Gigamon®

Seminář

České pobočky AFCEA – pracovní skupiny PS07 Inteligence a fakulty bezpečnostního managementu Policejní akademie ČR

OD DAT KE ZNALOSTEM II.
Analýza síťového toku

# Next-Generation Network Packet Broker (NG-NPB)

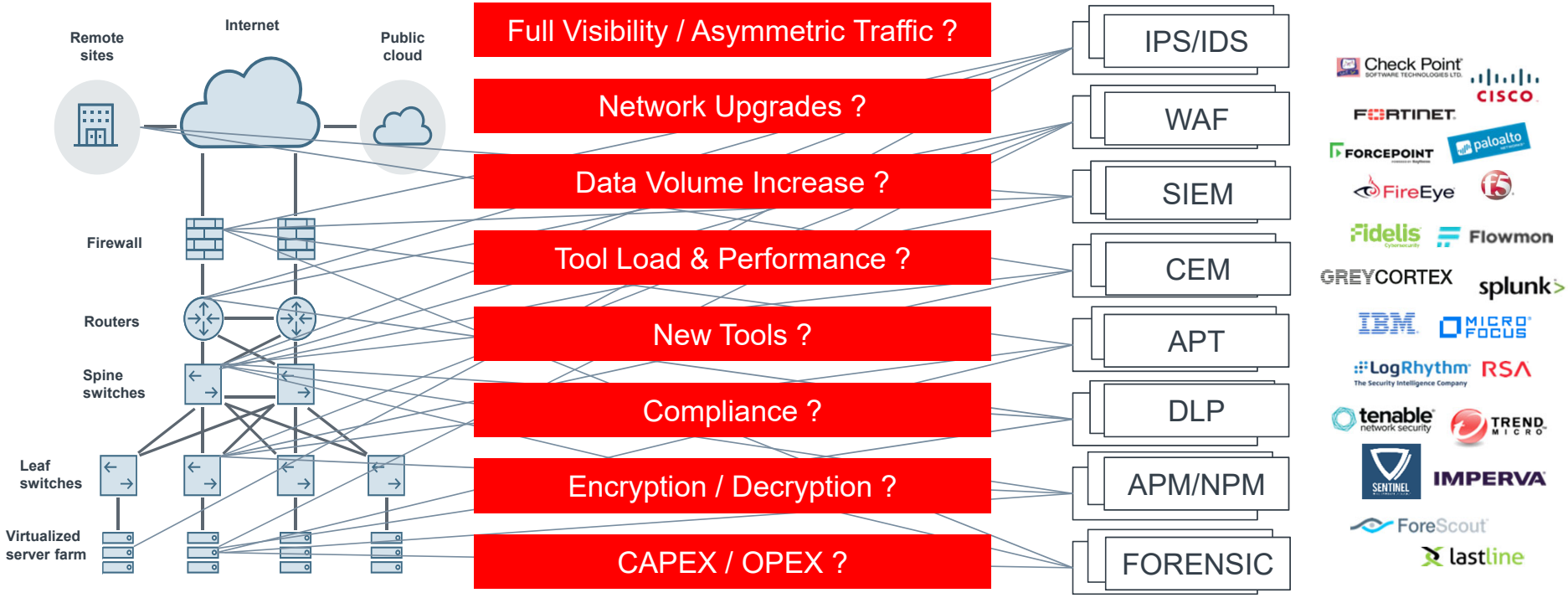
## Kompletní viditelnost síťového provozu

**Dejan Laketić** Sr. Sales Engineer, Gigamon, EMEA Central


***"What you can't see, can't be monitored. What you can't monitor, can't be managed & secured"***

- **Introduction to Next Generation Network Packet Broker (NG-NPB)**
- **Benefits and Use Cases**

# Network & Security Visibility Challenges

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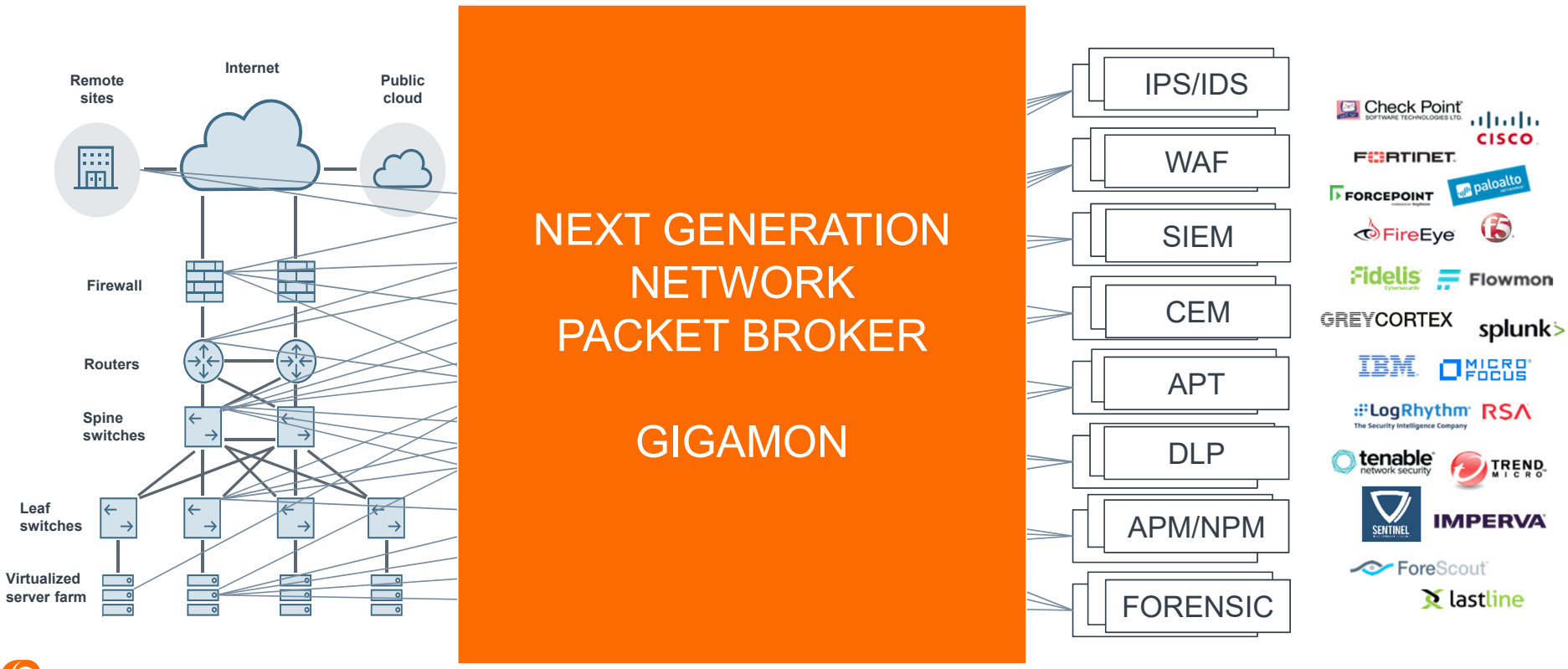
# Solution for better visibility – NG NPB

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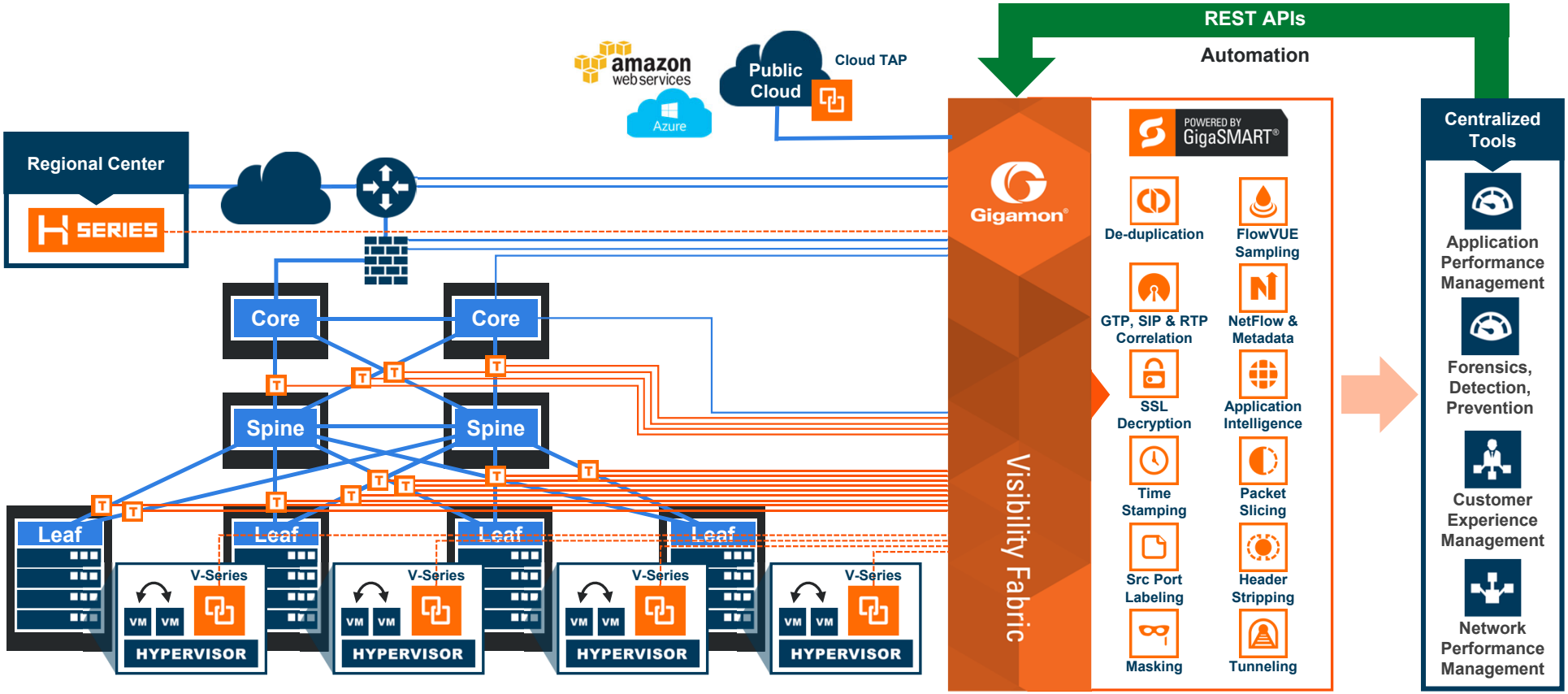
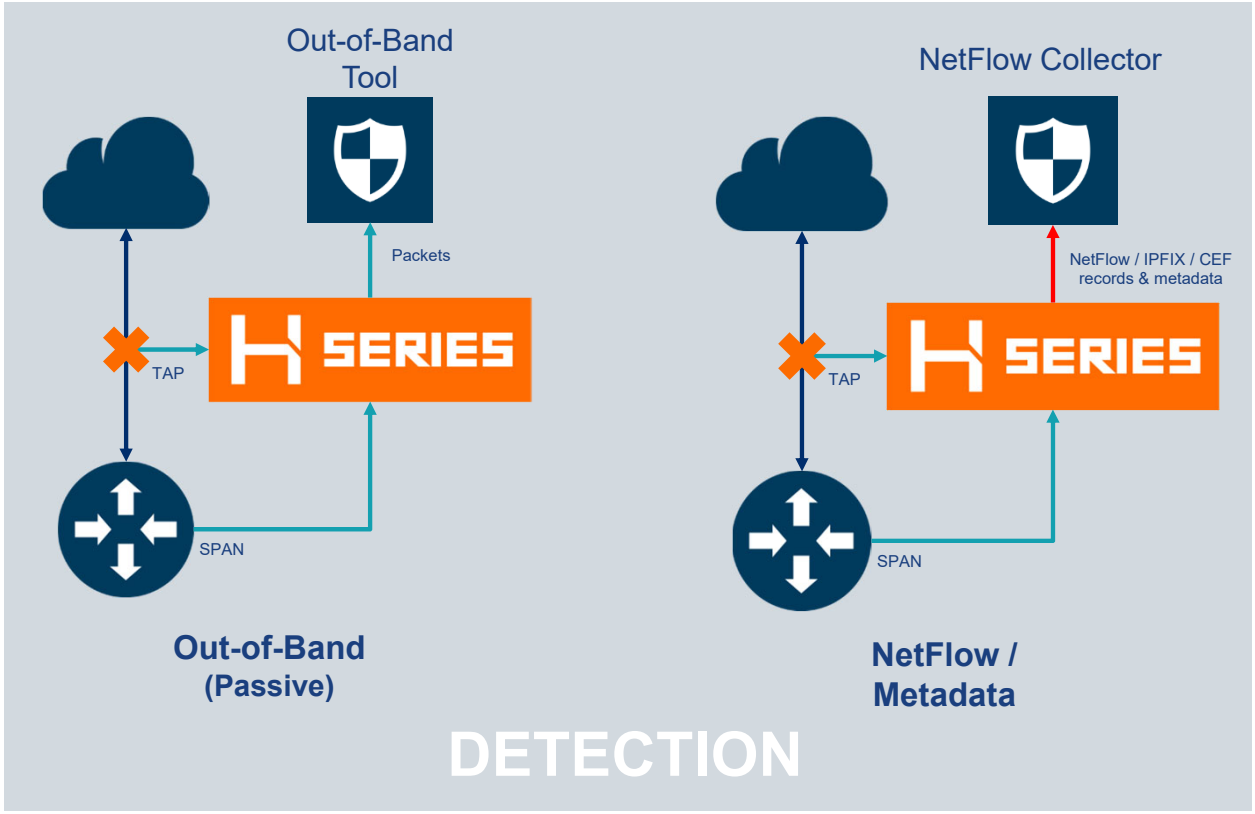
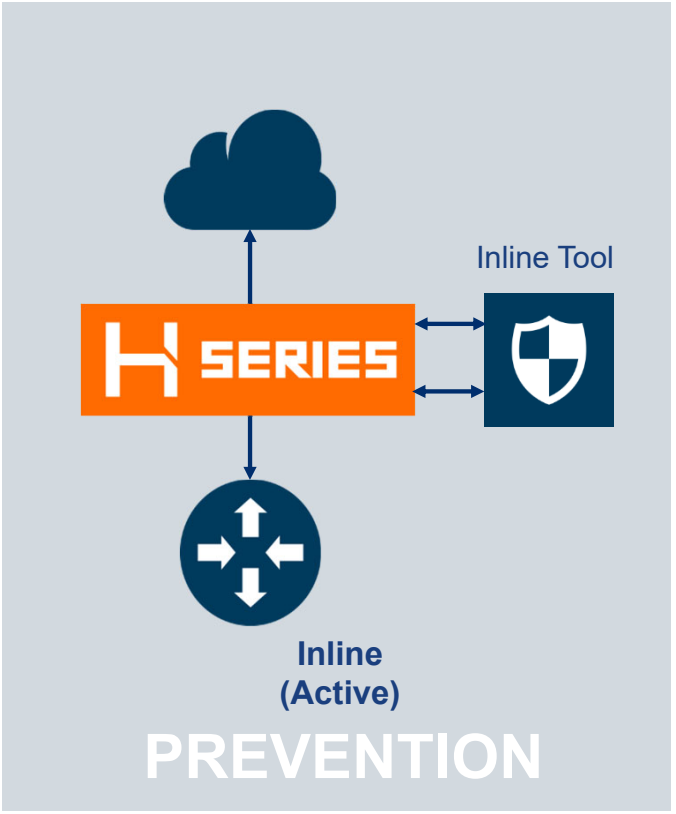
# Complete Visibility into Data-in-Motion



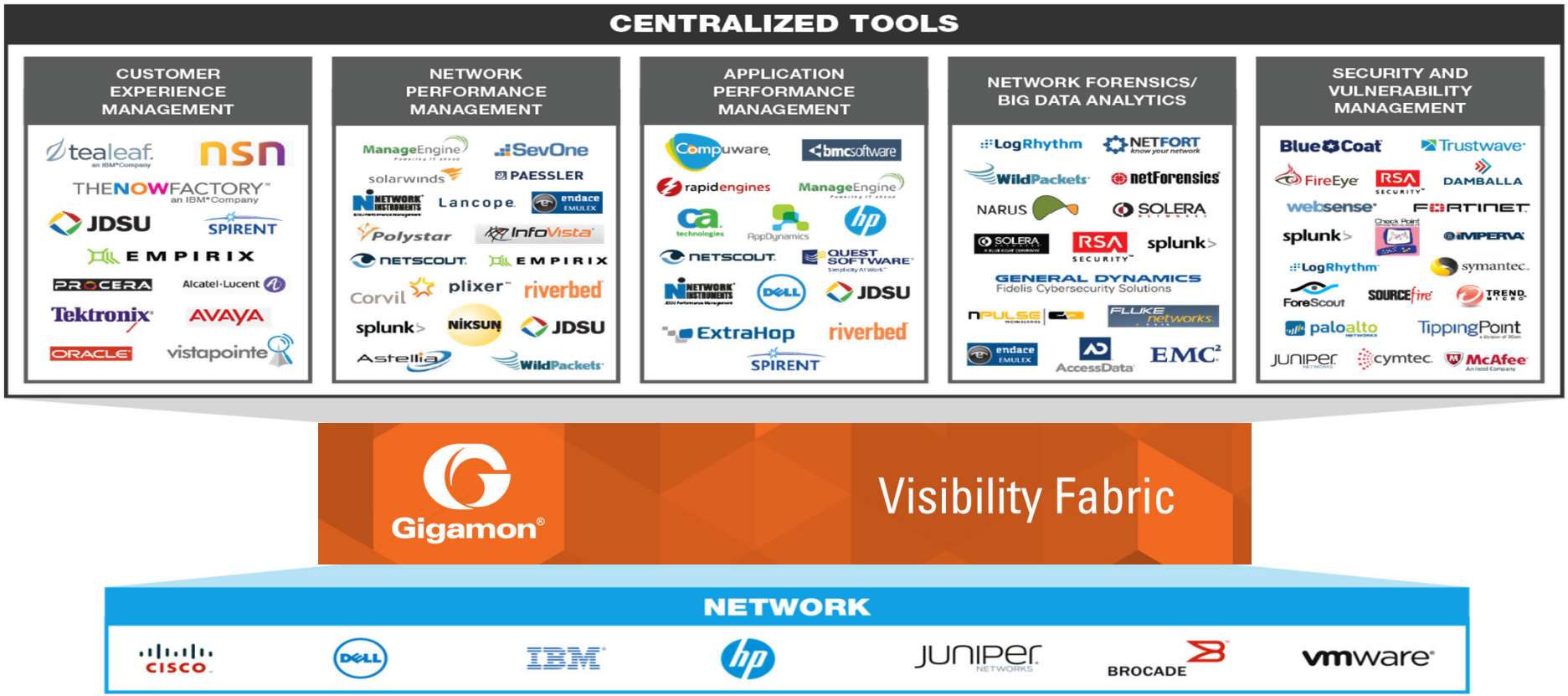
# Network Monitoring & Security Tools



# Agnostic Visibility Solution

## Working with any tool and any network



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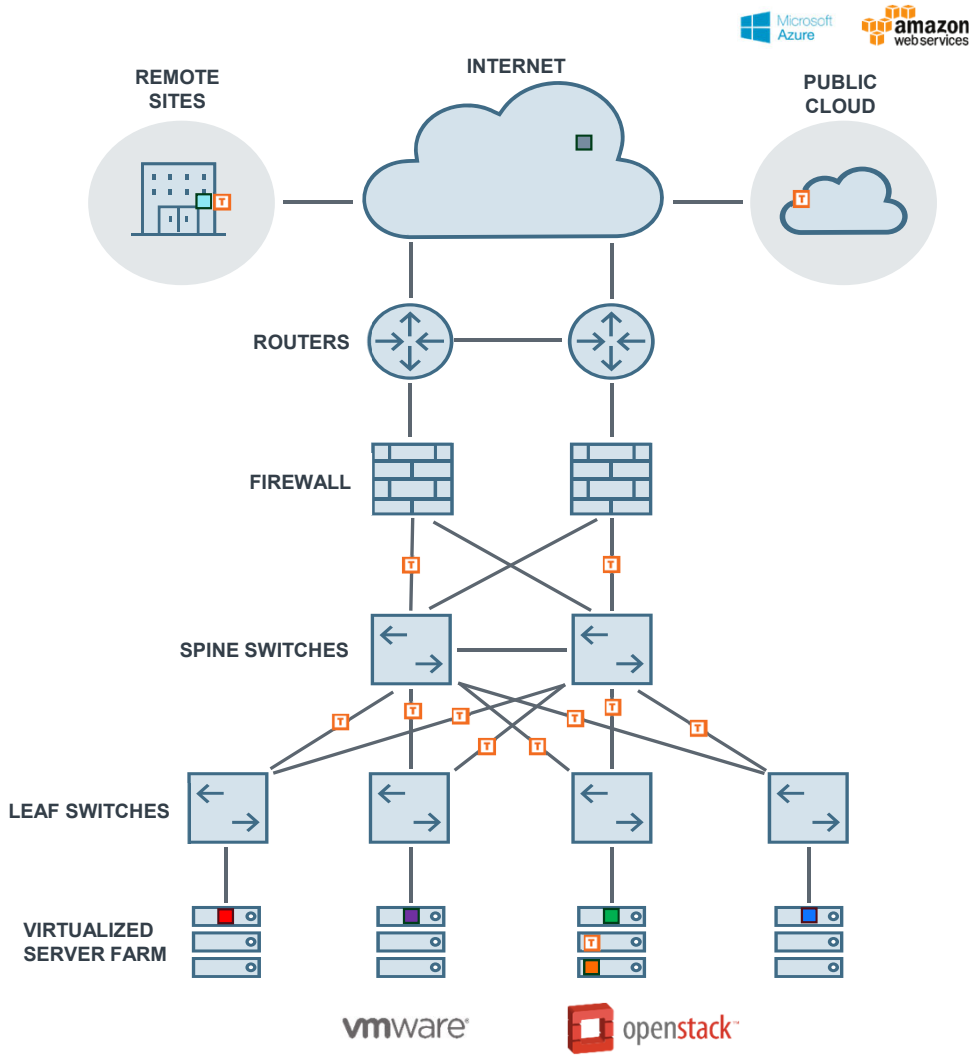
# Network & Security Visibility Implementation Use Cases

## Use Case:
## 1. First Step to Visibility: Get Reliable Data Access for Tools



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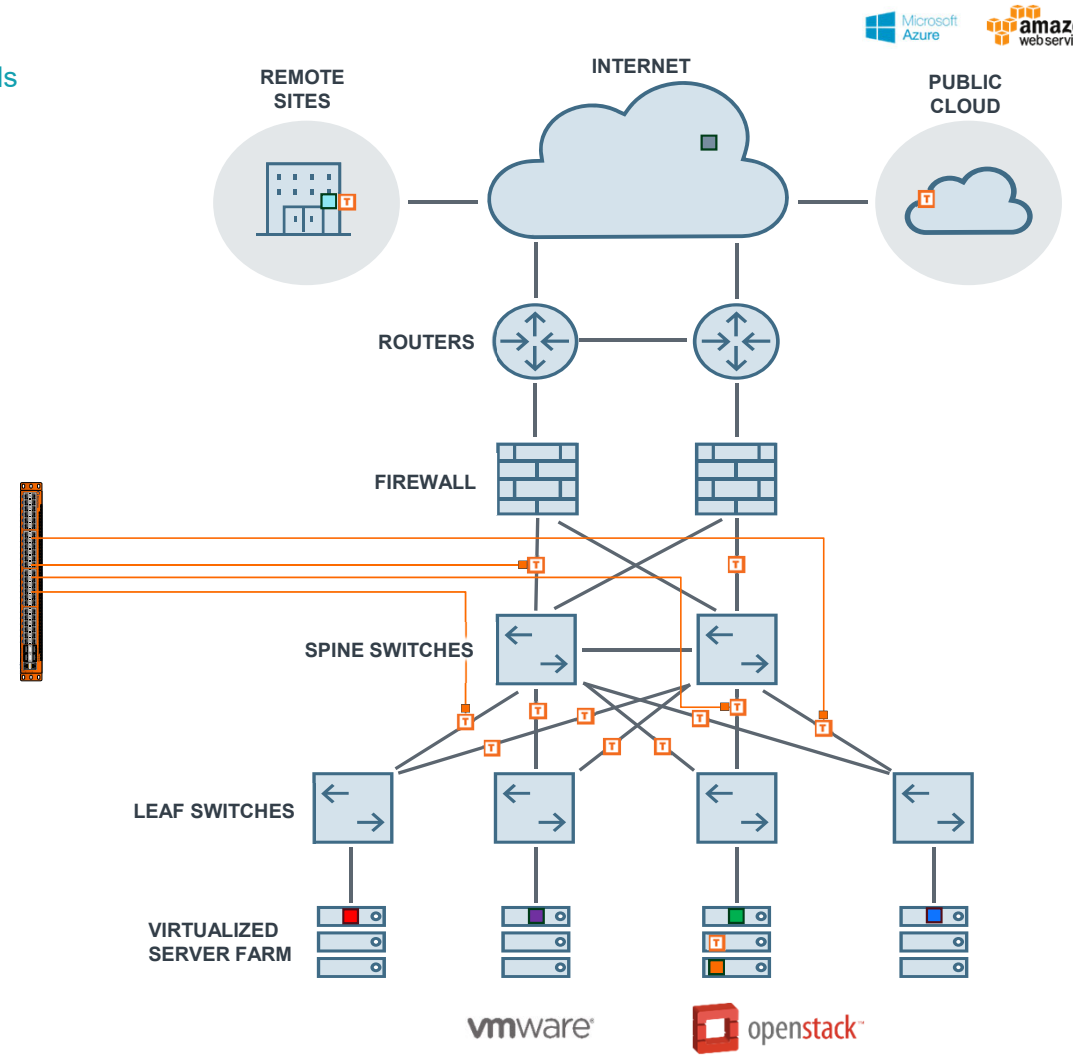

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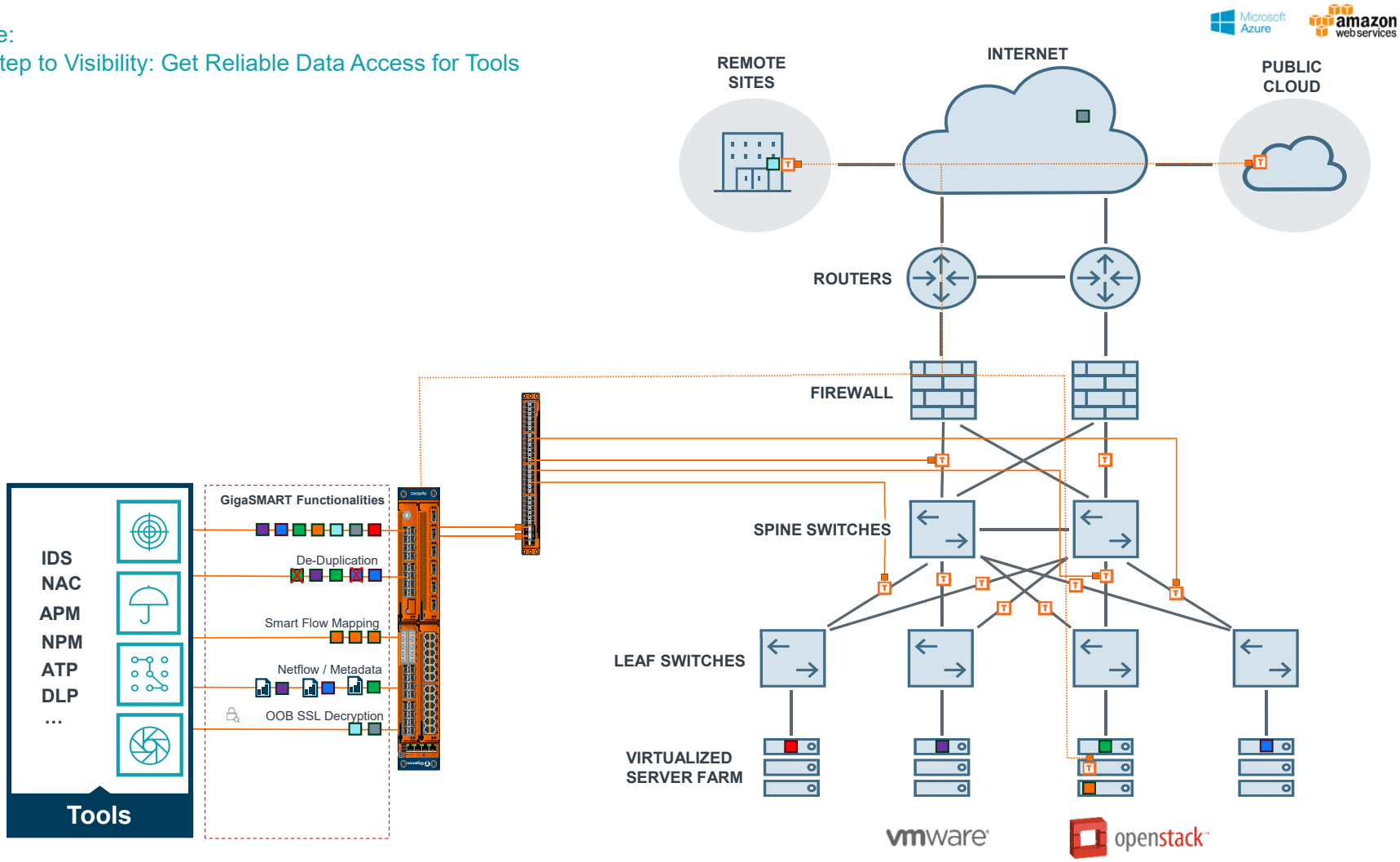
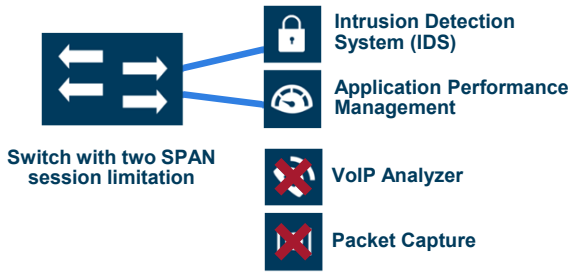


Use Case:
1. First Step to Visibility: Get Reliable Data Access for Tools

# Eliminate SPAN Port Contention

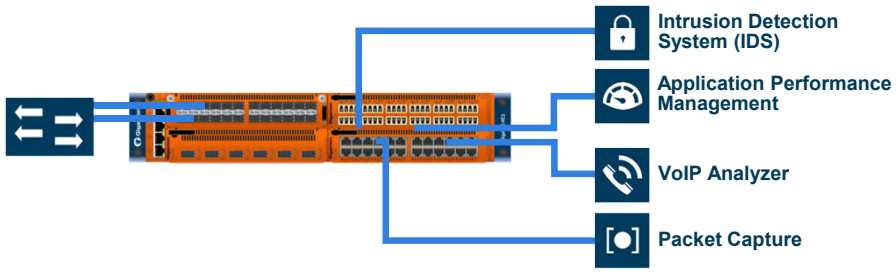
Few SPAN ports, many operational and security tools

## Without Gigamon




Customer is unable to use all tools!

## With Gigamon



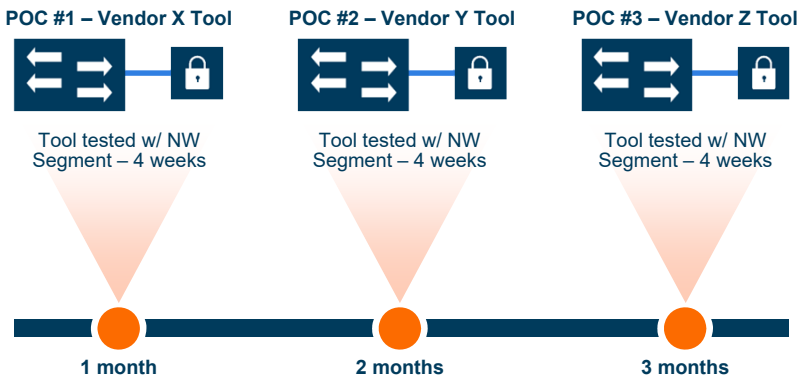

Customer has complete visibility for all tools!

Use Case:
1. First Step to Visibility: Get Reliable Data Access for Tools

# Run Multiple Proof of Concept in Parallel

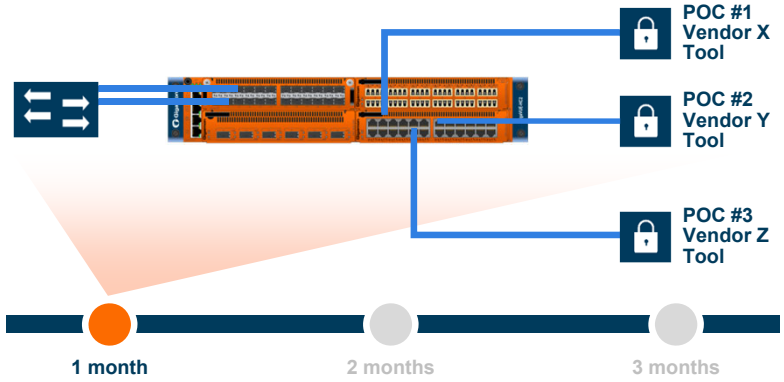
Accelerate Certification of New Tools

## Without Gigamon




Customer performs each proof of concept serially at different times using different data

## With Gigamon



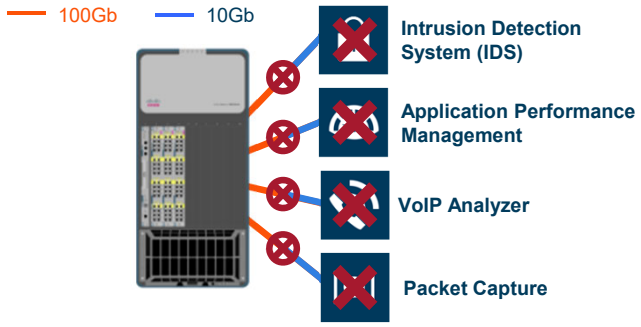

Customer is able to run multiple POCs concurrently using the same data

Use Case:
2. Visibility During Network Upgrades/Expanding Network Coverage

# Change Media and Speed

10Gb, 40Gb or 100Gb Traffic to 1/10Gb Tools

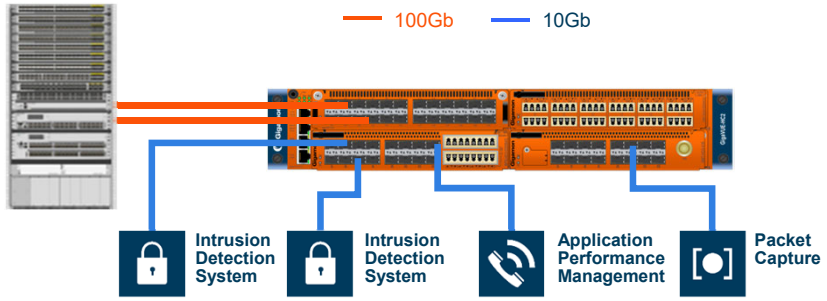
## Without Gigamon




Customer migrates to a 100Gb network and 1Gb/10Gb monitoring tools become useless

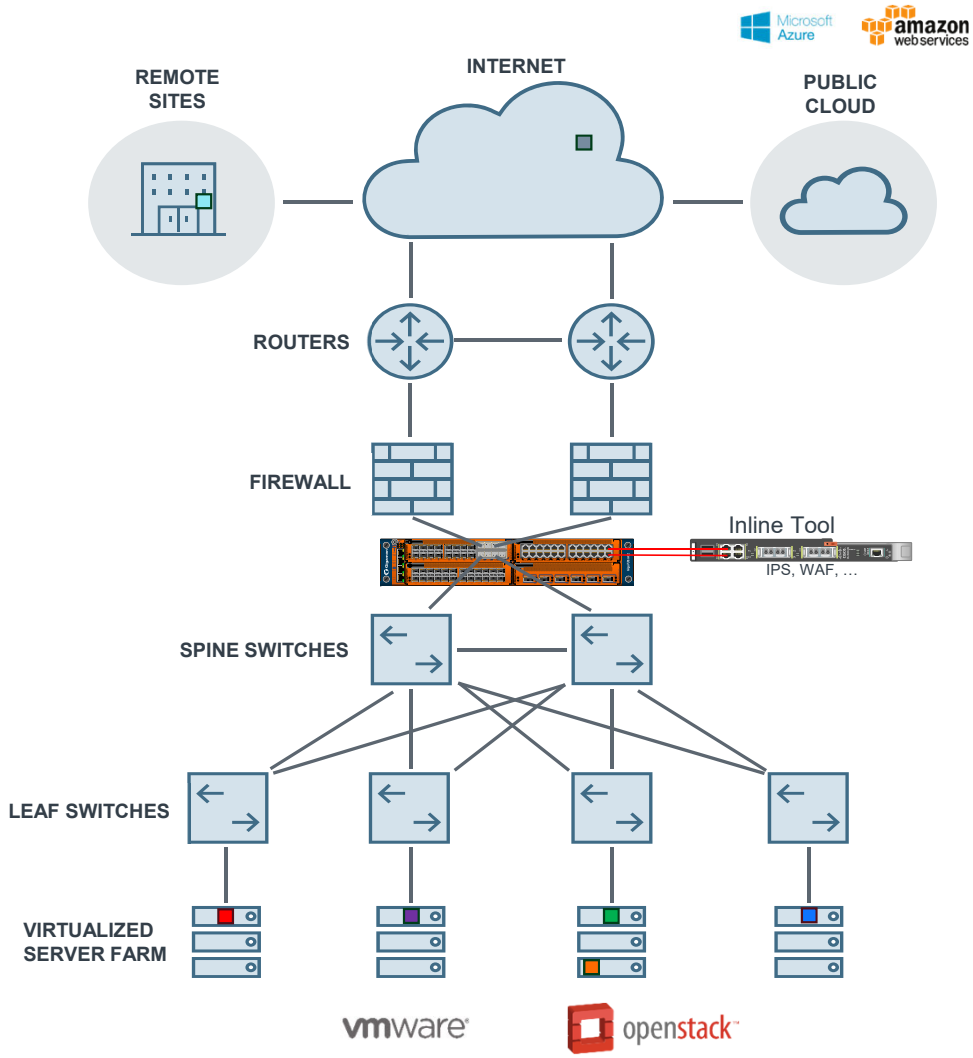
## With Gigamon

**GigaVUE® Matches Your Network to Your Tools**

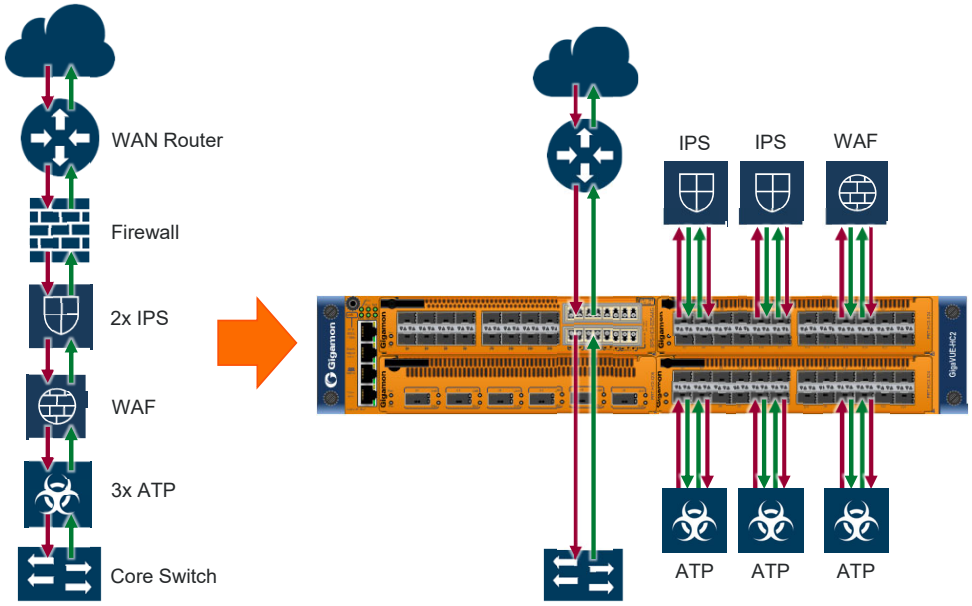



Customer is able to extend the life of their 1Gb/10Gb network and security tools using GigaStream® load balancing and GigaSMART® intelligence

## Use Case:
## 3. Improve Threat Prevention Efficacy with Inline Bypass



## Use Case:
## 3. Improve Threat Prevention Efficacy with Inline Bypass




**IPS** = Intrusion Prevention System
**WAF** = Web Application Firewall
**ATP** = Advanced Threat Prevention

Example:

Generic Web Traffic: IPS + WAF
Specific Web Traffic: IPS + WAF + ATP
Non-Web Traffic to/from Specific Subnets: IPS + ATP
Backup traffic: No inspection
All other traffic: IPS

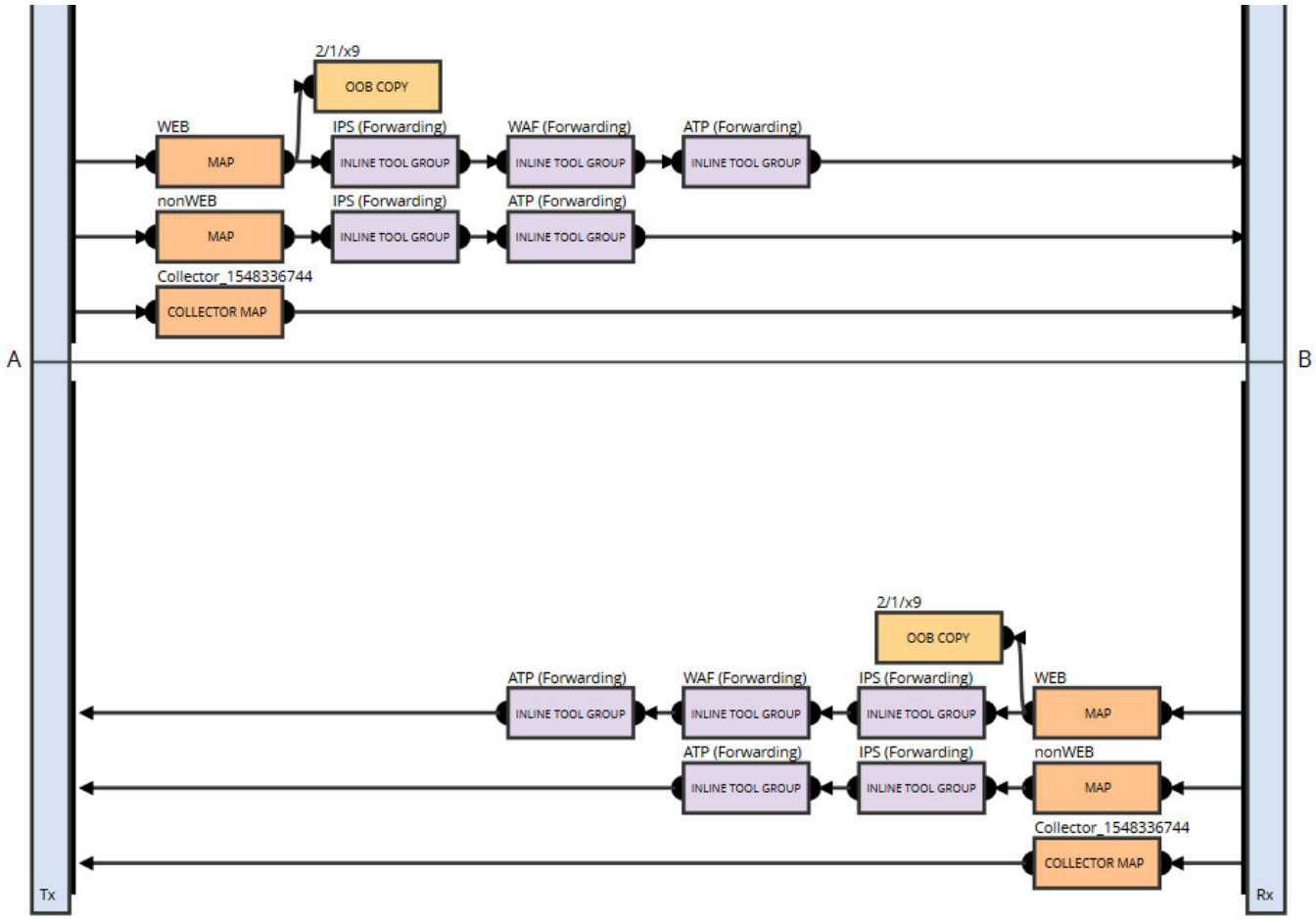
**Maximize availability & resiliency (for network teams)**

- Maximize tool efficacy
- Increase scale of security monitoring
- Bypass protection with advanced health checks to maximize availability

**Maximize operational agility (for security teams)**

- Add, remove, upgrade tools seamlessly: reduce risk and security effort
- Migrate tools from detection to prevention modes (and vice versa)
- Integrate inline, out-of-band, flow-based tools and metadata to a common platform

## Use Case:
## 3. Improve Threat Prevention Efficacy with Inline Bypass



Use Case:
4. Encrypted Traffic Management (TLS Decryption)

# Need for Efficient SSL/TLS Inspection


**80%** of enterprise traffic will be encrypted through 2019[1]

**50%** of malware will use encryption by 2019[1]

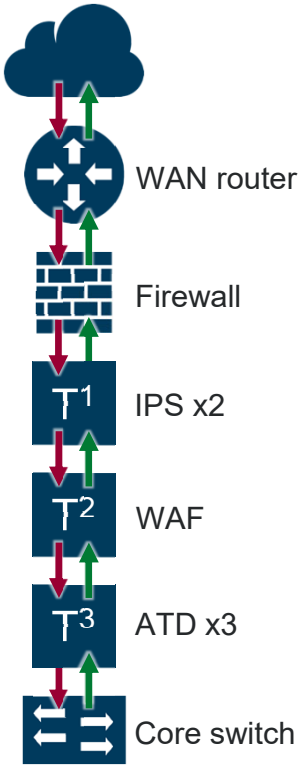
**100%** need for visibility into SSL traffic entering or leaving an organization

**80%** performance degradation of security appliances due to SSL[2]

[1] Source: Gartner “Predicts 2017: Network and Gateway Security”
[2] Source: SSL Performance Problems, NSS Labs

Use Case:
4. Encrypted Traffic Management (TLS Decryption)

# SSL Decryption Options:




## Do nothing?

- Not the right answer

## Enable SSL decryption on each tool?

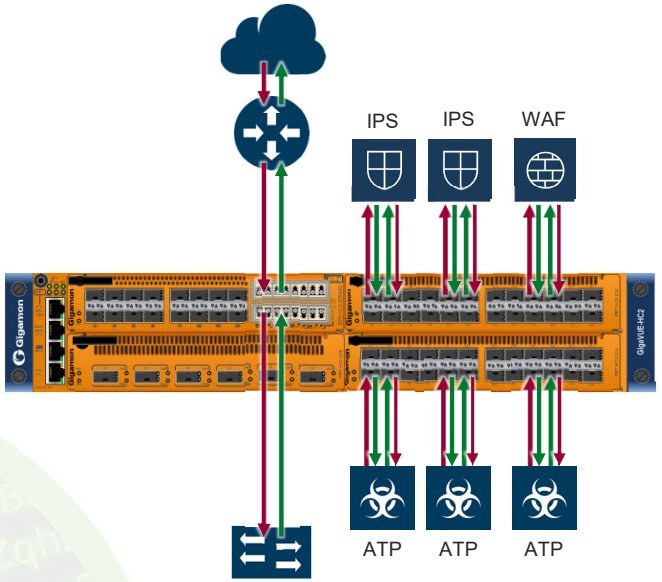
- Serious performance hit on tools (>50% up to 80% capacity lost)
- Multiple decrypt/encrypt latency, troubleshooting difficulties

## Insert standalone SSL decryption appliance?

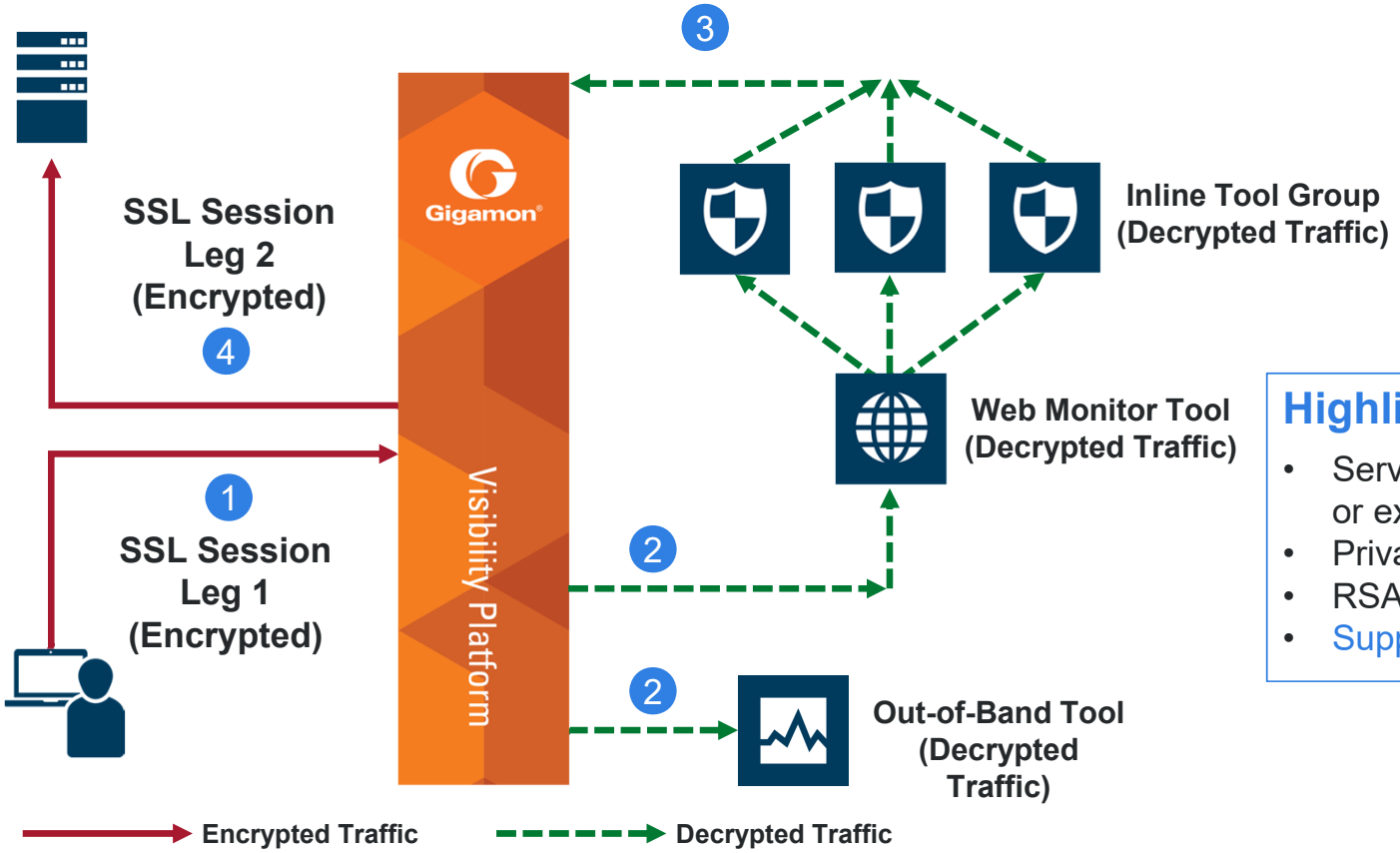
- Another vendor/component added to mix, point of failure/problems
- Very limited tool chaining

## Use Gigamon Next-Gen Packet Broker

- Single SSL decryption instance feeds all tools
- Decrypt once, feed any number of inline and out-of-band tools
- No physical wiring/changes required with existing NGPB



## Use Case:
## 4. Encrypted Traffic Management (TLS Decryption)

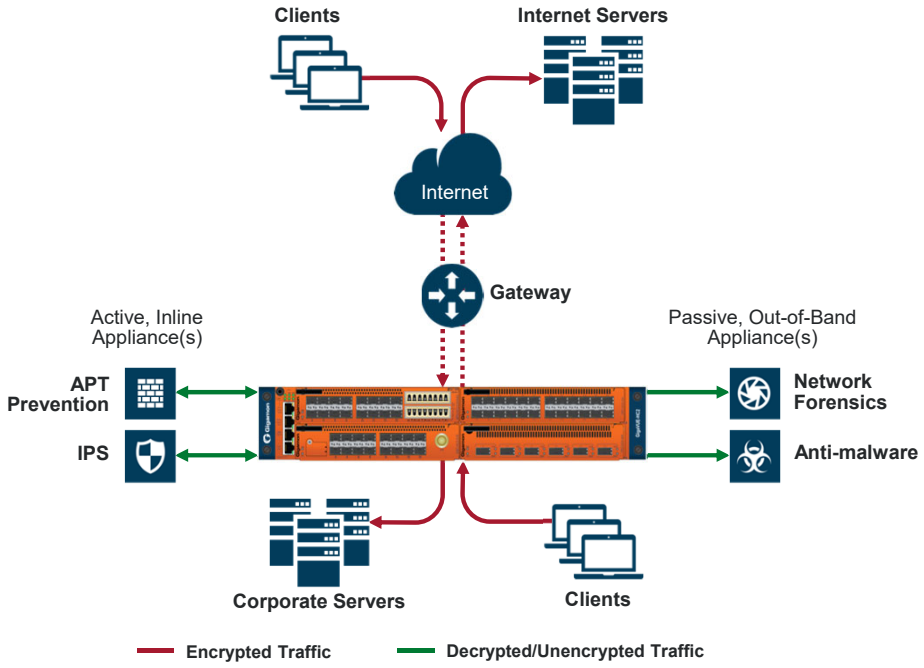



## Highlights

- Servers and clients located internally or externally
- Private keys not needed
- RSA, DH, PFS can be used
- Supports inline and out-of-band tools

## Use Case:
## 4. Encrypted Traffic Management (TLS Decryption)

# Key Capabilities




SSL

Automatic SSL/TLS detection on any port or application: inbound and outbound

Scalable interface support (1Gb to 100Gb)

Decrypt once, feed many tools

Strong crypto support: PFS, DHE, Elliptic Curve ciphers

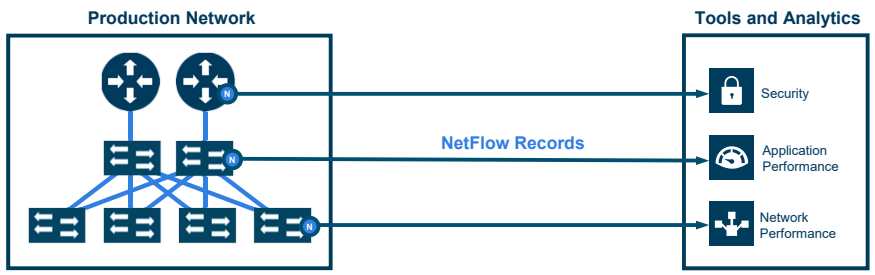
Certificate validation and revocation lists: strengthens organizations' security posture

Strong privacy compliance: categorize URL before decryption

Use Case:
5. Centralized NetFlow/IPFIX Generation

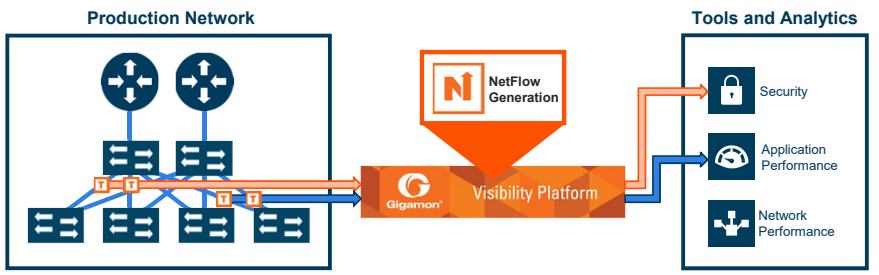
# The Power of the Platform: NetFlow/IPFIX Generation

## Without Gigamon



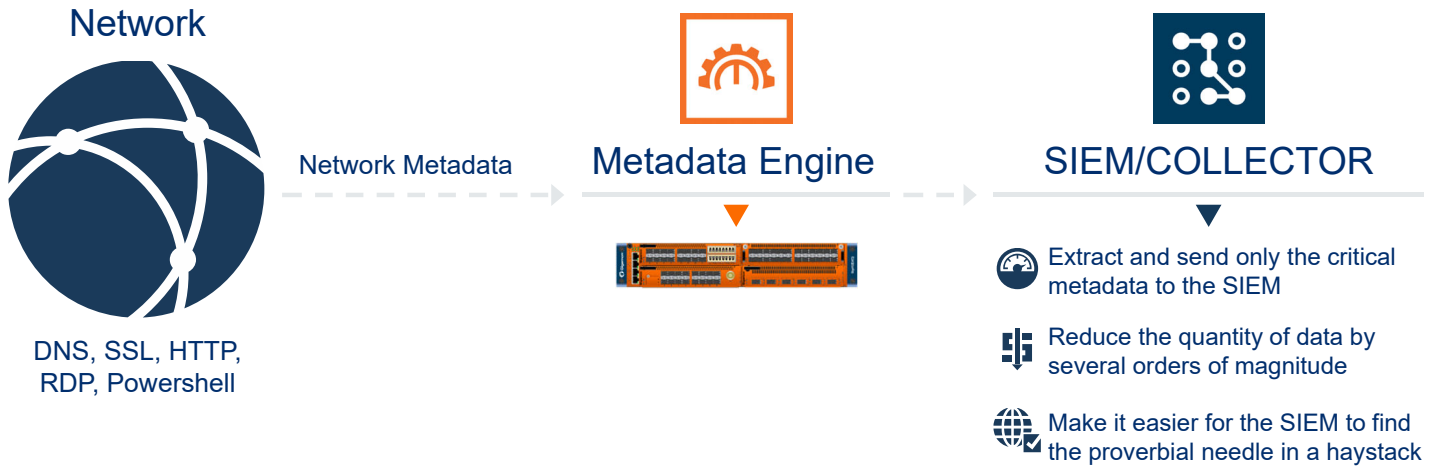

**Challenges:**
- High impact on switches that generate flow records
- Switches generate sampled NetFlow inadequate for security
- Different formats across different switch manufacturers
- Lack of ubiquitous NetFlow generation capabilities across infrastructure
- Vanilla NetFlow records do not contain metadata beyond basic flow info

## With Gigamon

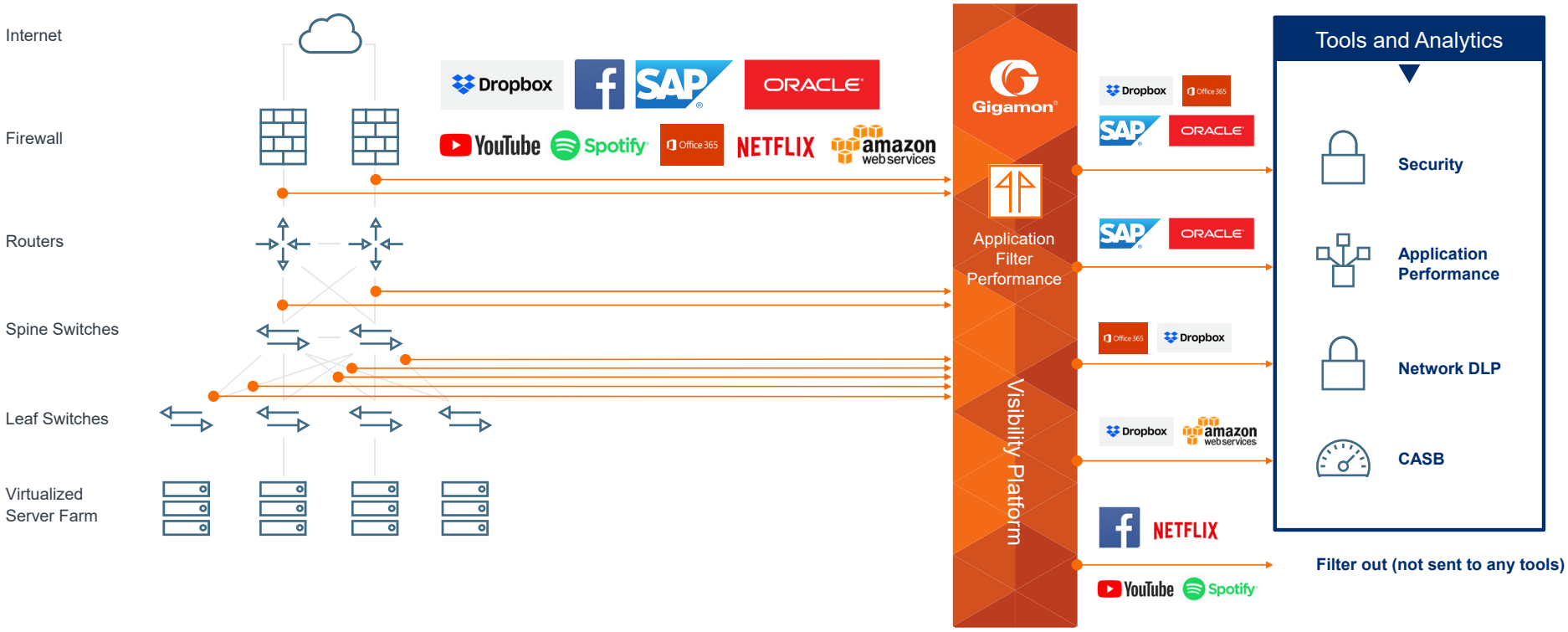



**Benefits of the Gigamon approach:**
- Pervasive visibility w/ centralized, high-fidelity, unsampled NetFlow generation
- Export in all standard formats (NetFlow v5, NetFlow v9, IPFIX, CEF)
- Combine Flow Mapping® with IPFIX generation for high-fidelity output
- Optional enhanced metadata added to flow records
- Combine with full packet analysis to create an effective monitoring strategy

## Use Case:
## 6. Extract Network Metadata to Optimize SIEMs

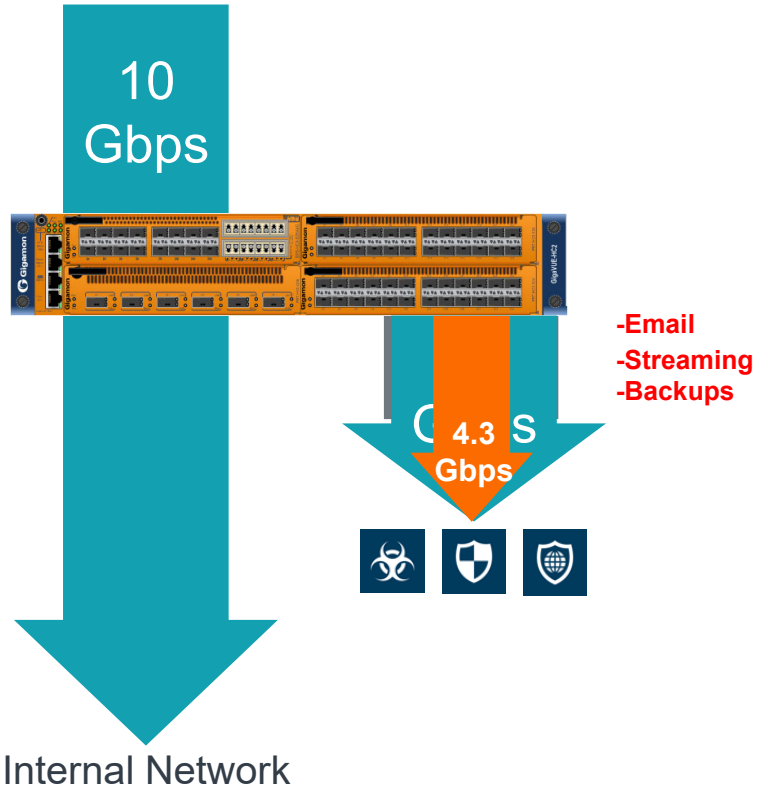


## Use Case:
## 7. Leverage Application Intelligence to Optimize Tool Stack



Use Case:
7. Leverage Application Intelligence to Optimize Tool Stack

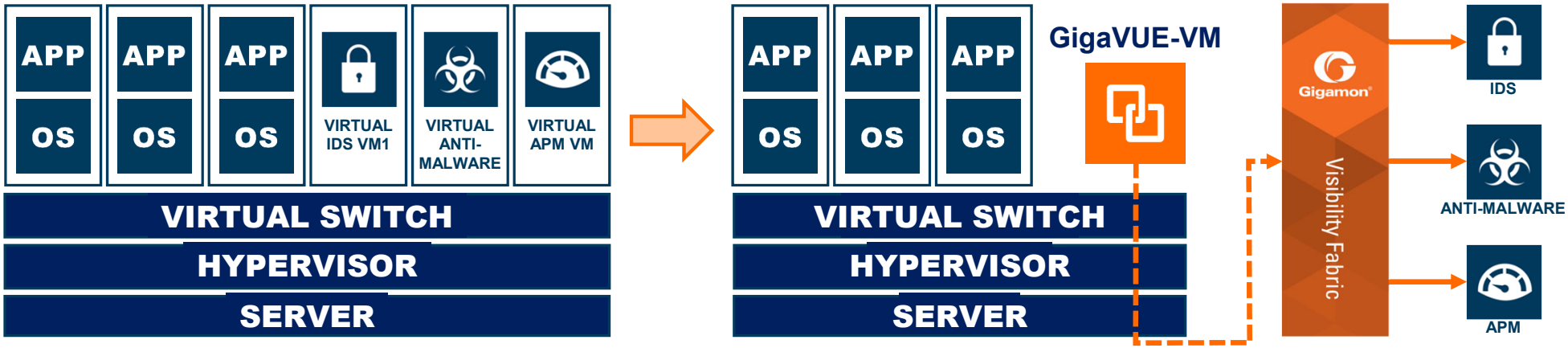
| | |
|---|---|
| **Network Ingress** | **10 Gbps** |
| Unanalyzed Email<br>SMTP, IMAP | - 1.5 Gbps |
| Streaming Video<br>Youtube, Netflix, Hulu | - 3.0 Gbps |
| Backups and Updates<br>Windows, iOS, Android | - 1.2 Gbps |
| Filtered from ATD tool | **5.7 Gbps** |
| Delivered to ATD tool | **4.3 Gbps** |



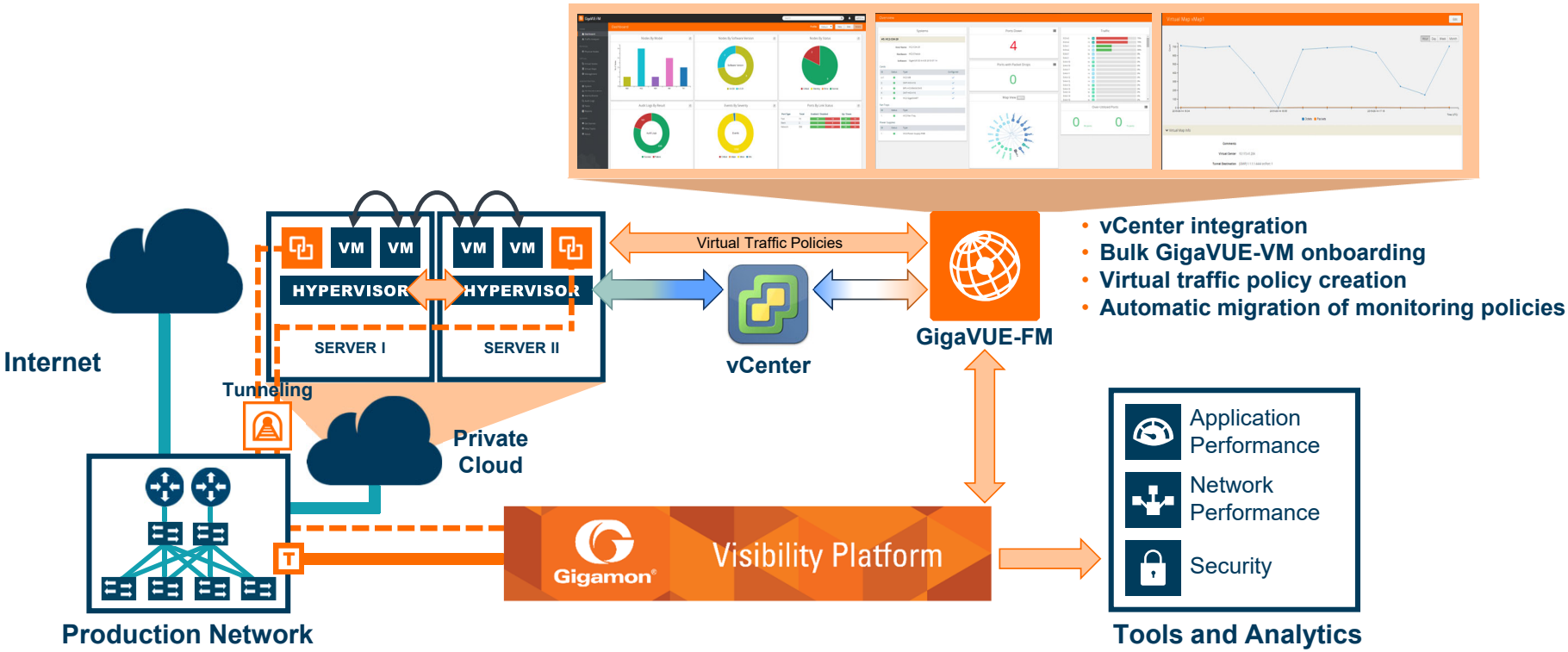
Use Case:
8. Visibility into Private Clouds (VMware ESX and NSX)

## 5 REASONS WHY YOU SHOULD CARE

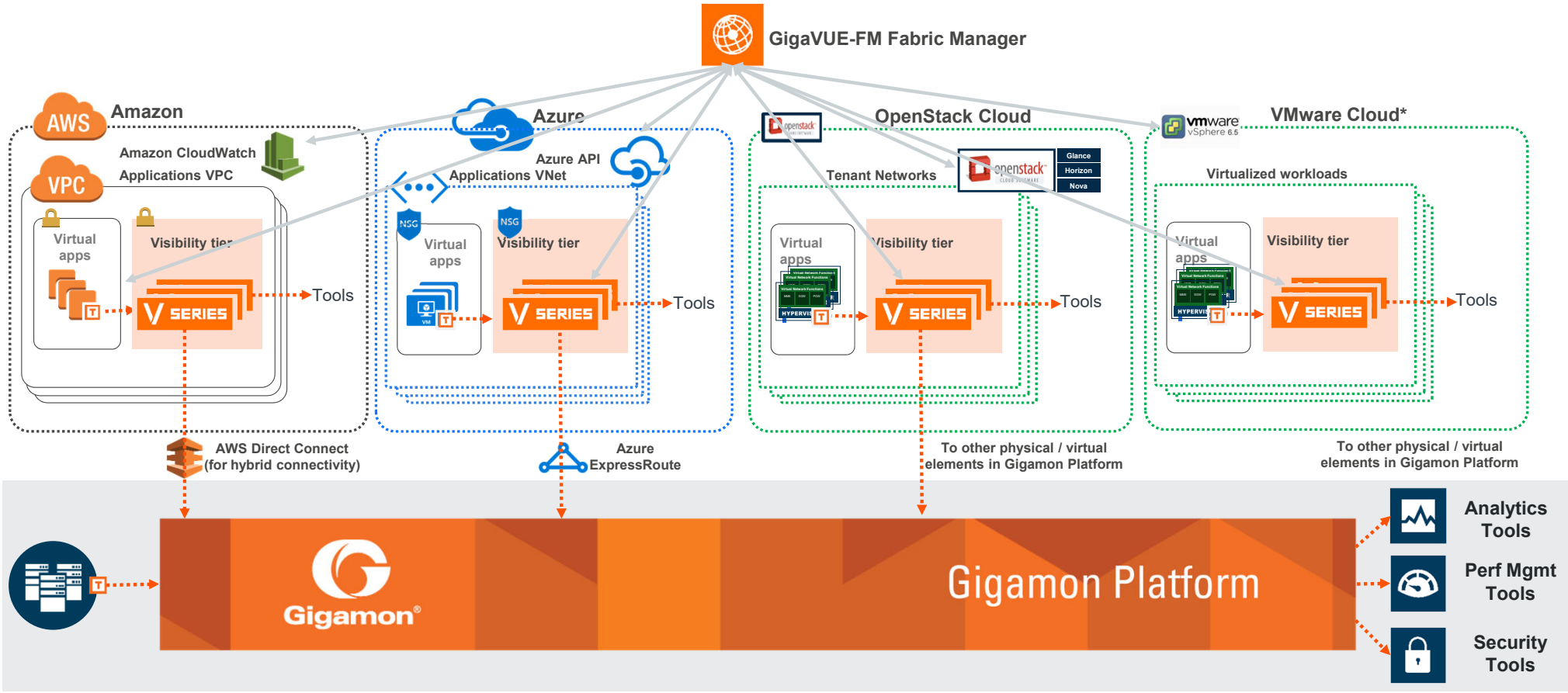
1. Scope of security must cover virtualized workloads
2. Increasing VM density
3. Visibility into VM-VM traffic
4. Creating new virtual tool instances eats into compute capacity
5. Automated visibility after VM migration



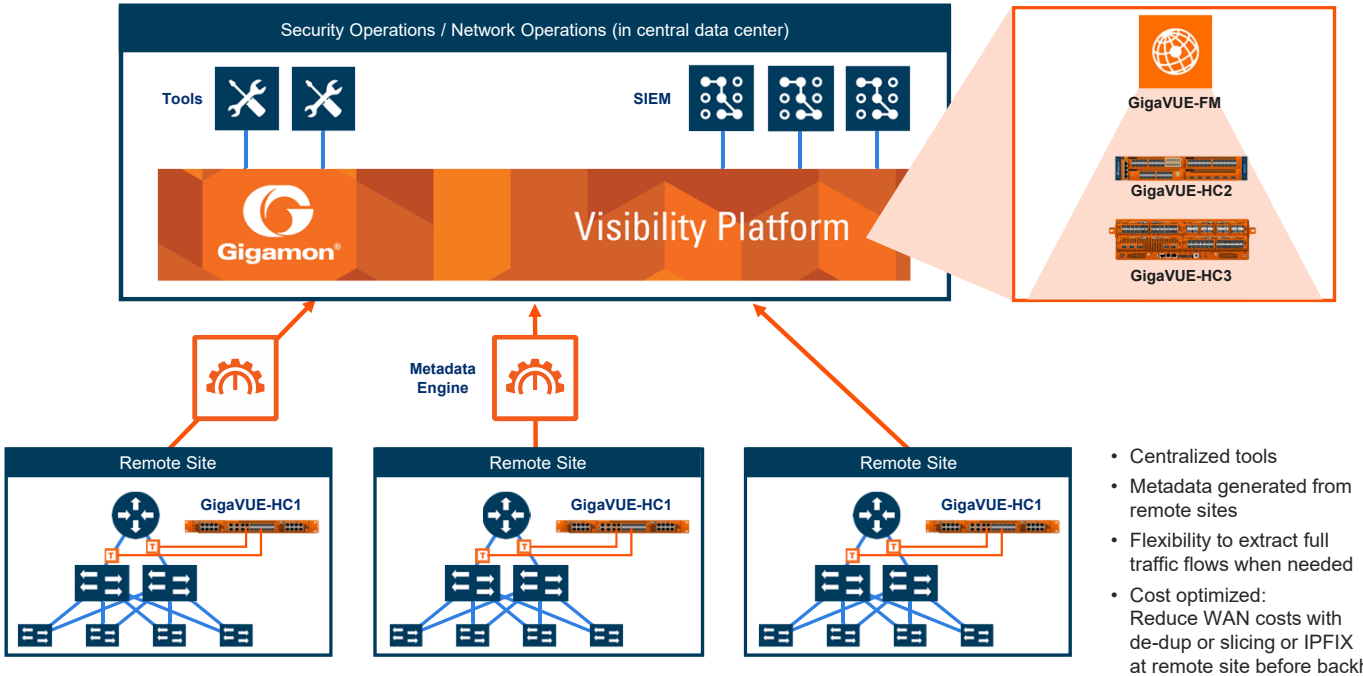
## Use Case:
## 8. Visibility into Private Clouds (VMware ESX and NSX)



## Use Case:
## 9. Visibility into Hybrid Clouds (AWS, Azure, OpenStack, VMware ESX and NSX)



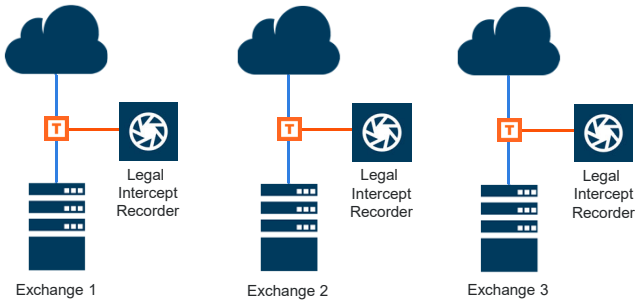
## Use Case:
## 10. Visibility into Remote Sites




- Centralized tools
- Metadata generated from remote sites
- Flexibility to extract full traffic flows when needed
- Cost optimized:
  Reduce WAN costs with de-dup or slicing or IPFIX at remote site before backhaul

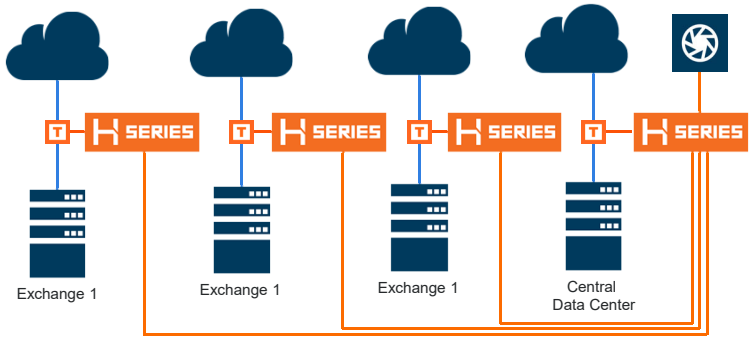
## Use Case:
## 11. Lawful Intercept

### Without Gigamon




**Challenges:**
- Expensive, ad hoc approach
- Deploy equipment and staff as needed to each exchange/CO
- Requires staff and equipment to be immediately ready to deploy in order to satisfy the legal dates/terms on the government warrant

### With Gigamon




**Benefits of the Gigamon approach:**
- Higher ROI: GigaVUE® nodes at each exchange tunnel traffic to a centralized Legal Intercept Recorder
- Flow Mapping® policies select only traffic that needs interception
- Ability to filter application flows to narrow traffic of interest

# Corporate Overview


## THE ESSENTIAL ELEMENT OF YOUR SECURITY

Gigamon is leading the convergence of networking and security. Our next generation network packet broker helps make threats more visible, deploy resources faster and maximize performance.

**HQ**

**Santa Clara**
California, USA

**FOUNDED**

**2004**

**EMPLOYING**

**707**
employees

**SERVING**

Over **2,800**
customers

**NAMED**

Market
leader

**GLOBAL OFFICES**

**20** Countries

**CEO**

Paul Hooper

**PATENTS**

**51** Global
patents issued

**VERTICALS**

Public Sector | Financial Services | Healthcare | Retail Technology | Service Providers

*Feb 2018: Offices, employee and patent information
**Q1 2018: Customer count

# Trusted by the World's Leading Organizations

## Gigamon Customers

**7** of the top ten Global Banks

**8** of the top ten largest Tech Companies

**8** of the top ten Healthcare Providers

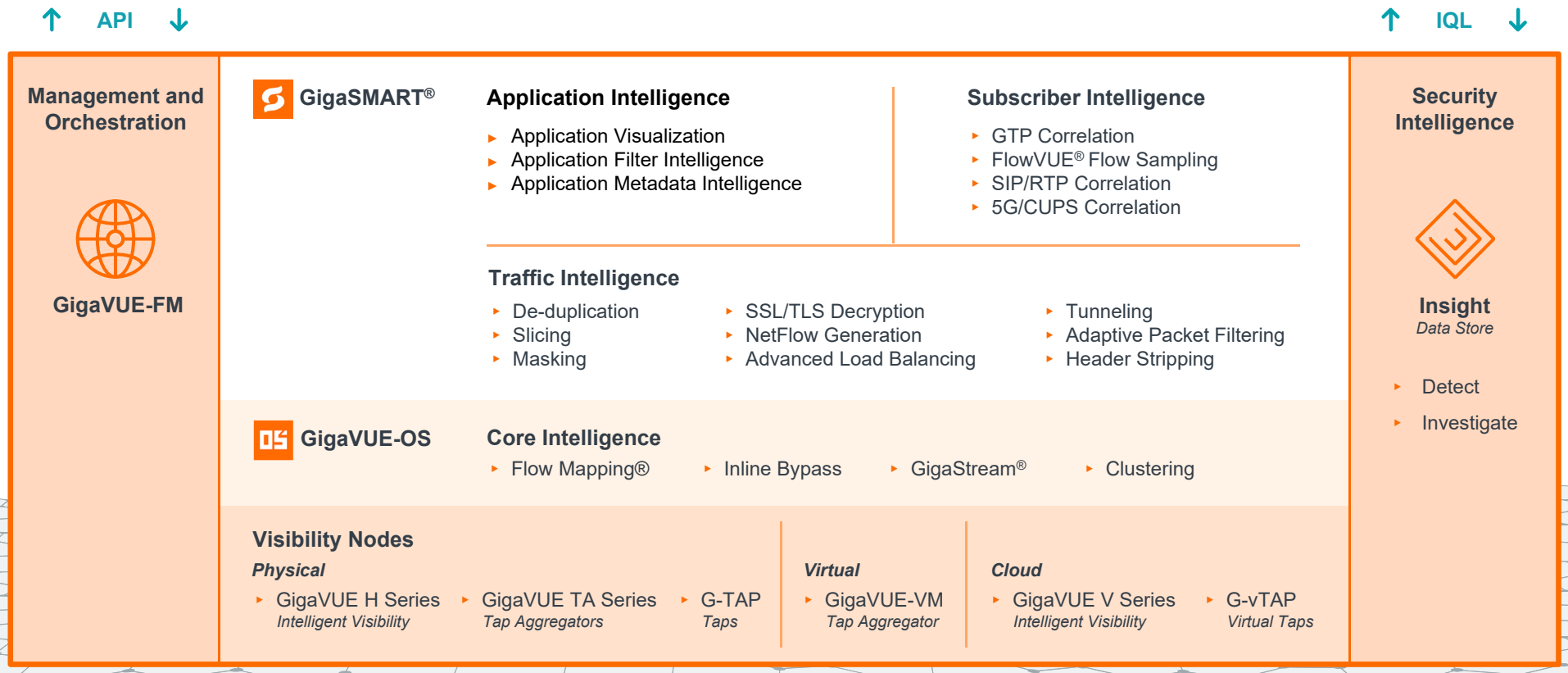
**83** of the Fortune 100

**10** of the top ten U.S. Federal Agencies

**8** of the top ten Mobile Phone Network Operators

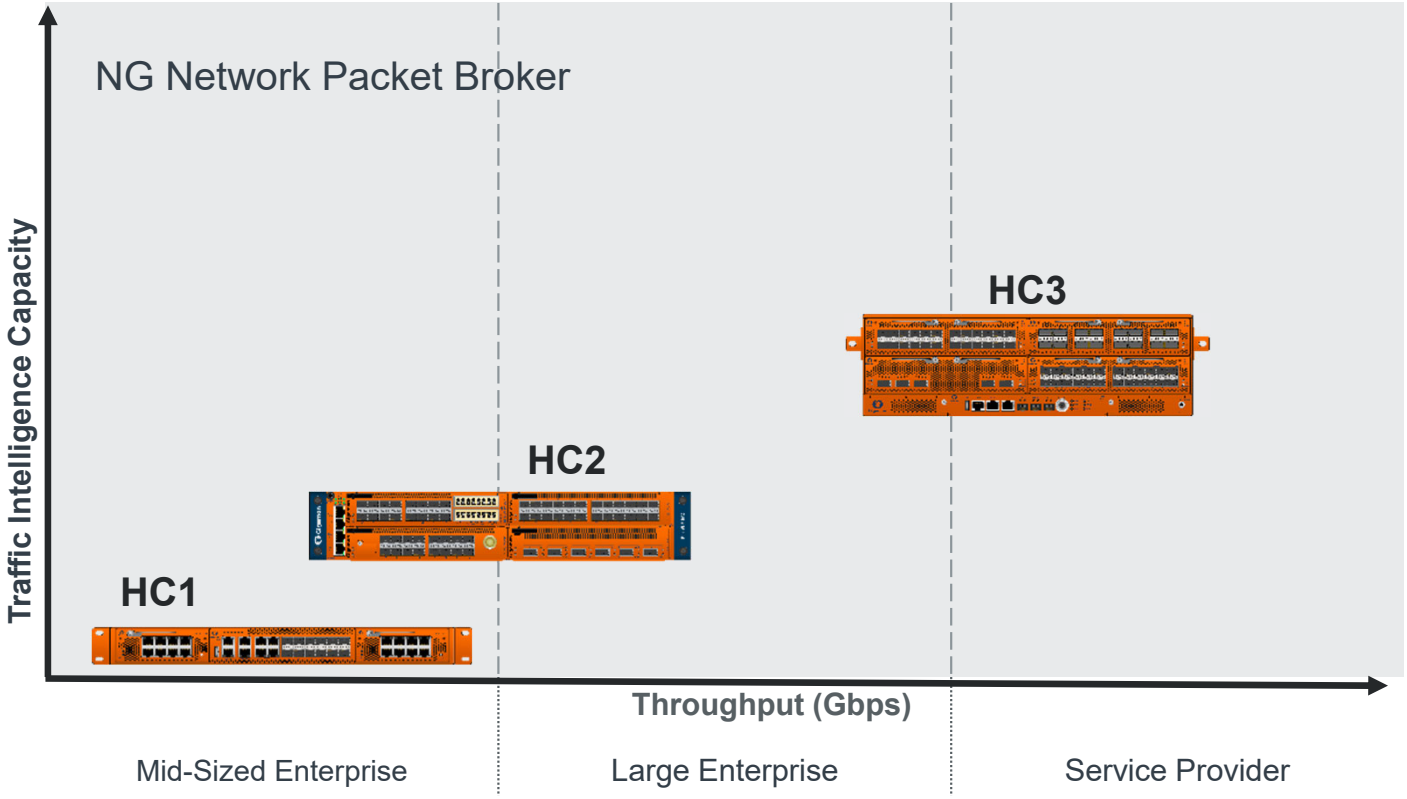
Customer data from April 2018. List sources available upon request.

# Gigamon Product Portfolio




Physical, Virtual, and Cloud Infrastructure

# Gigamon Portfolio

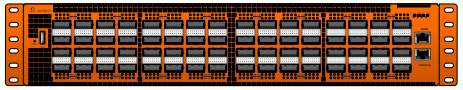



**Traffic aggregator**


GigaVUE-TA10


GigaVUE-TA40


GigaVUE-TA100

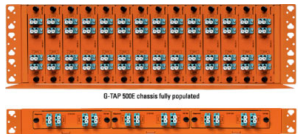

GigaVUE-TA200

**TAP**


Serie A


Serie M


Serie G


BiDi 40G Fiber TAP

# Thank you

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