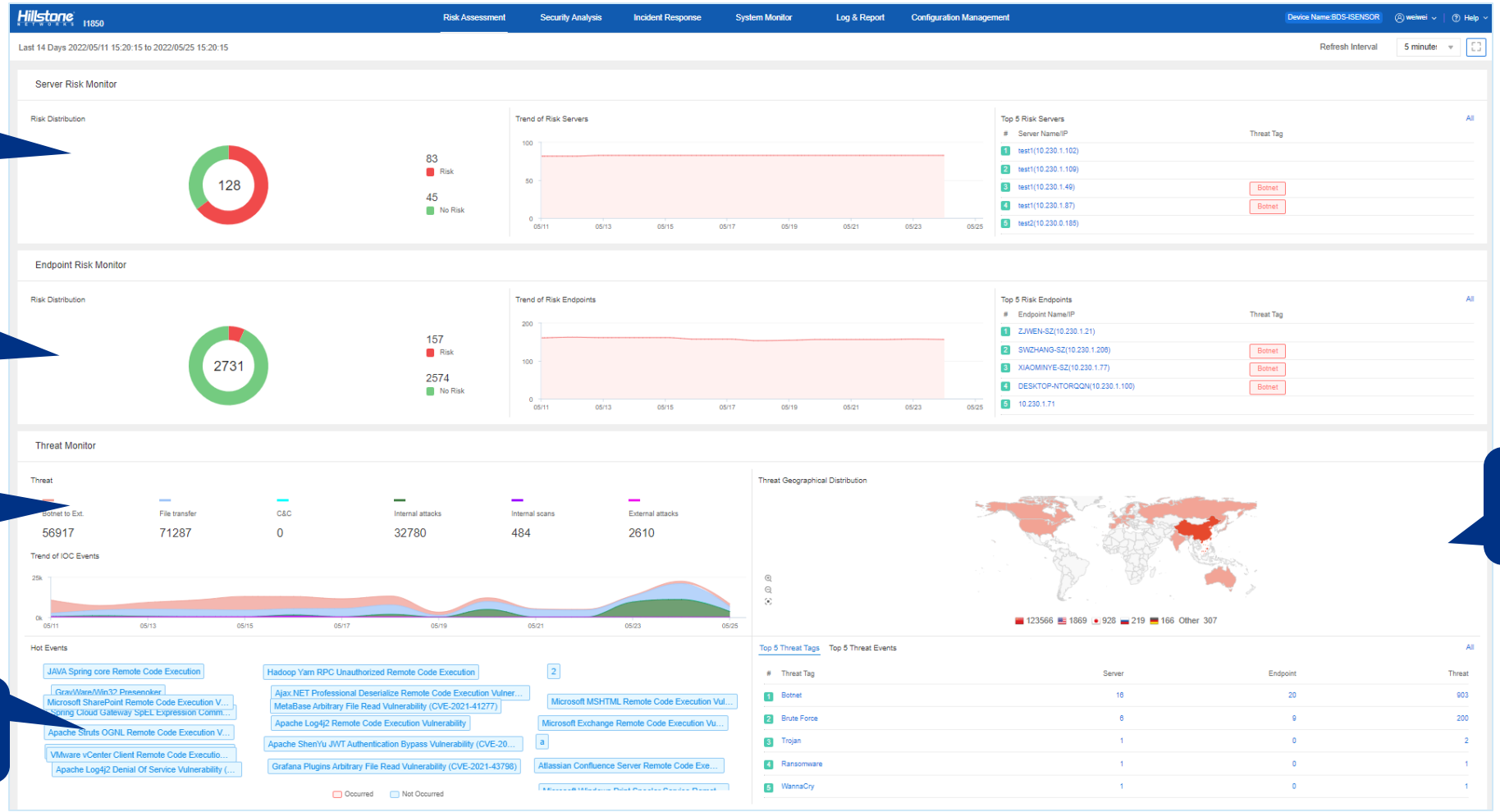
Visibility: Global View of Intranet Threat

Overview of Critical Servers and risk level

Overview of internal host and risk level

Threat type, statistic, historical distribution etc.

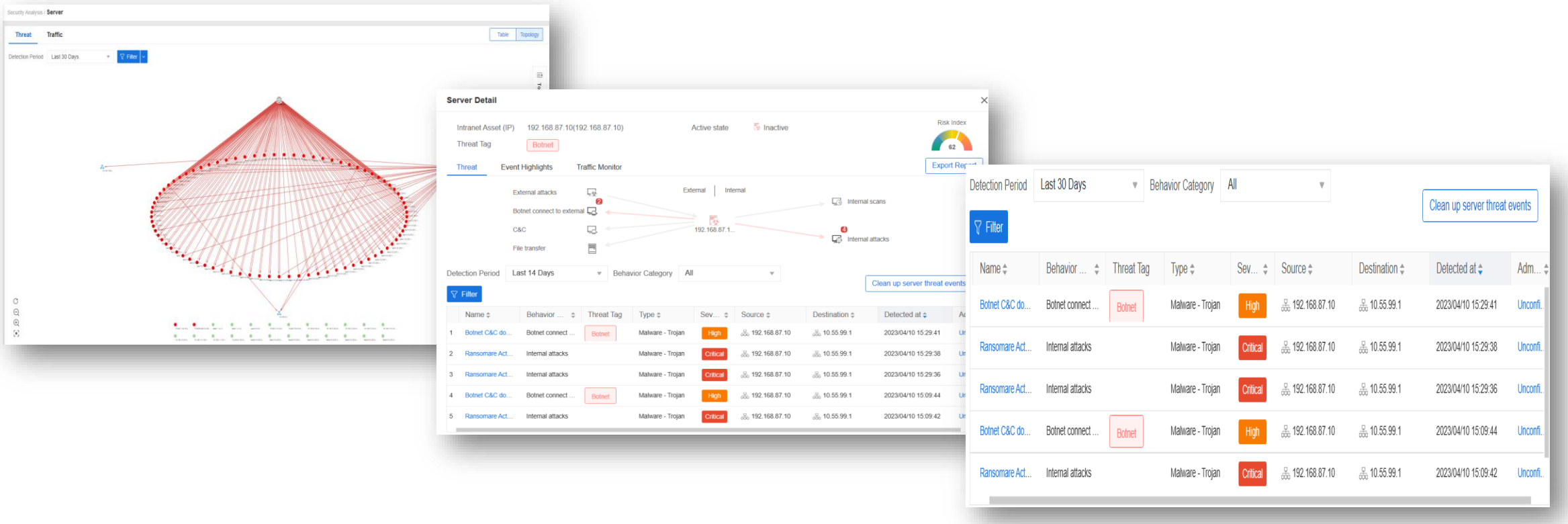
Hot events that need attention



Geo-location threat distribution and top threat

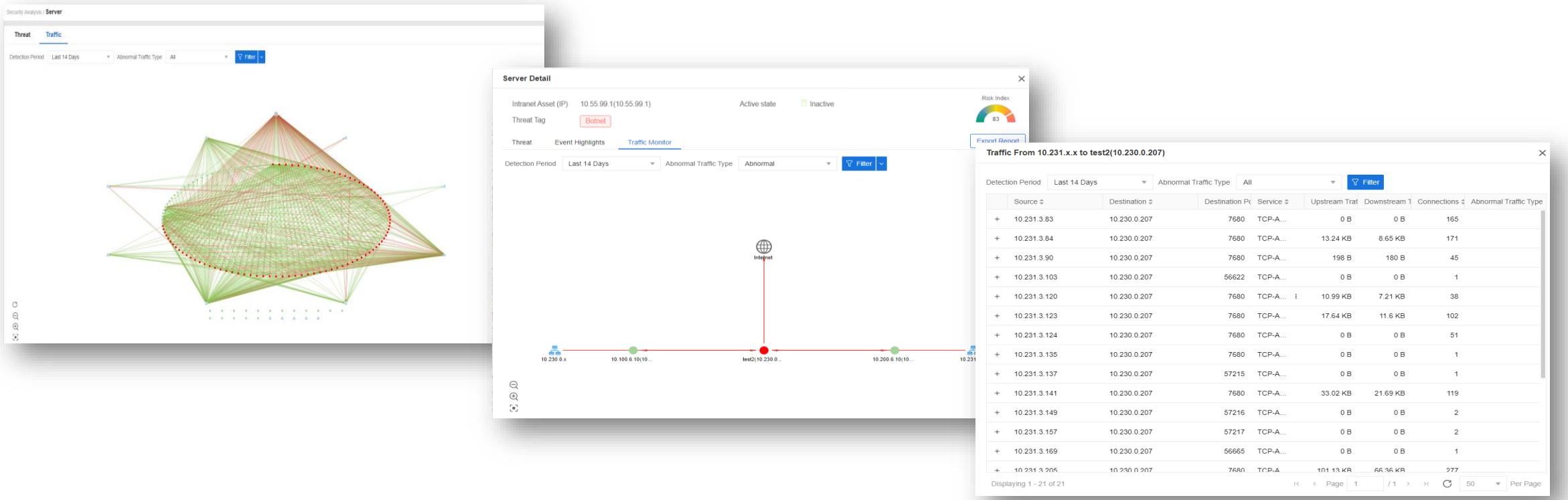
Visibility: Intranet Risk Monitoring Dashboard

Visibility: Server Threat Monitoring



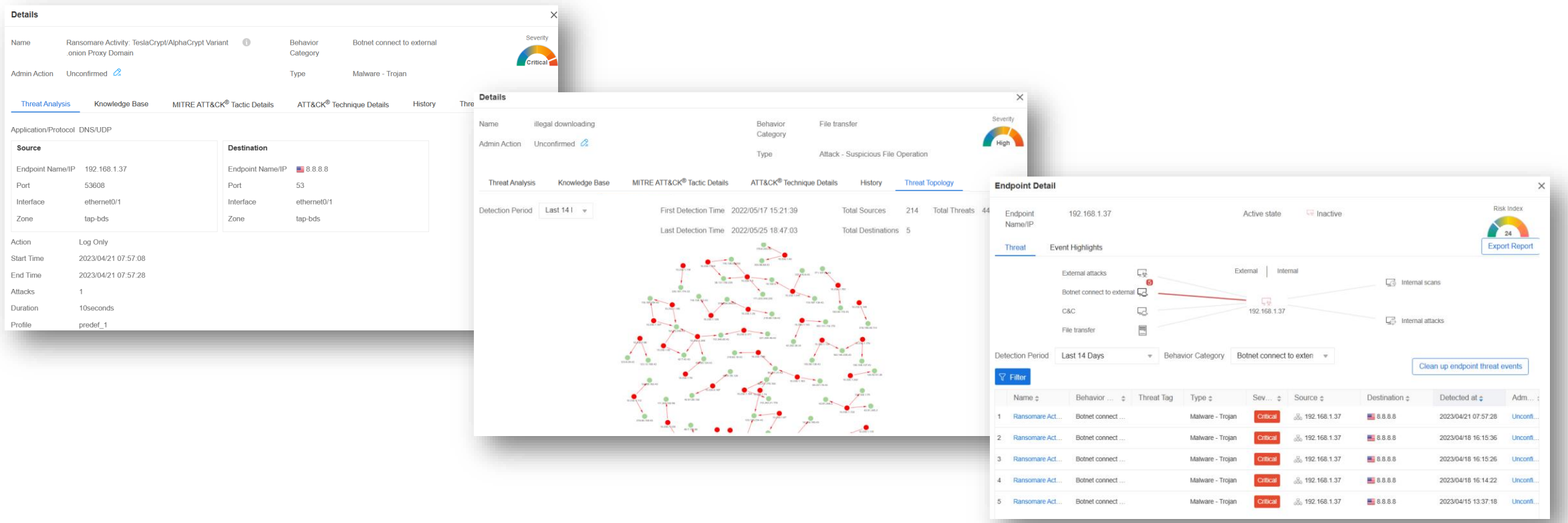
- Server threat topology for intranet servers: attack direction, severity, relationships
- Threat analysis for individual server: 6 types of attack chain
- Threat events list

Visibility: Server Traffic Monitoring



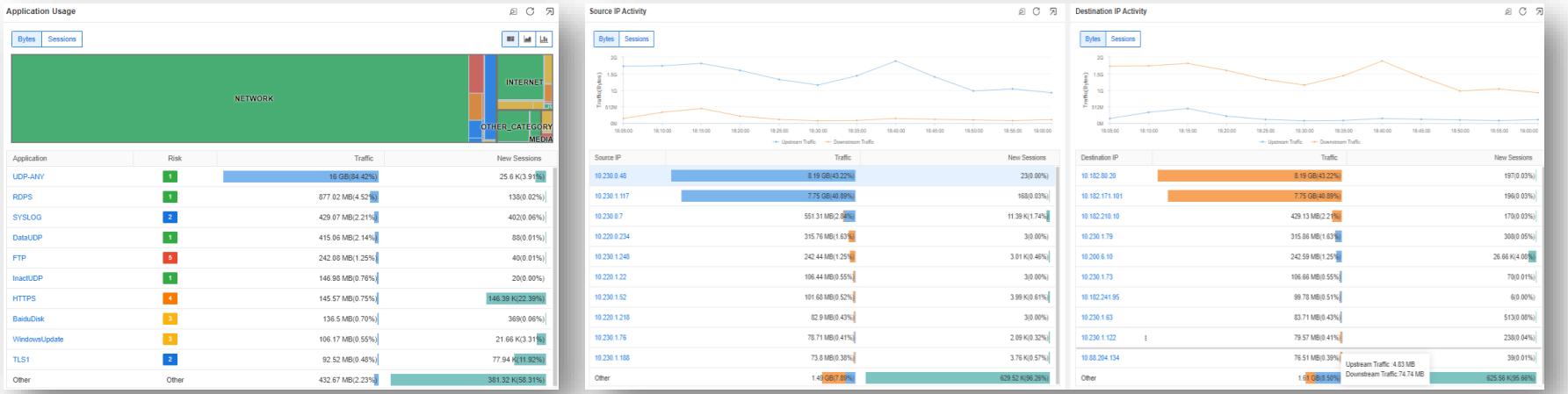
- Server traffic topology for all intranet servers: all traffic relations among all intranet servers
- Server traffic diagram for individual server: traffic in/out of an individual server
- Traffic activity list: all traffic activities between servers

Visibility: Threat Topology

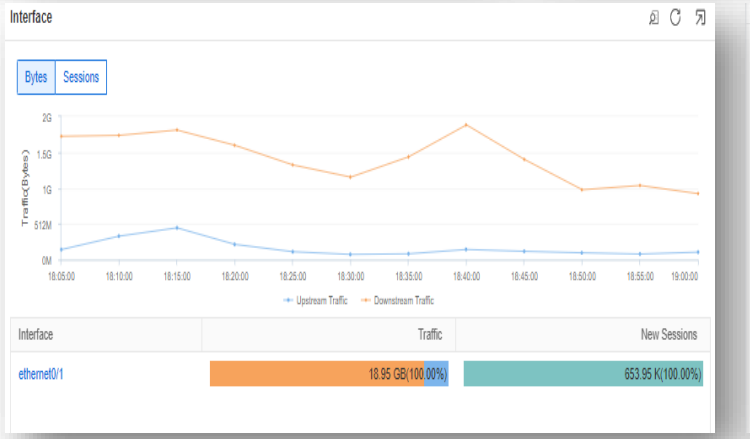


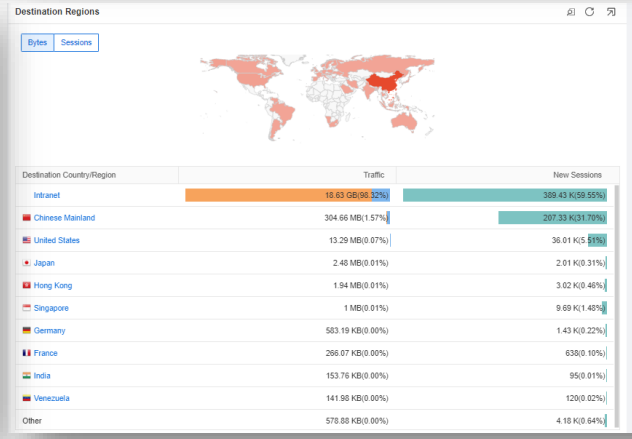
- Details of a threat
- Threat topology that shows the interactions between assets involved in this threat event
- View of the detailed activities of a specific IP in this threat topology

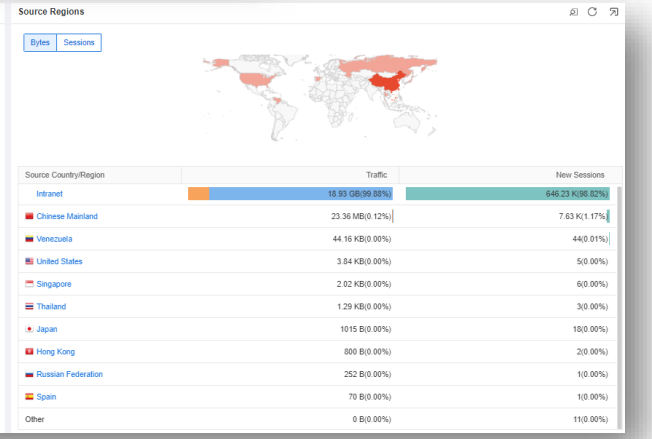
Visibility: Intranet Application Analysis



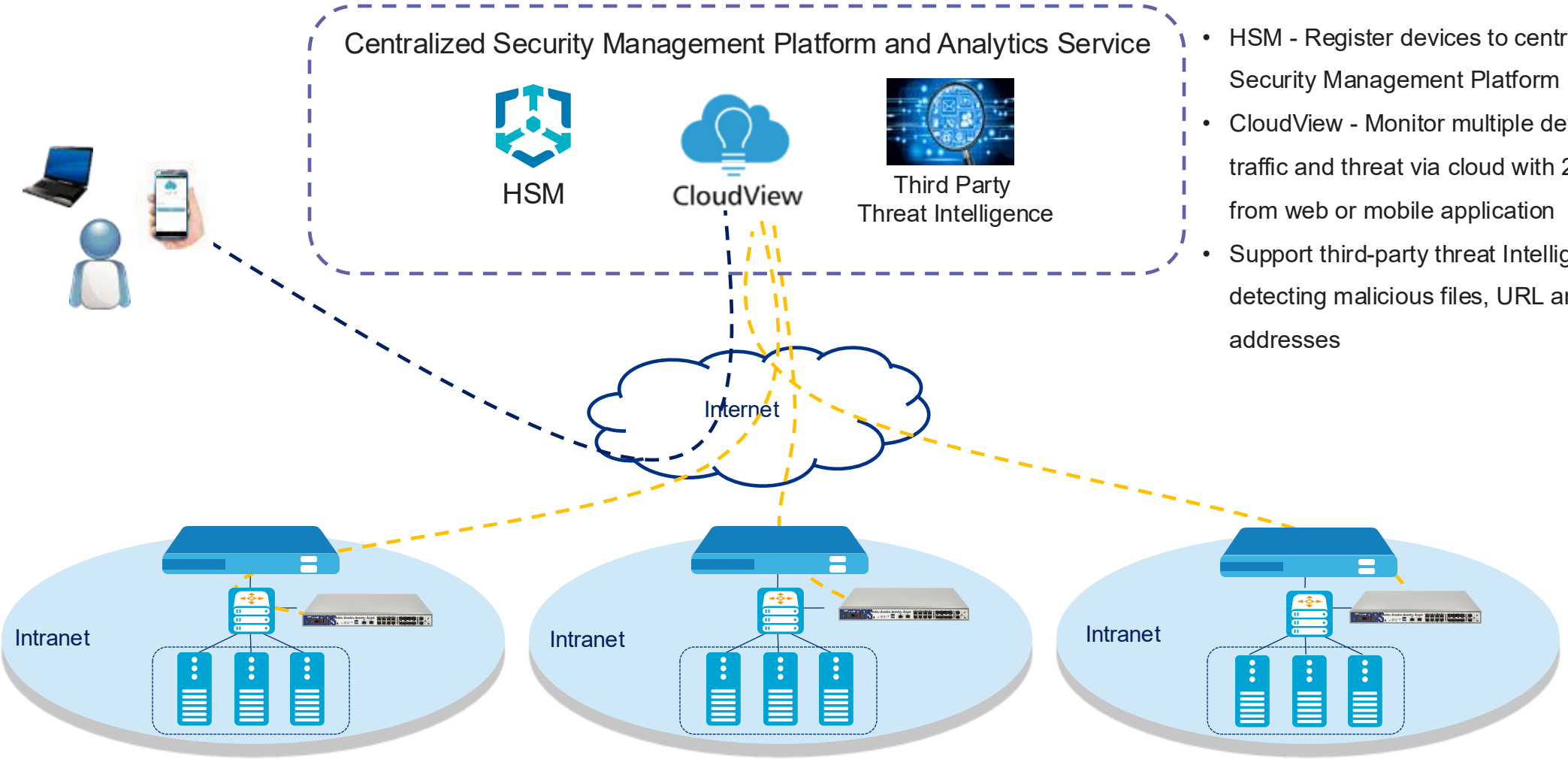
- Application Usage/Ranking
- Source/Destination IP traffic ranking
- Interface Traffic Ranking
- Threat Geo-location





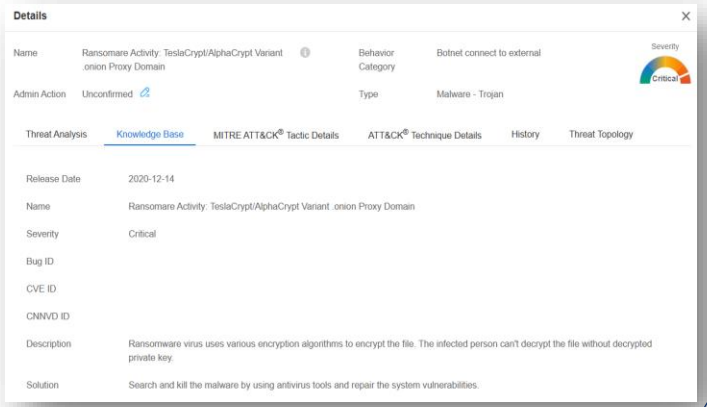


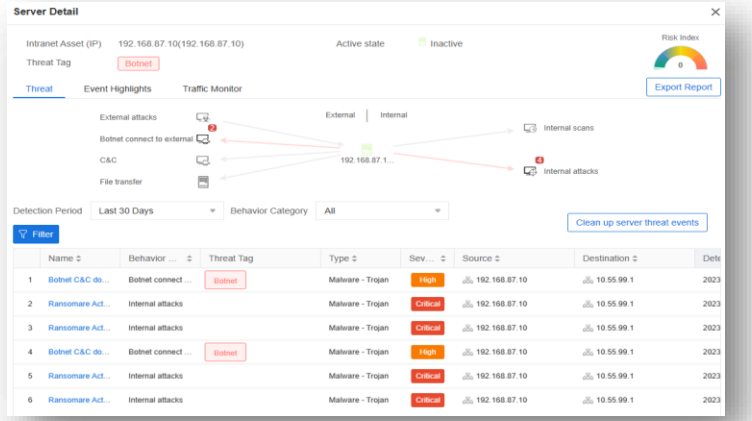
Visibility: Centralized Security Management



- HSM - Register devices to centralized Security Management Platform
- CloudView - Monitor multiple devices status, traffic and threat via cloud with 24/7 access from web or mobile application
- Support third-party threat Intelligence for detecting malicious files, URL and IP addresses

DFIR: Rich Forensics Enables Risk Assessment



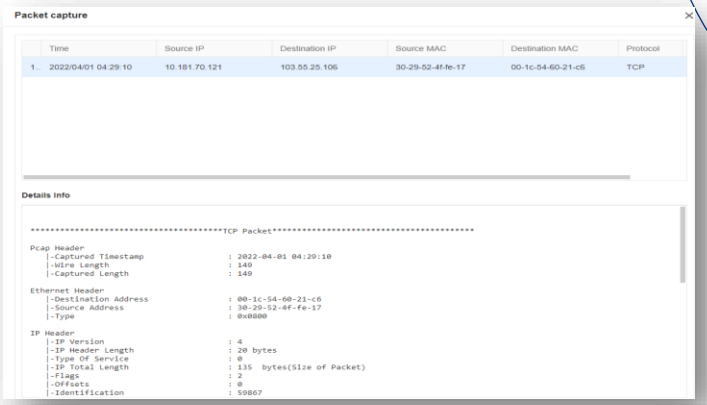


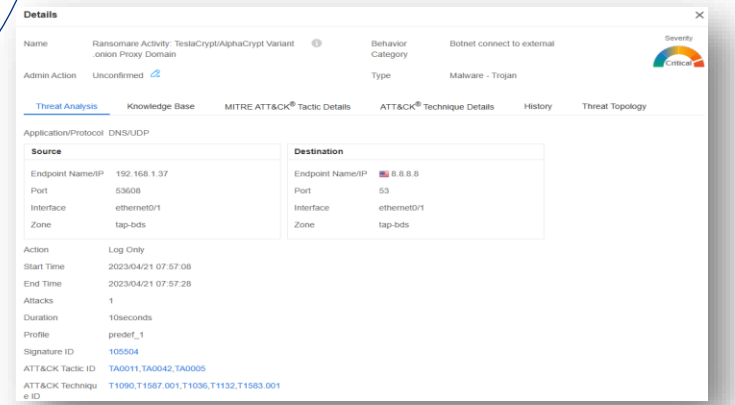
Restore the Attack Chain and Mapping to MITRE ATT&CK

Knowledge Base

Threat Analysis

PCAP Forensics

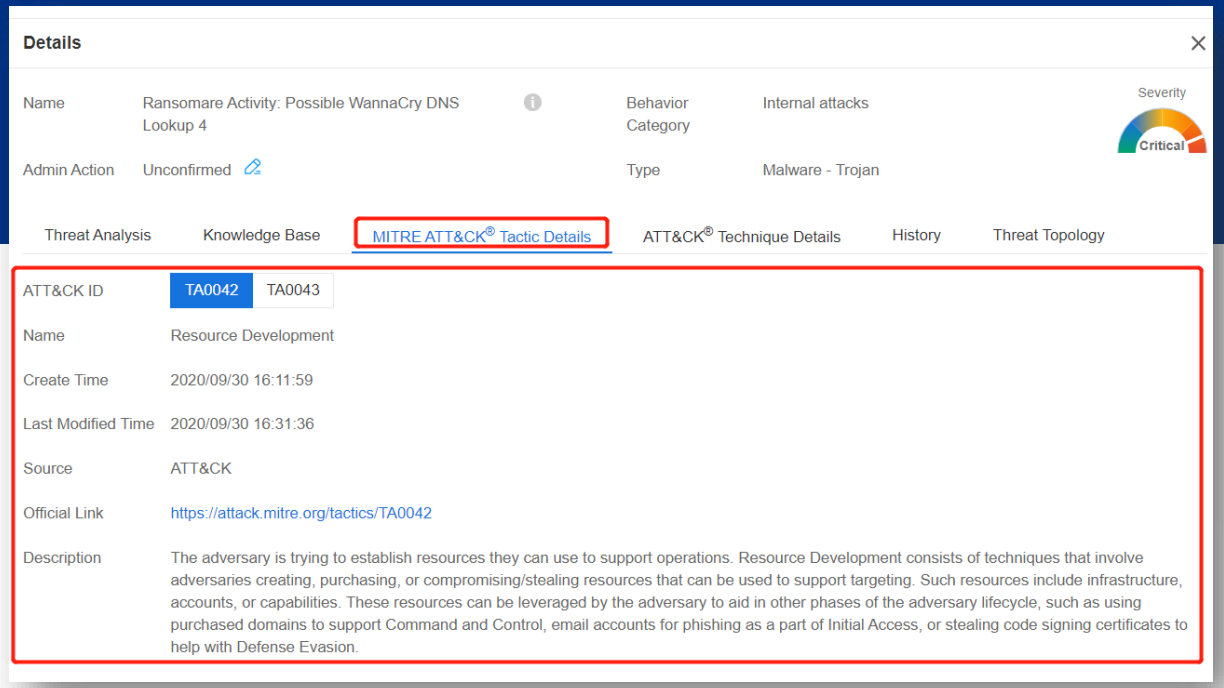




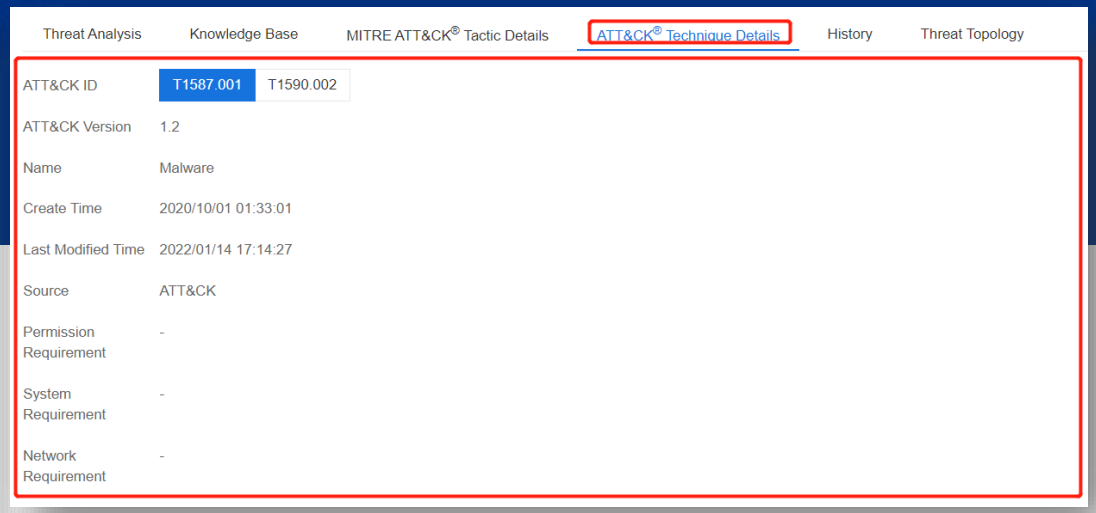
DFIR: MITRE ATT&CK Framework Mapping

MITRE ATT&CK®

Stands for Adversarial Tactics, Techniques, and Common Knowledge, is a globally recognized framework developed by the MITRE Corporation to classify and describe the potential threat behaviors.

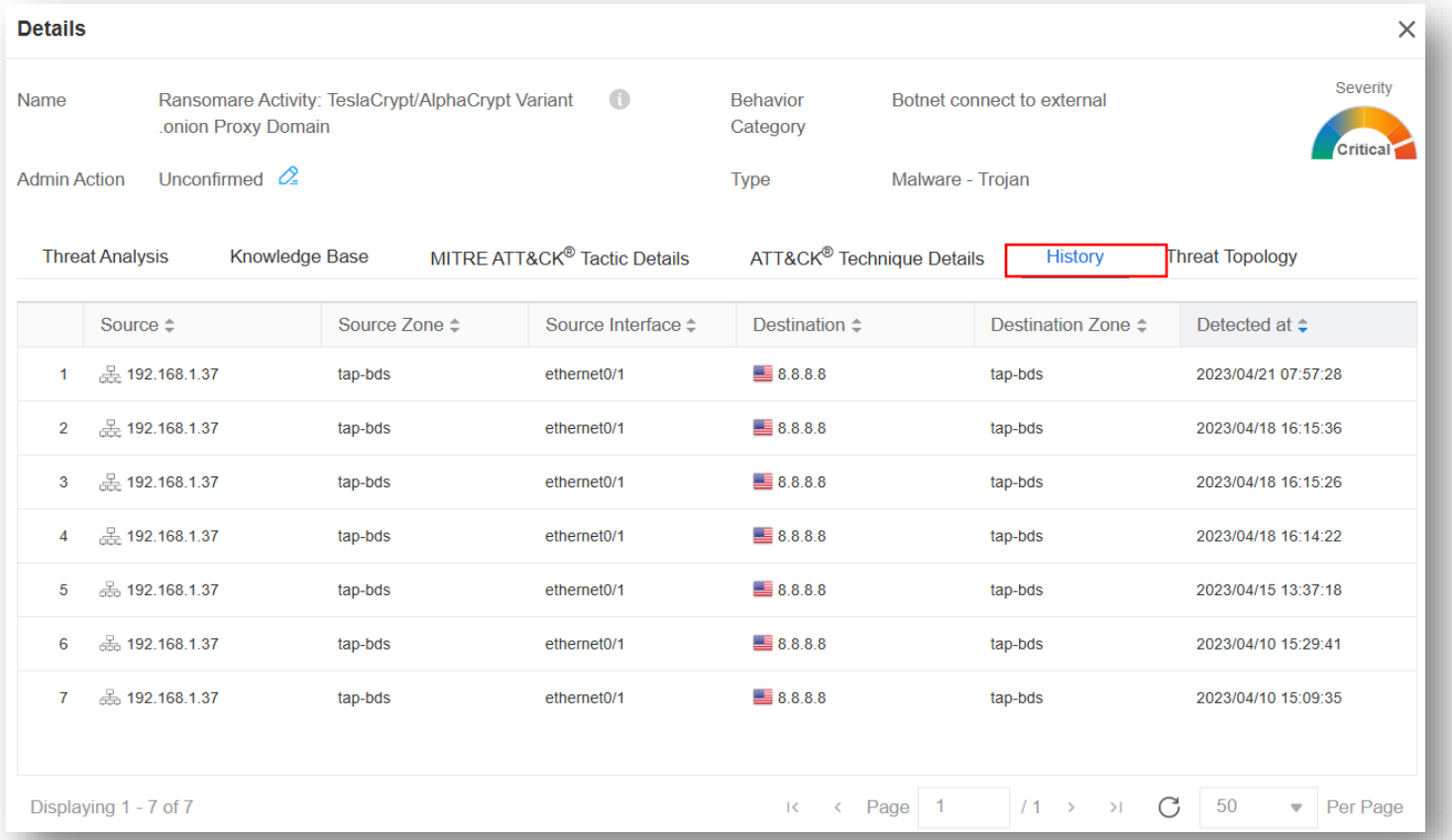


ATT&CK tactic details of threat events



ATT&CK technique details of threat events

DFIR: Threat Behavior Details



Information tracking for threat events:

- IP, port scanning
- Brute-force cracking of common services such as FTP, LDAP, and MySQL
- Abnormal HTTP access response
- C&C connection

Mitigation: Mitigate/Block Attacks in Conjunction with NGFW/NIPS

Hillstone BDS

- Detect and identify threat
- Configure linkage with Hillstone NGFW/NIPS
- Add the confirmed attacks to block list

Detect → Block → Prevent

Hillstone NGFW

Hillstone NIPS

- Linked with Hillstone BDS
- Synchronize block list from Hillstone BDS
- Block the attacks

Mitigation: Detect and Respond to Threats and Attacks with Integration of iSource

Hillstone BDS

Hillstone iSource

Hillstone NGFW

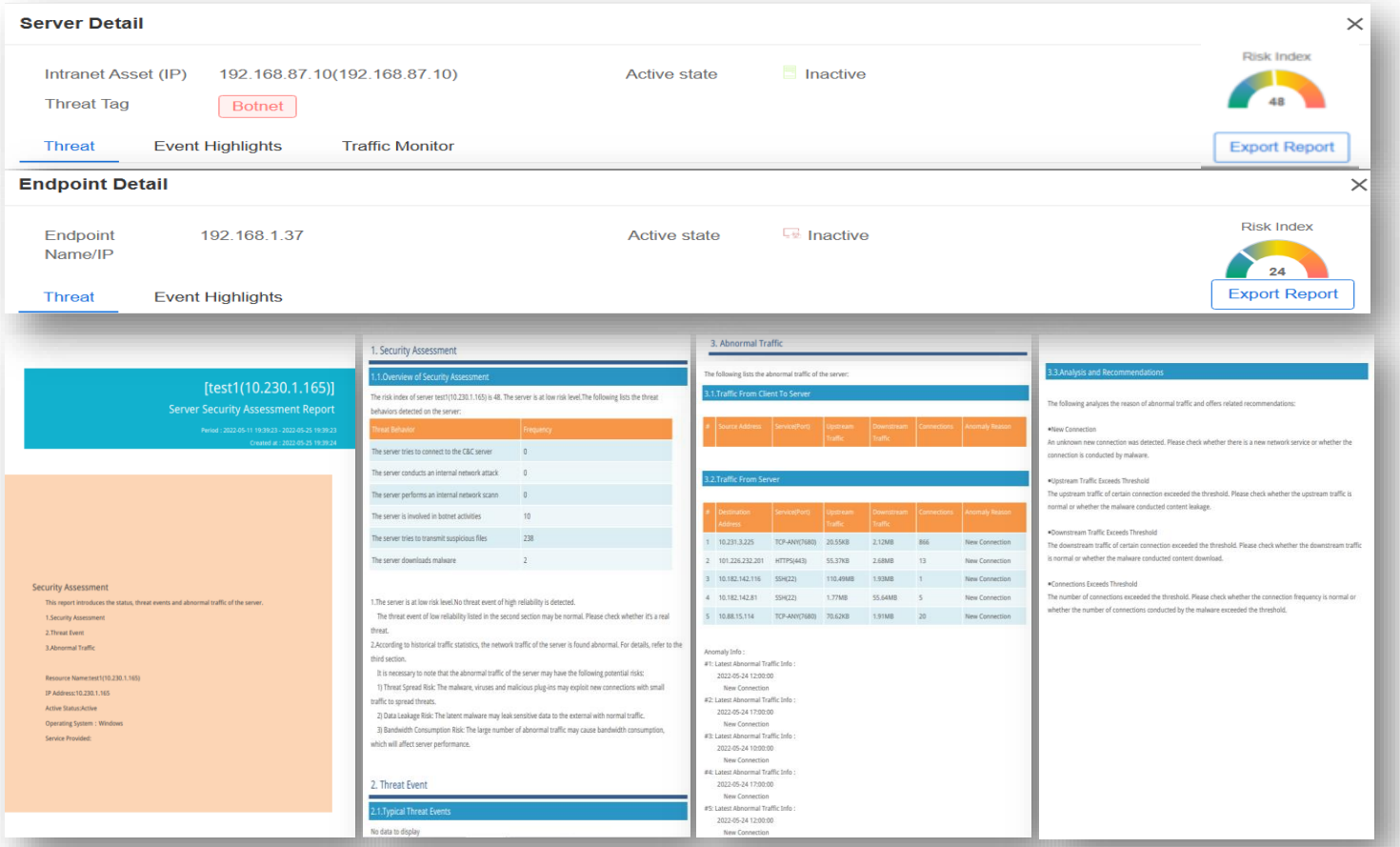
Data Collection → Detection and Analysis → Response

Under the scenario of integrating with iSource:

- BDS uploads data* (threat log/ evidential packets/ metadata/ netflow) to iSource
- BDS can perform active assets scanning task delivered by iSource, and uploads the results to iSource
- Support various types of detection and analysis for advance threats and attacks, including signature based detection, correlation analysis, NTA, etc.
- Provide full visibility and automated response to the integrated security products like NGFWs

*Note: Threat log, metadata, and netflow can be uploaded to iSouce V2.0R4-R8; Threat log, evidential packets, and netflow can be uploaded to iSource V2.0R9 or later

Report: Host Risk Assessment



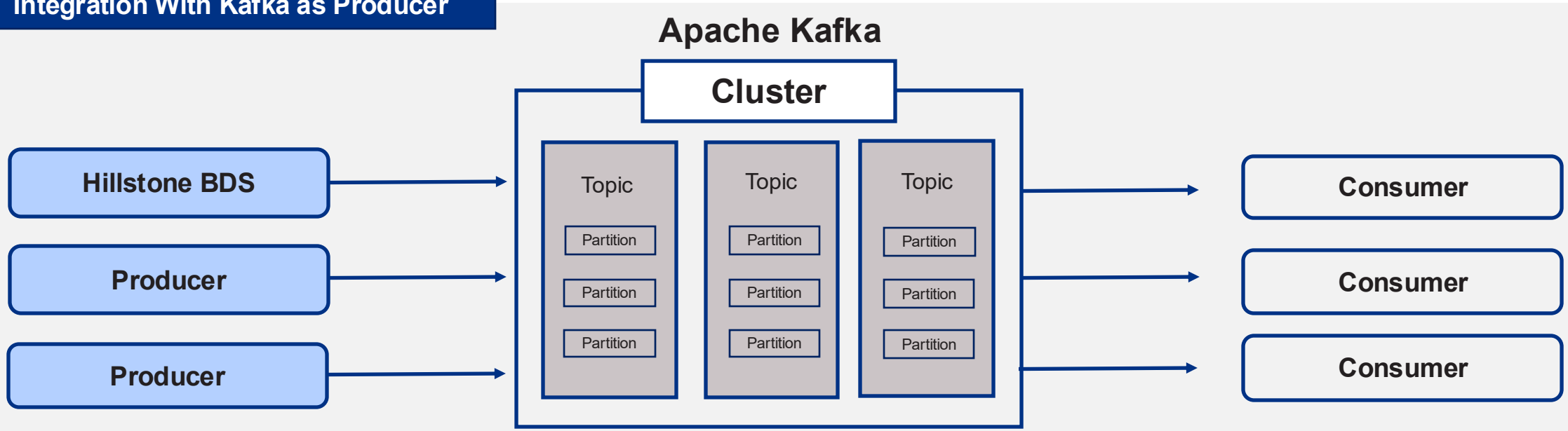
On the risk server or risk endpoint page, the threat and traffic information matching the current interface filtering conditions are exported. A PDF report is generated, which includes the following information:

- Server/endpoint information
- Security status assessment
- Threat event
- Abnormal traffic
- Analytical and disposal recommendations

Closed Cycle: Network Detection and Response

Third-Party Integration

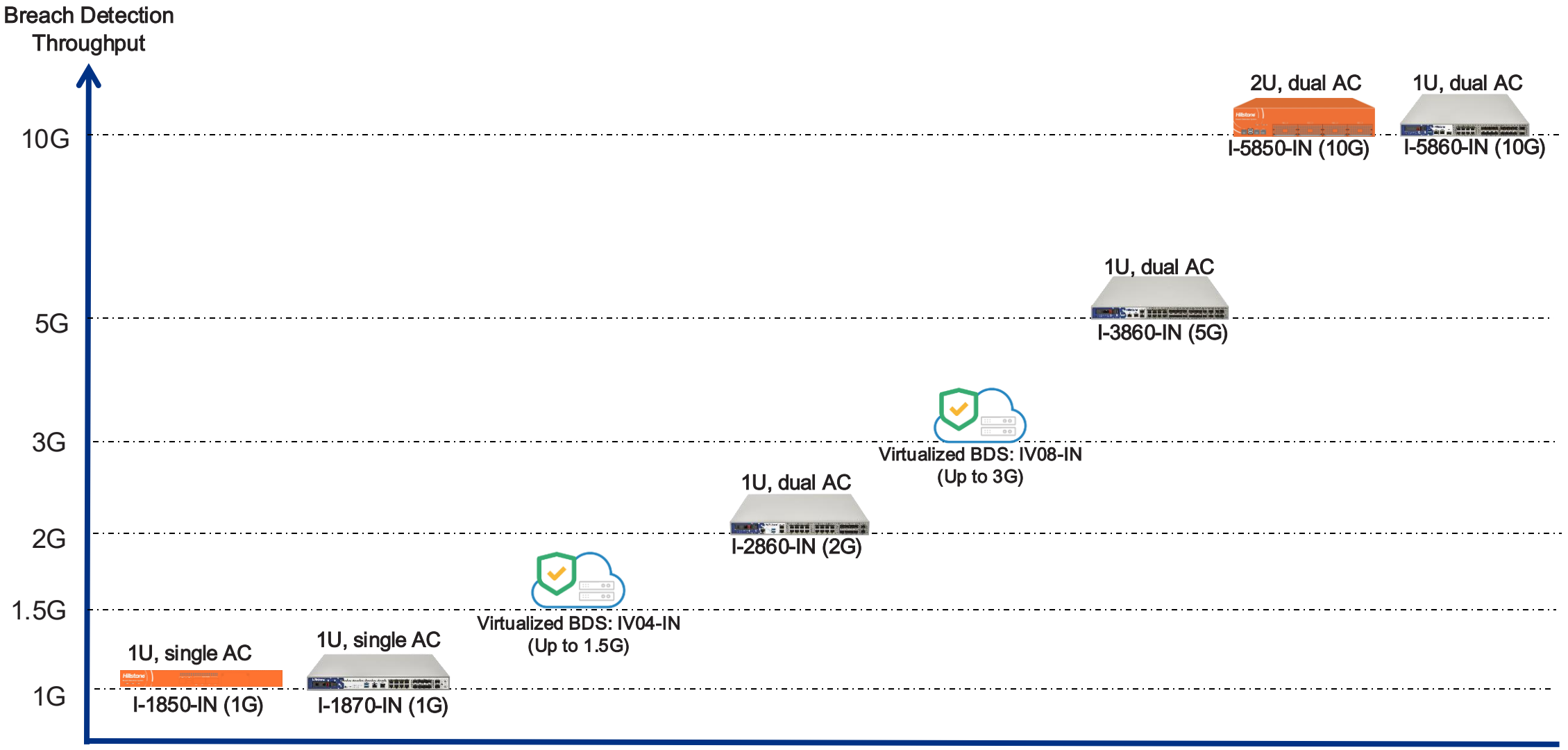
Integration With Kafka as Producer



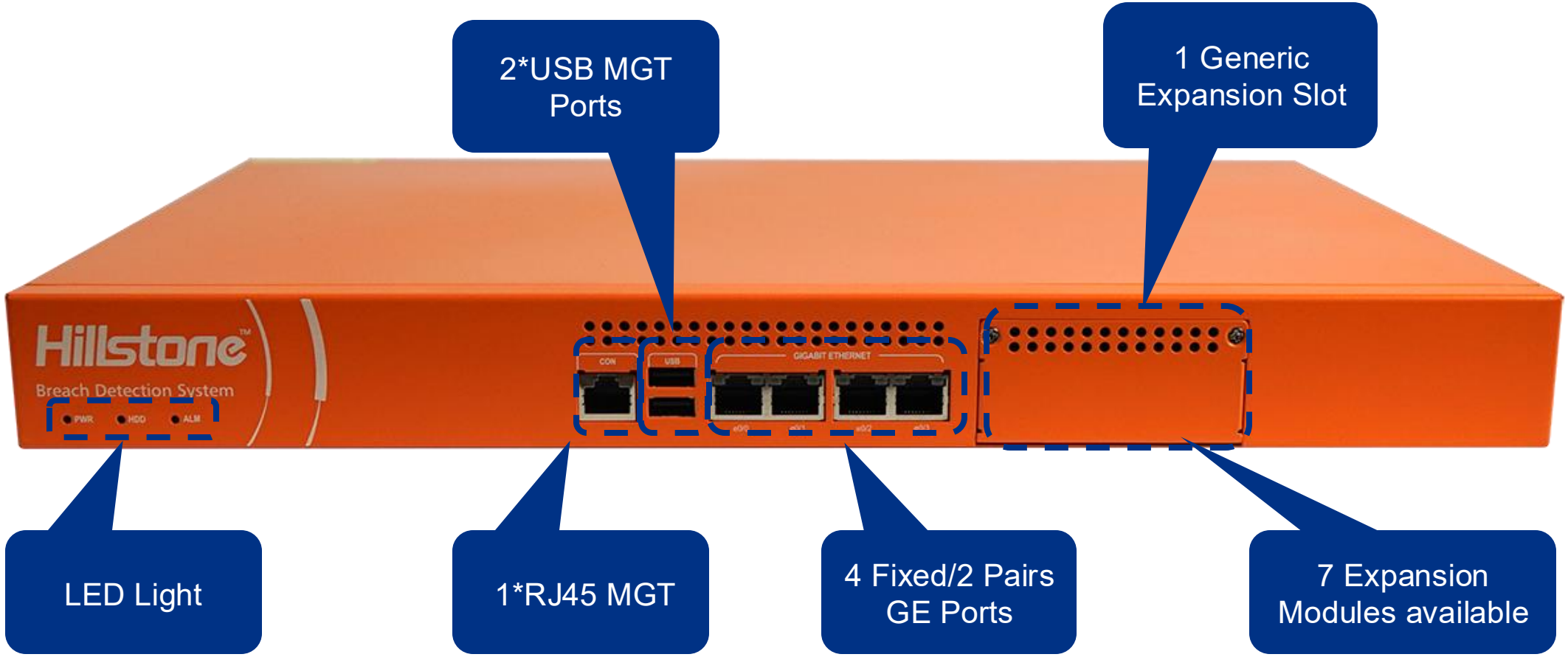
Forwarding logs via Syslog

Hillstone BDS Portfolio

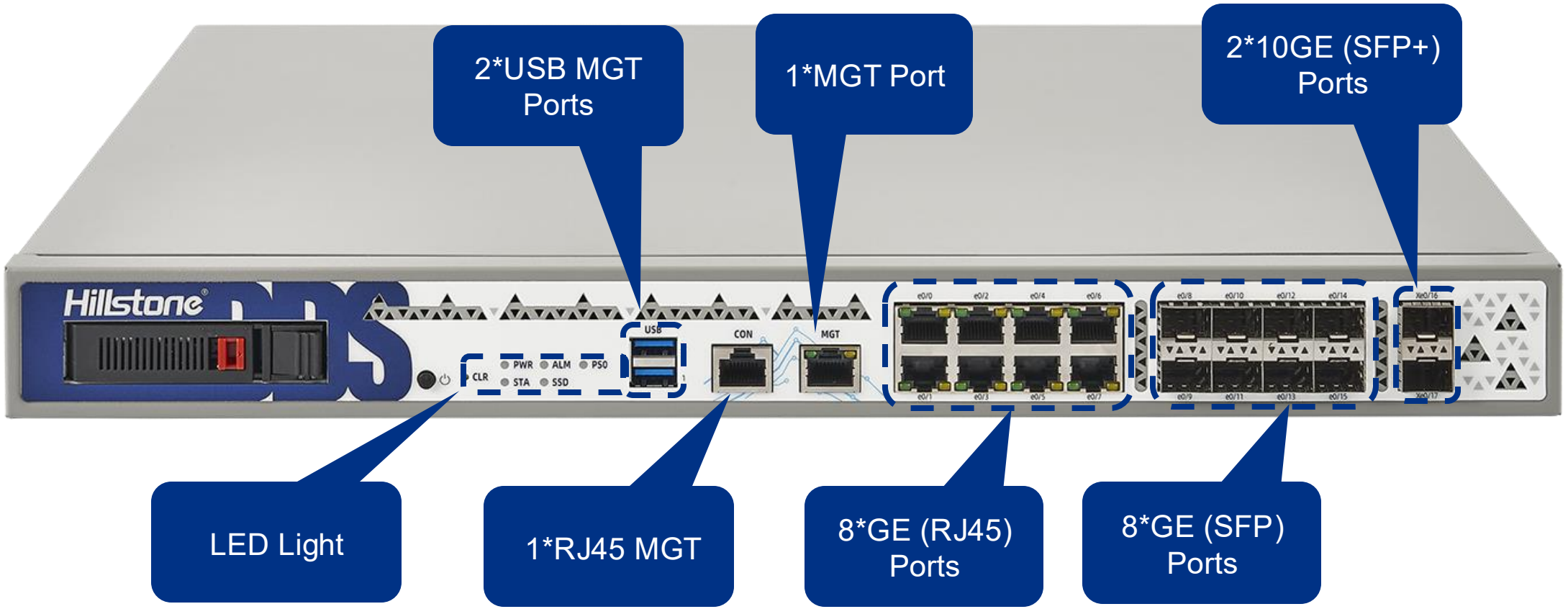
BDS Product Portfolio



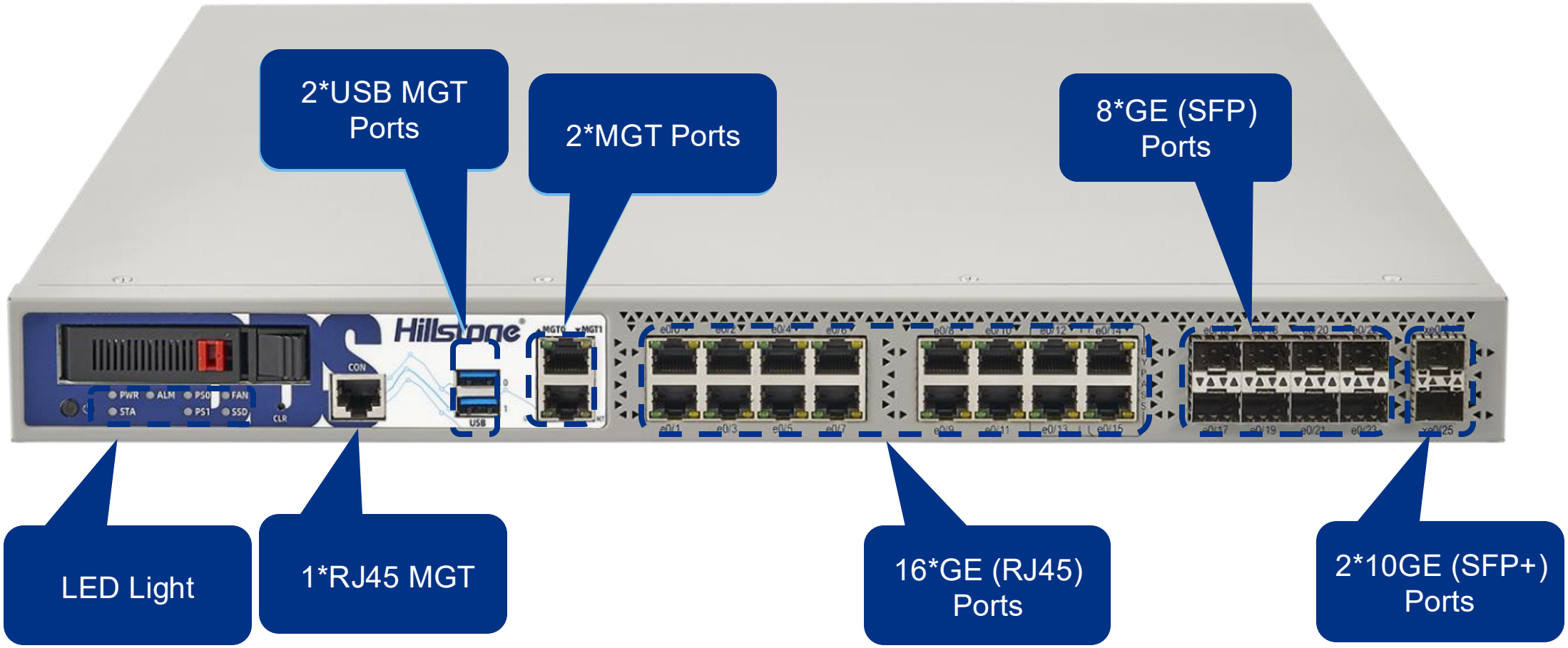
I-1850 Hardware Specification



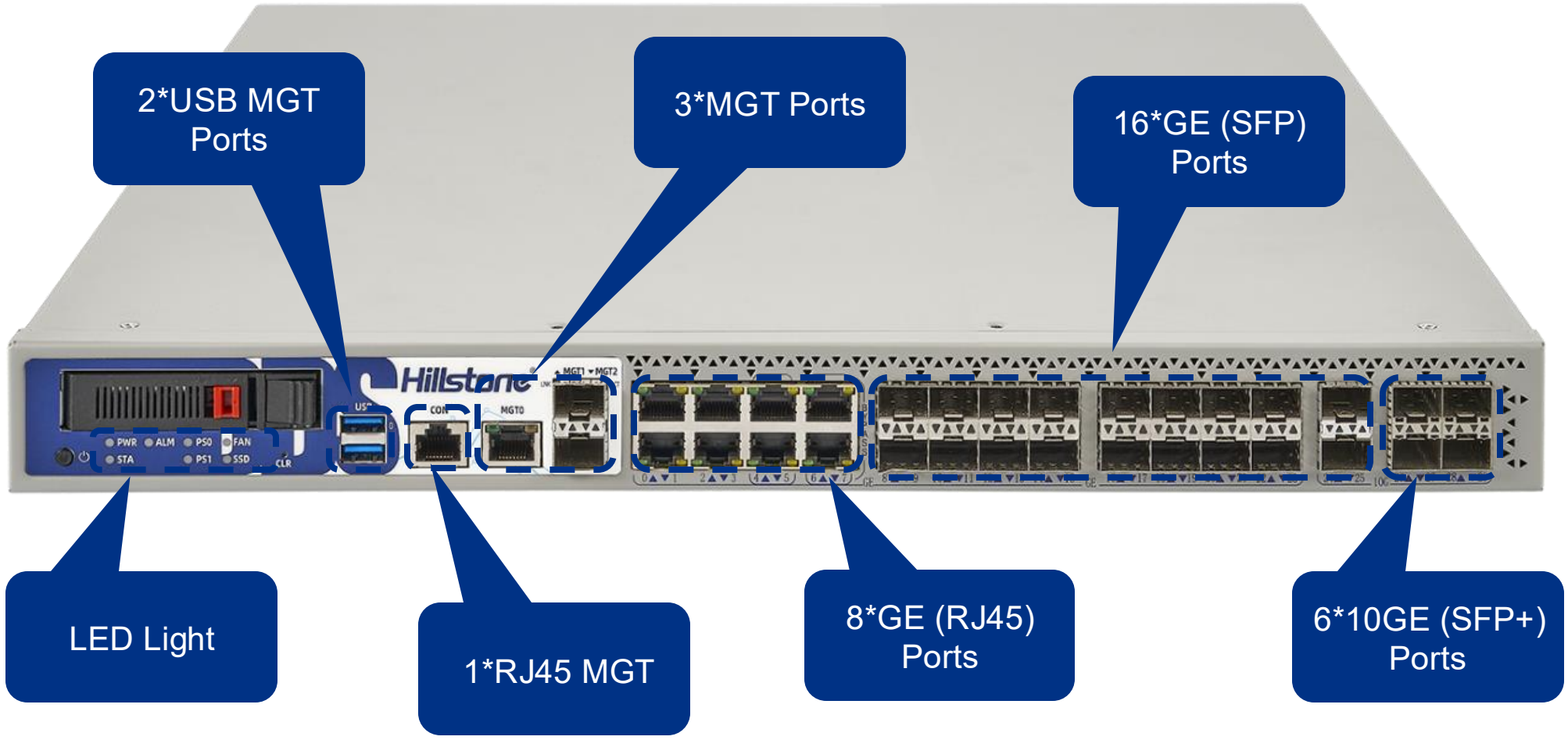
I-1870 Hardware Specification



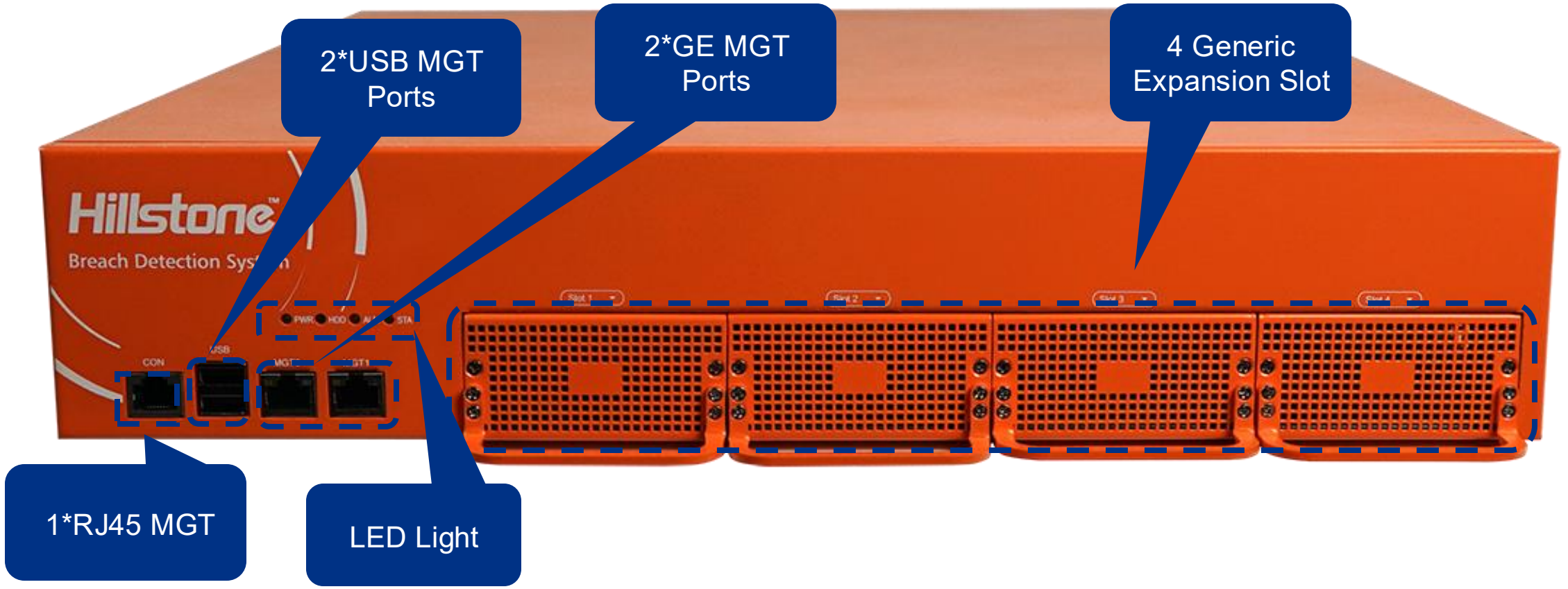
I-2860 Hardware Specification



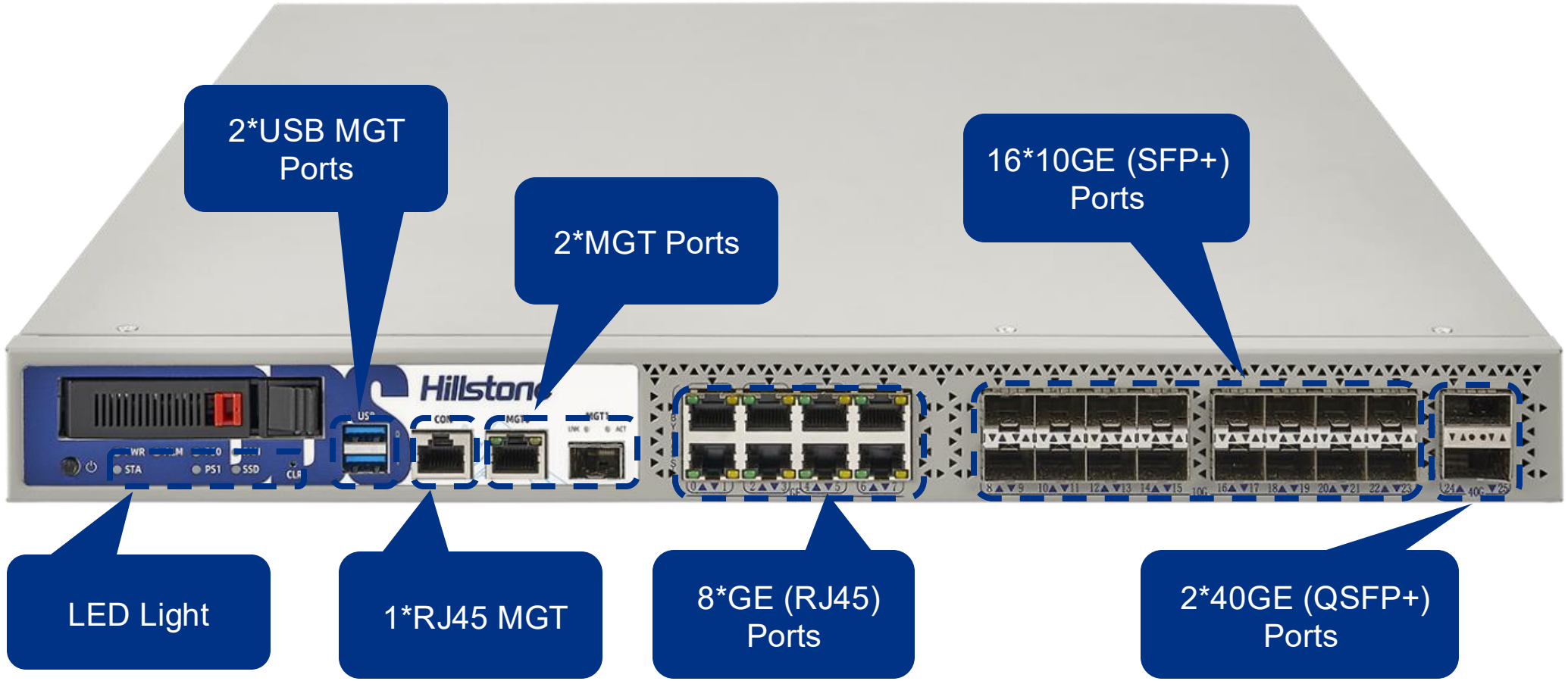
I-3860 Hardware Specification



I-5850 Hardware Specification



I-5860 Hardware Specification



BDS Hardware Specification

Model	I-1850-IN	I-1870-IN	I-2860-IN	I-3860-IN	I-5850-IN	I-5860-IN
Breach Detection Throughput	1 Gbps	1 Gbps	2 Gbps	5 Gbps	10 Gbps	10 Gbps
New Sessions/s	20,700	32,000	75,000	210,000	250,000	500,000
Maximum Concurrent Sessions	750,000	750,000	1,500,000	3,000,000	6,000,000	6,000,000
Form Factor	1 U	1 U	1 U	1 U	2 U	1 U
Storage	1T HDD	1T SSD	1T SSD	1T SSD	1T HDD	2T SSD
Management Ports	2 x USB port 1 x RJ45 port	2 x USB port 1 x RJ45 port 1 x MGT	2 x USB port 1 x RJ45 port 2 x MGT	2 x USB port 1 x RJ45 port 3 x MGT	2 x USB port 1 x RJ45 port 2 x MGT	2 x USB port 1 x RJ45 port 2 x MGT
Fixed I/O Ports	4 (2 Pairs) GE ports	2×10GE (SFP+) 8 × GE (SFP) 8 × GE (RJ45)	2×10GE (SFP+) 8 × GE (SFP) 16 × GE (RJ45)	6×10GE (SFP+) 16×GE (SFP) 8×GE (RJ45)	N/A	8×GE (RJ45) 16×10GE (SFP+) 2×40GE (QSFP+)
Available Slots for Expansion Modules	1	N/A	1	1	4	1
Expansion Module Option	IOC-S-4SFP-L-IN	N/A	IOC-A-4SFP+-IN	IOC-A-4SFP+-IN	IOC-BDS-8GE-H-IN, IOC-BDS-8SFP-H-IN, IOC-BDS-4SFP+-H-IN	IOC-A-4SFP+-IN

Virtualized BDS Specification & Configuration

Specification and minimum hardware configuration:

Model	IV04-IN	IV08-IN
Breach Detection Throughput *	Up to 1.5 Gbps	Up to 3 Gbps
CPU Support	4 Core	8 Core
Memory	8G	16G
Storage	100G	100G
System Requirement	KVM / Vmware ESXi version 6.5 or above	

* The breach detection throughput data depends on the hardware configuration

Network interface card supported:

	SR-IOV	All NICs except SR-IOV
KVM	√ (only SR-IOV X710 can be supported)	√
VMware	×	√

Expansion Modules

Module	IOC-S-4SFP-L-IN	IOC-S-4GE-B-IN	IOC-BDS-8GE-H-IN	IOC-BDS-8SFP-H-IN	IOC-BDS-4SFP+-H-IN	IOC-A-4SFP+-IN
I/O Ports	4 x SFP Ports	4 x GE Ports	8 x GE Ports	8 x SFP Ports	4 x SFP+ Ports	4 x SFP+, SFP+ module not included
Dimension	1U (Occupies 1 generic slot)	1U (Occupies 1 generic slot)	1U (Occupies 1 generic slot)	1U (Occupies 1 generic slot)	1U (Occupies 1 generic slot)	1U
Weight	0.22. lb (0.1 kg)	0.33 lb (0.15 kg)	0.55 lb (0.25 kg)	0.55 lb (0.25 kg)	0.44 lb (0.2 kg)	2.09 lb (0.96 kg)

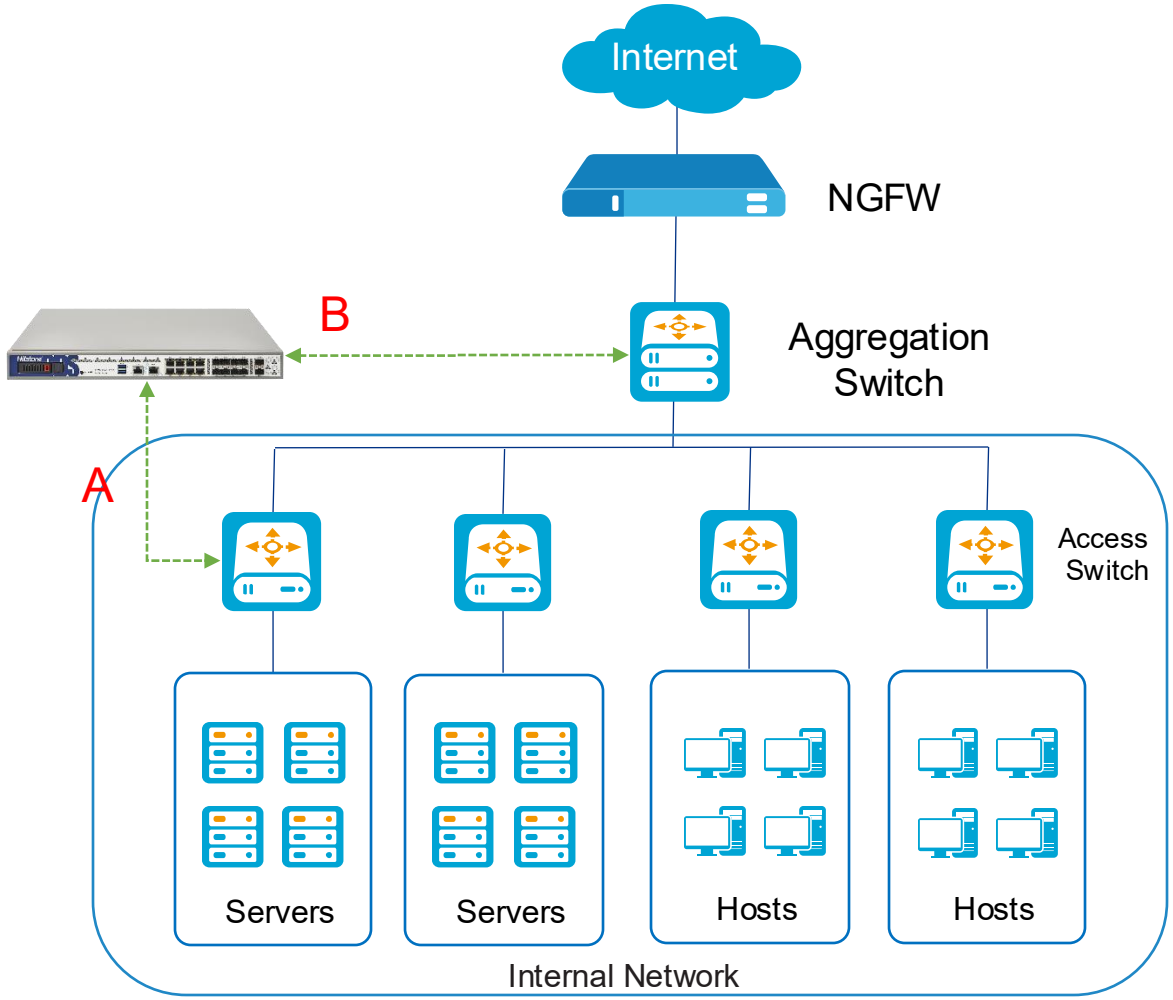
Sysmon Configuration

Specification	Sysmon Server	Sysmon Client
CPU	core*4	\
Memory	16G	1G
Storage	1T HDD, extendable	40G HDD
Installation Package	OVF Mirror	MSI Service Program
Software	VMware ESXi	Windows 7 / Windows Server 2007 or above
Others	• The default configuration supports log storage of 1000 PCs. • Sysmon server stores up to 90 days of data. Data will be automatically deleted (cleaned up) after 90 days. When the disk (/data) usage exceeds 85%, the system will automatically delete the oldest data. • Sysmon Server system has enabled the Log Receiving Service (Logstash) and the Query service (Elasticsearch), using ports 5044 and 9200 respectively.	Two installation methods are available: • direct installation by user • batch installation via Windows Active Directory domain distribution software

- Sysmon Client - Installed on user's computer; used to record the process creation and termination initiated by the computer, as well as network connection information; send the information to the Sysmon Server.
- Sysmon Server - Receive and store the process information log sent by the client software for BDS device query and display.

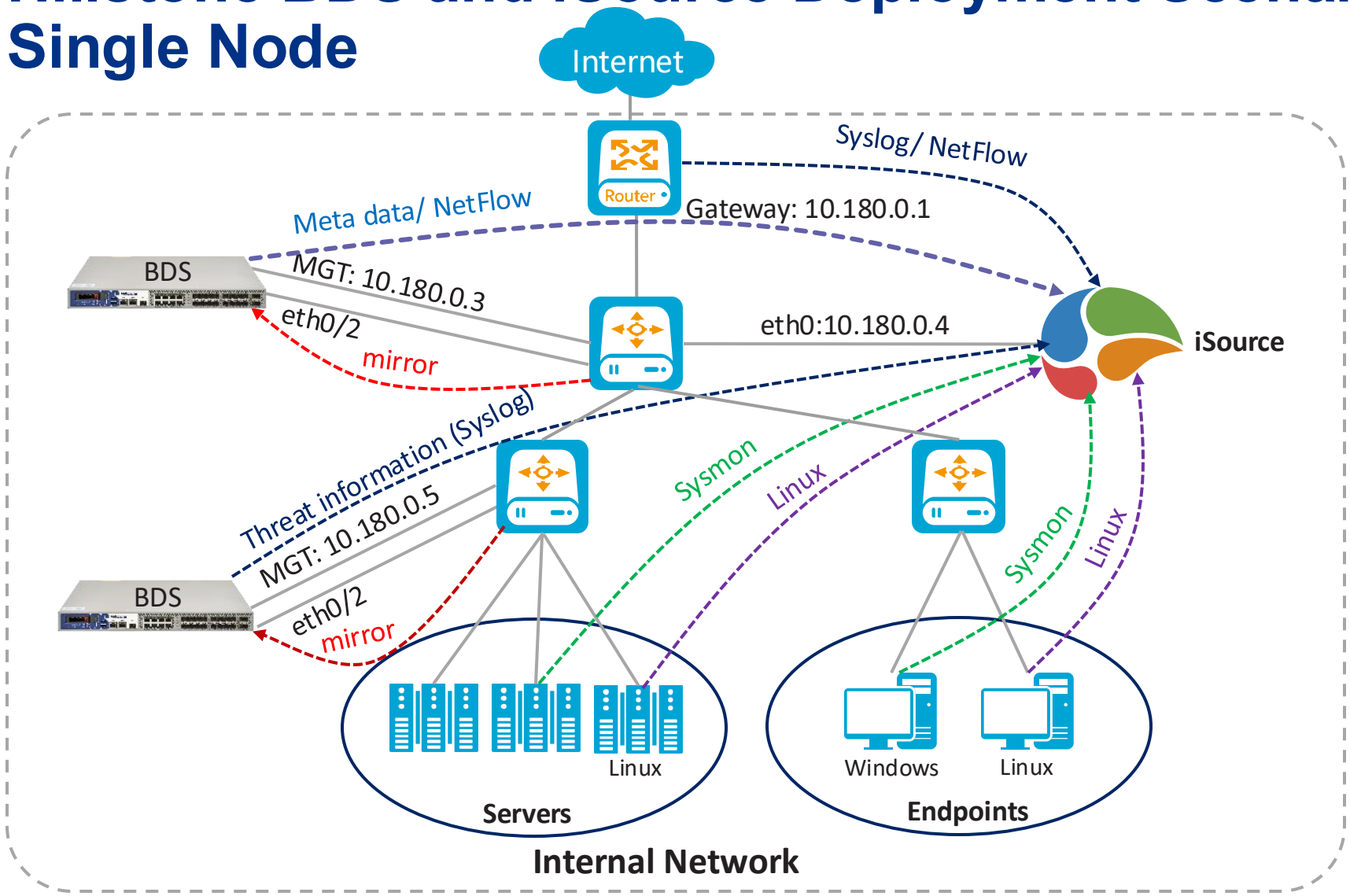
Deployment Scenarios & Case Studies

Hillstone NDR Deployment Scenarios- BDS and NGFW



- ***Scenario A:*** *Access Switch connecting to servers or server groups*
  - Monitor traffic between servers within the same segment; servers in different segments; server and internet; servers and other hosts.
- ***Scenario B:*** *Aggregation switch between Access Switches*
  - Monitor traffic between servers in different segments; servers and internet; servers and other hosts; hosts and internet.
- ***Scenario C:*** *Combination of the above scenarios*

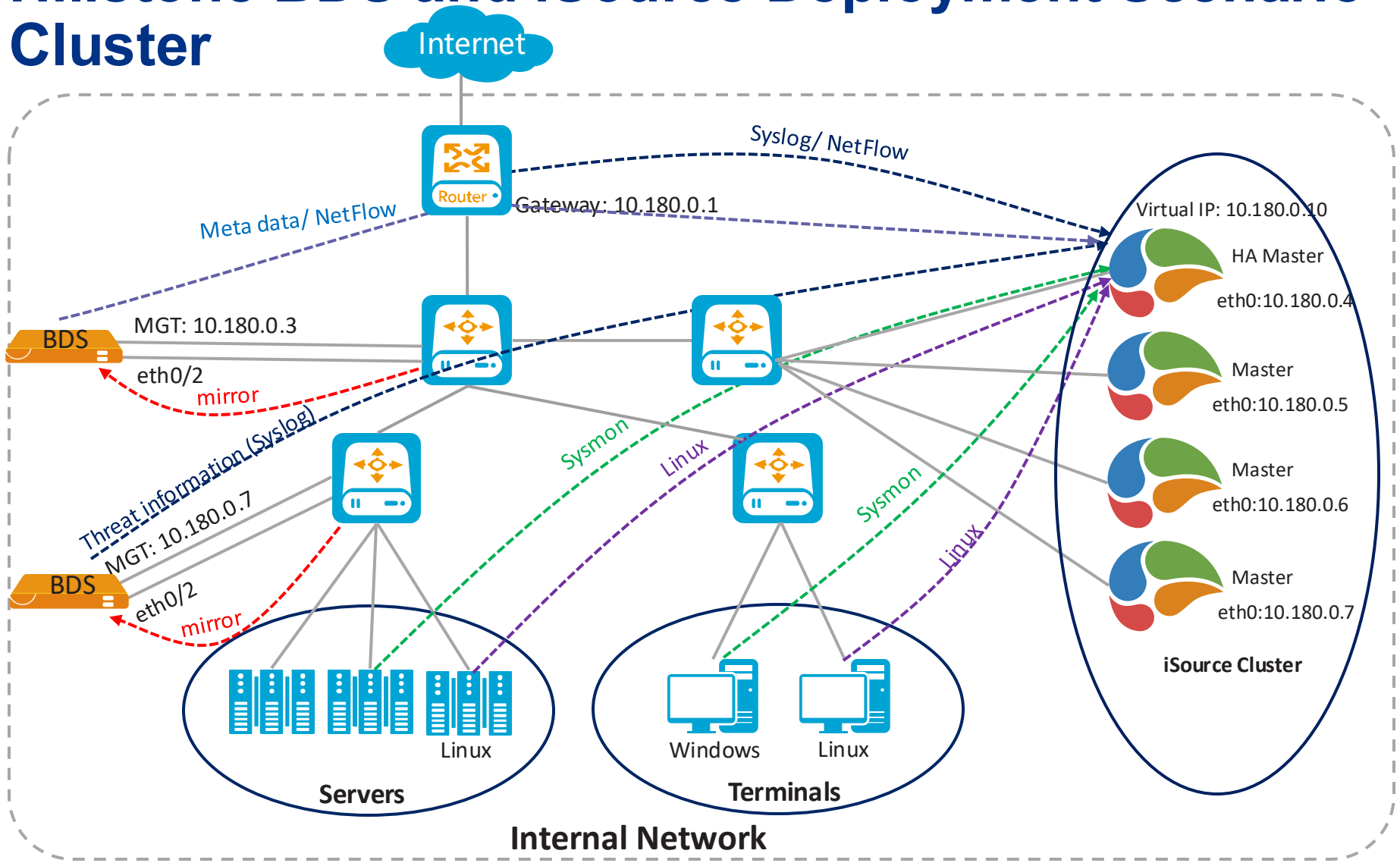
Hillstone BDS and iSource Deployment Scenario-Single Node



Single Node Deployment

- BDS deployed in TAP mode
- iSource deployment has little impact on the existing network environment
- Economic solution

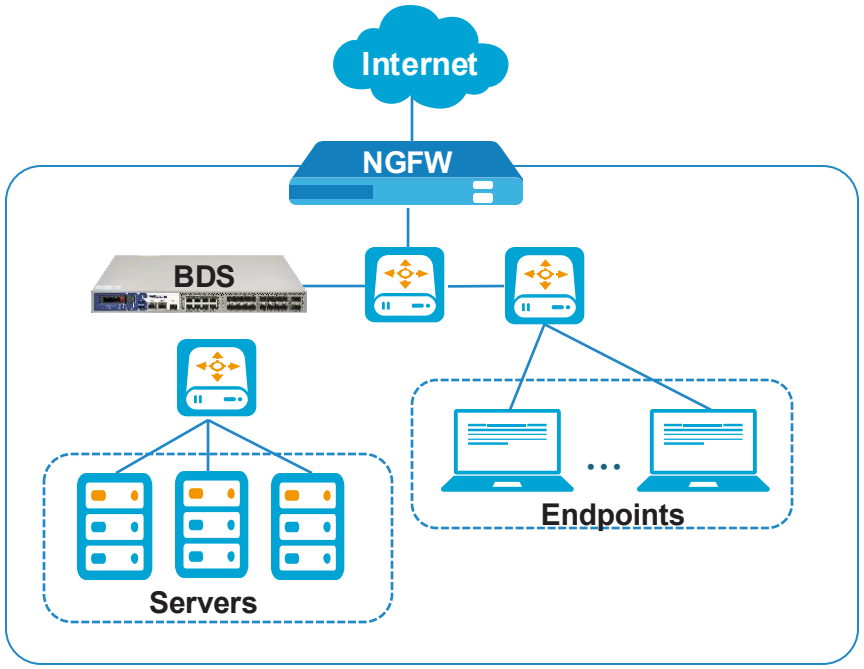
Hillstone BDS and iSource Deployment Scenario-Cluster



Cluster Deployment

- BDS deployed in TAP mode
- Cluster up to 5 nodes
- iSource deployment has little impact on the existing network environment
- Highly scalable solution

Case Study 1: Protect Critical Information for Large University



Customer Profile

- A large private university with an enrollment of more than 10,000 students, located in South America

Challenges

- There are significant number of users connecting or accessing the networks from various devices, often compromising the perimeter security, and generating breaches that could put critical information at risk.
- The potential cyber attacks could impact business continuity, halting access to University web properties.

Hillstone Solution

- The customer deployed Hillstone BDS in conjunction with Hillstone T-Series intelligent next generation firewalls (iNGFW).
- The intelligence security features of Hillstone BDS and iNGFW – ML-based detection of behavior and threats, helped achieve detection and prevention from the perimeter to the internal network.
- A critical attack was detected by this solution deployed, which would have caused an enormous breach in internal services, as well as compromised data.

Case Study 2: Secure Critical Assets for A Regional Government in Latam

Customer Profile

- A regional government with administrative, political and economic autonomy in South America

Challenges

- Organizations constantly conduct operations and procedures online, managing a massive flow of information as well as money. There is a great need to protect these information and assets due to the ever growing wave of cyber-attacks in the world.
- The customer needs to minimize the threat to the services it provides, as well as to guarantee the availability of the applications used by the personnel.

Hillstone Solution

- The customer deployed Hillstone BDS to fully protect their internal network. It can effectively identify advanced threats that lurk within an internal network, and affected from BYOD (bring your own device) of the organization employees.
- The deployed solution protected the customer from threats by detecting the use of devices and access to data that appear abnormal in their network. And also allowed the customer to adopt measures to avoid attacks.

Case Study 3: Detect Locky Ransomware for a Pharmaceutical Company

Customer Profile:

- A large Pharmaceutical Company has 2000+ employees in 5 countries

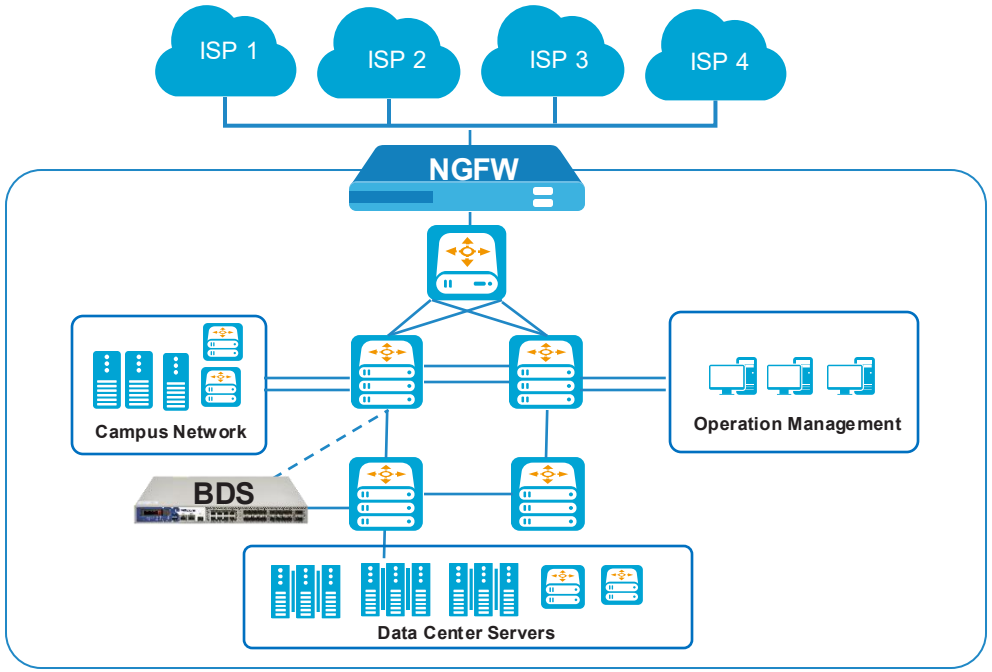
Challenges

- The customer deployed viable security solutions including firewall/IPS/Antivirus solutions, but they couldn't detect the ransomware variants in early stage and protect their servers from being locked.
- The customer was also trying to hire security professionals to disinfect their locked systems. but the process takes days, at a much higher cost even than the ransom.

Hillstone Solution

- Customer deployed Hillstone NDR product in front of servers area, in Tapping mode by access switch, along with Hillstone NGFW and IPS in the network exit.
- Hillstone NDR product leverage its layered detection engines (ABD/ATD/IPS/AV) to detect and identify the Locky ransomware and other advanced attack and alarm the IT team to take promptly actions to block these blocks.

Case Study 4:
Protect Critical Servers for a Large University



Customer Profile

- A top university with 25,000 students accessing the campus network and resource

Challenges

- Can't identify and detect the compromised internal host
- No dedicate solution for critical servers in the data center
- The current NGFW and IPS couldn't detect advanced unknown threat

Hillstone Solution

- Hillstone's NDR solution is designed to detect internal threats and sophisticated attacks that bypass traditional perimeter defense.
- By focusing on high-risk assets and providing granular control, Hillstone ensures that the most valuable data is protected against both external and internal threats.
- Hillstone's NDR solution offers continuous monitoring, detection of threats, and the ability to respond to security incidents effectively.

Customer References

Computer Network Information Center
Government,
China

China Telecom
ISP,
China

Datatell
Communication,
Costa Rica

Shaanxi Regional Electric Power Group
Energy,
China

Gobierna Regional De Amazonas
Government,
Peru

Woori Bank
Finance,
S.Korea

Bangkok Metropolitan Administration
Government,
Thailand

Camel
Manufacturing,
China

Sichuan Railway Industry Investment Group
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Credimatic
Finance,
Ecuador

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