Monitoring and Security of Distributed Networks

Large European Financial Institution Deploys Vision Packet Brokers

A large European financial institution wanted enhanced visibility into traffic across its global network to better manage and troubleshoot errors, monitor day-to-day performance, and effectively secure its vast network of data centers. They were looking for an easy-to-use, scalable tool to cover multiple sites.

**Key Issues: Distributed Network Across Multiple Data Centers**

Understanding the end-to-end flow of applications and how they traverse the network can be challenging. Financial institutions have specific and demanding requirements in terms of availability, security, and functionality.

A network visibility architecture can support both passive monitoring and fail-safe inline security deployments essential to ensure the captured data from their multidata locations occur simultaneously.

The financial institution required a holistic, end-to-end view of traffic spanning multiple data centers to help secure its complex network. Additionally, an existing security tool requiring only web traffic in the first deployment was overloaded, which resulted in false-positive alarms.

Faced with these challenges, Keysight partnered with the customer to provide a solution to monitor and secure their global network.

**Company:**
- European financial institution

**Key Issues:**
- lack of end-to-end visibility for monitoring and securing the network
- challenges meeting regulatory compliance criteria
- centralized traffic capture from multiple data centers

**Solutions:**
- Vision X
- Vision Edge 100
- Flex Fiber Taps

**Results:**
- increased network visibility across multiple data centers
- meets or exceeds regulatory requirements
- seamless, transparent capture of network traffic
Solution: Vision Series Network Packet Broker

Keysight Vision Series network packet brokers (NPBs) optimize traffic, providing enhanced visibility and security coverage. NPBs resolve application performance bottlenecks, troubleshoot problems, and improve data center automation. NPBs aggregate and filter the data sent to monitoring tools with intelligent grooming and security enhancements such as deduplication, SSL decryption, data masking, and application and threat intelligence.

Positioned between traffic input and output ports to connect directly to monitoring and security tools, the Vision Series network packet brokers act as an intelligent packet distribution layer.

Deployment

Fabric Controller Centralized Manager

Keysight’s Ixia Fabric Controller (IFC) Centralized Manager provides a single pane of glass view, enabling centralized management for multiple NPBs. This eliminates the need to log in to or manage each node separately.

Simple to use, the visibility fabric created by the fleet of packet brokers combined with the IFC Centralized Manager enabled the operations team to administer the system and implement configuration changes in only a few clicks using the drag and drop interface. The Vision Series packet broker’s intuitive online interface provides visibility into traffic across multiple data centers in a single view. Regardless of where it comes from, traffic is centrally aggregated, filtered, and processed through a single interface and a single set of centrally managed security and monitoring policies.

By deploying multiple models of Vision NPBs, the customer now has a global visibility architecture in place that aligns each NPB to meet the operational requirements of the site or location where it is deployed. Capture speeds varied widely, ranging from 1 Gb to 10 Gb. Support for each speed was essential to ensure end-to-end visibility.
**Flex Tap**

Keysight Flex Tap passive fiber optical taps ensure seamless, reliable capture of traffic. Flex Tap provides an exact copy of network traffic without impacting equipment on the network. Flex Tap’s high-density form factor supports a high number of taps within a compact space, helping you get the most from valuable data center space.

**Vision Edge 100 packet broker**

Keysight’s Vision Edge 100 packet broker is deployed as a rack-level device to aggregate and stream traffic to a central Keysight Vision X, providing connectivity to monitoring and security solutions on the network. Vision X is a high-density, high-performance network packet broker with a compact, three rack unit form factor. Its modular chassis is upgradeable to meet network visibility requirements now and in the future. This solution also includes the PacketStack advanced processing engine.

**PacketStack**

PacketStack deduplicates traffic before delivery to security and monitoring tools to ensure a clean feed of data, greater efficiency and a reduction in tool and bandwidth utilization. Only the first instance of a packet is forwarded, even if the header of the packet has changed. PacketStack’s deduplication, header de-encapsulation, and packet stripping capabilities helped drive an increase in error detection rates, data processing volume, and a reduction in false-positives.

PacketStack uses high-performance FPGAs to deliver scalable and consistent performance, with multiple features and up to two terabits per second.

Vision NPBs have a patented three-stage filter engine that enables you to easily create multiple filters for complex distributed networks. This centralized implementation of filters ensure a globally compliant configuration profile. Overlapping traffic filters facilitate multiple vendor ecosystem integrations.
Results: End-to-End Connectivity to the Network

Deploying Keysight’s Vision Series visibility architecture aligned with the financial institution’s requirements for scalability and end-to-end network and security visibility.

Implementing future changes in the network, such as migrating to SDN, or the need to add new monitoring or security toolsets, no longer require widespread configuration or hardware upgrades.

The financial institution now has a flexible, scalable, and affordable network monitoring system.