

SLA Verification of WAN Links

Large European Bank Deploys Hawkeye

A large European banking and finance customer undertook a global WAN upgrade project. Moving to 10G links across regions with multiple global delivery points and service providers created a challenge for monitoring service availability and service-level agreements (SLAs).

Key Issues: Distributed Networks and SLA Management

The evolution of distributed networks traversing multiple regions means companies must rely on multiple service providers to fulfill their connectivity and IT requirements.

The bank's presence in most major trading hubs meant a great diversity of countries and therefore service providers. The requirement across all service providers was to deliver a constant level of performance for each WAN link, enabling the various offices, retail branches, and data centers to operate and provide business functions as intended.

An SLA mandate for each WAN link ensures that the bank can monitor and track actual performance against target requirements. The SLA defines the required bandwidth, latency, and fix time for any faults on the WAN link. Pressure to get these circuits into production can cause problems when actual link quality fails to meet expectations.

Faced with these challenges, the bank, reassured by our deep experience with network monitoring and test solutions, partnered with Keysight.



Company:

- European bank

Key Issues:

- ensuring service readiness at circuit activation
- managing service delivery from across geographies
- validating WAN link SLA compliance across multiple service providers

Solutions:

- Hawkeye, for measuring and validating service-level performance and quality
- Vision Edge 1S for 10 Gb network testing
- IxProbe for sub-1 Gb network testing

Results:

- increased understanding of WAN performance
- single-pane-of-glass view
- daily and weekly service reports
- proactive alerts for service issues

Solution: Hawkeye, Active Network Performance Monitoring

Keysight Hawkeye addresses SLA monitoring requirements. Hawkeye uses agents deployed throughout the distributed network to provide active network performance monitoring.

A mixture of software and hardware agents runs network tests using synthetic traffic for link speeds ranging from kilobit-per-second bandwidths to 10 Gb/s. Tests measure suitability and performance of the network for each application that operates over the WAN link using highly realistic simulated traffic.

Tests run at the time of circuit activation measure the throughput of the new link and report metrics such as throughput measurements, jitter, loss, and latency. The results provide validation that the network met SLAs before go-live. A simple process allows operations teams to perform ad hoc verification by themselves. They can then escalate problems if they detect an anomaly before the circuit is fully validated.

IP SLA Threshold Configuration

Each test includes thresholds. Thresholds allow the customer to assign performance criteria to a test by defining a pass / fail marker for each part of that test.

Threshold templates match SLAs from the various providers for WAN links being monitored. This allows for quick configuration of tests with a set of thresholds that match the SLA in place for a particular provider. Any changes to SLAs can be made to the template and replicated to each test.

When a threshold is breached, the IT operations team gets a notification, allowing it to immediately understand what went wrong, troubleshoot the fault, and, if appropriate, report the SLA breach.

Each site type received a different model of Hawkeye agent, depending on site profile and traffic requirements. This ensures that each agent is the right size for its site type.

Hawkeye displays test results in a web-based user interface that IT operations team members can easily access, whether they are local or remote. Integration of the circuit delivery process allows IT operations teams to accelerate their time to delivery with better confidence in the quality of their delivery, switching from a simple connectivity verification to a full SLA monitoring phase.

For critical circuits and when operations reports problems between specific locations daily or weekly circuit validations can be set up. This process provides regular sanity checks that IT can share with the management team, allowing for a quick and easy way to review the overall service quality of the bank's WAN estate.

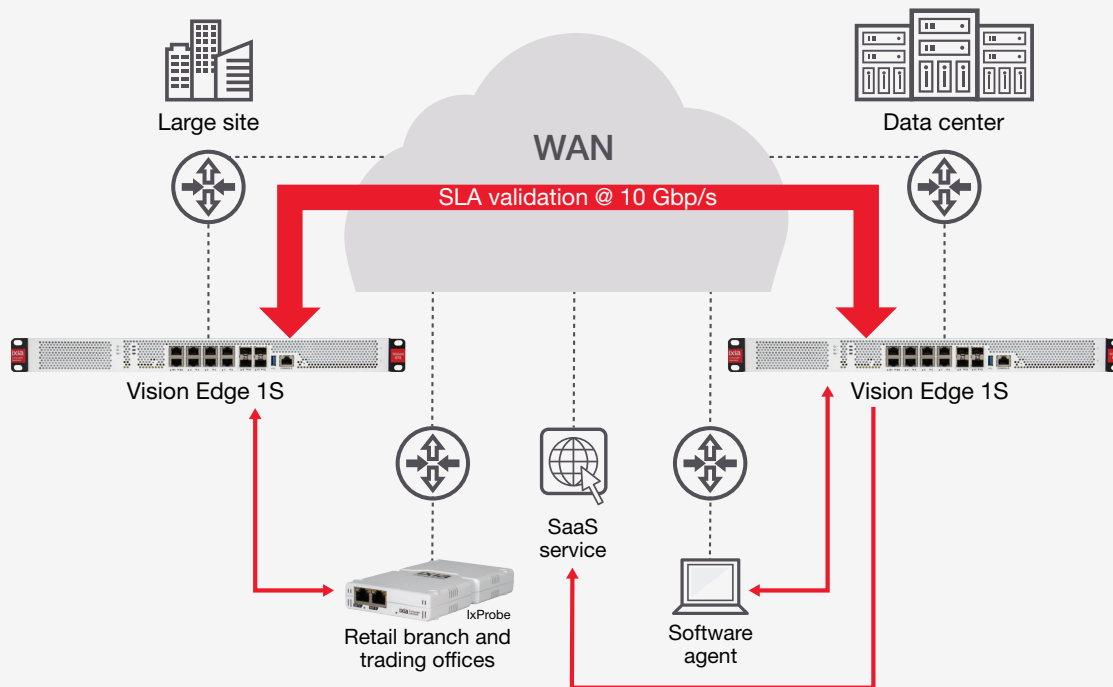


Figure 1. Hawkeye Deployment

Vision Edge 1S

Keysight's Vision Edge 1S is a network packet broker that also operates as a Hawkeye agent. It is capable of running tests at up to 10 Gb/s and also offers packet visibility. Vision E1S is deployed at data center and large office sites that have internet connection speeds up to 10 Gb/s.

Packet visibility for remote sites is also possible with Vision E1S. The device gets a copy of network traffic via tap or SPAN port to provide analytic capabilities or NetFlow metadata. It can also send raw (or filtered) packets to a network or security analysis platform.

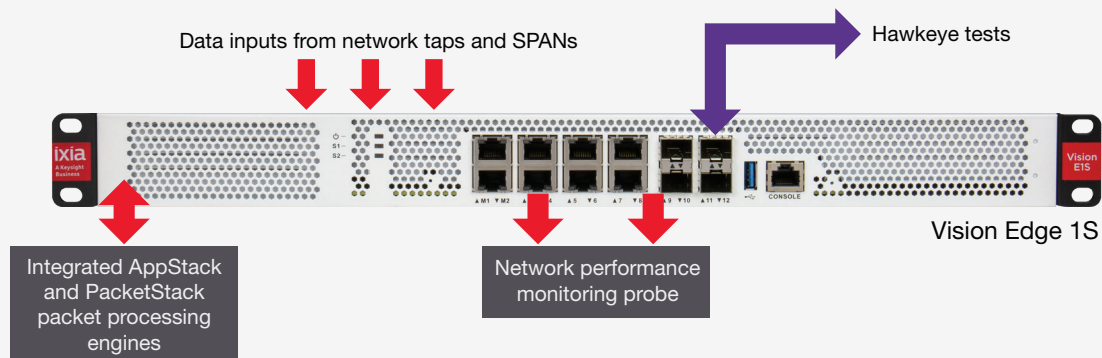


Figure 2. Vision Edge 1S Applications

Scalability

Hawkeye's flexible deployment topology meets the customer's requirements today and will scale as new sites come online through the deployment of additional agents. It will continue to operate as link speeds increase.

Results: Simplified Monitoring and Proactive Alerts

Hawkeye provides SLA validation across complex WAN environments, including situations with different link speeds and SLAs in place from multiple service providers in different geographies. The proactive monitoring that Hawkeye provides allows the customer to validate that business-critical applications and services are available and meet user experience requirements. When there is a problem, the customer is automatically notified and can react to an issue, often before users notice a problem. The flexibility of using software or different models of hardware agents allowed the customer to right size endpoints for the monitoring needs of each site.

Resources

Find additional information about Hawkeye on the Keysight [website](#), or by contacting your Keysight account manager.

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

