



SERVICE BRIEF

Unified Communication Network Assessment

SCENARIO

Unified Communications (UC) continues to grow in complexity beyond just voice to also managing instant messaging (chat), location information, mobility features, audio and video conferencing, and more. Evaluating UC applications performance and user experience requires the ability to actively inject and measure against a known data source. Hawkeye produces UC traffic test streams capable of measuring application performance in your network infrastructure, without impacting normal operations. We enable Network Readiness Assessments for Microsoft Lync (Skype for Business) and other UC offerings by actively injecting and measuring the performance and associated user experience over the network. Reduce potential risks that could harm your project and ensure a successful rollout across any IP network (LAN, Wi-Fi, WAN, MPLS, Internet, Cloud).

Working with defined performance requirements, our test experts simulate realistic network conditions and generate UC traffic to model, measure, and refine end-user Quality of Experience (QoE) from the customer point of view. During the process, networks are placed under expected, realistic loads of traffic and stressed for understanding and characterizing their breaking points, Quality of Service (QoS) mechanisms, and overall design quality.



OUR SOLUTION

Network Readiness Assessment for UC relies on a methodical approach that can be delivered by Ixia Professional Services on Hawkeye.

Hawkeye can simulate Lync traffic with an O365 deployment, by deploying the Hawkeye image (.ova file) in Microsoft Azure, or a different Cloud Provider, along with a Software Endpoint which simulates the Datacenter from the Cloud.

The UC Assessment is performed around the following four phase work flow:

Discovery	Modeling	Traffic Simulation	Reporting
Understand what network environment exists and ask the right questions	Model proposed bandwidth using consumer profiles and usage patterns	Simulates real user traffic	Analyze factors that affect quality and produce a full report with our recommendations
<ul style="list-style-type: none"> Conducted by our Professional Services Engineers along with you Remote or on site Gather information regarding your Network/ Objectives 	<ul style="list-style-type: none"> Conducted by our Professional Services Engineers Remote or on site Information regarding our simulated traffic and capacity estimation per site 	<ul style="list-style-type: none"> Conducted by our Professional Services Engineers Remote or on site Inject and monitor traffic into the network based on the modeling output 	<ul style="list-style-type: none"> Conducted by our Professional Services Engineers Remote or on site Gather daily reports as well as a full 7 day report

PROFESSIONAL SERVICES OFFERINGS

Test Case	Test Description
Purpose	The purpose is to test the UC solution by injecting synthetic, bidirectional traffic composed of audio and video traffic and gather the results.
Objective	Determine Key Performance Indicators (KPI's) using a two-arm test from a probe to another probe.
Test Setup	Two main test topologies: <ul style="list-style-type: none"> Peer to Peer One probe will communicate with another probe from a different location Conferencing: The setup is such that one Branch Site (Spokes) will communicate to their appropriate Datacenter (Hub).





Test Case	Test Description
Test Variables	<ul style="list-style-type: none"> • Audio Testing Ports (Range - composed by Source and Destination) • Video Testing Ports (Range - composed by Source and Destination) • Packet Size Audio • Packet Size Video • Test Duration • Test Frequency • Assessment Duration • Generated Bitrate Audio • Generated Bitrate Video
Metrics Collected	For each direction and each stream (Upstream/Downstream) <ul style="list-style-type: none"> • Loss • Jitter • Max Jitter (provided in detail data files) • One-Way Delay • Throughput Audio • Throughput Video • Max Loss Bursts (max consecutive packets lost)
Customizable SLAs	Each metric can have a defined threshold based on your Service-Level Agreements (SLAs). Example: Delay should not be more than 100ms and Packet Loss more than 1%. If exceeded, a test would be considered failed.

Suggested Applications and Platforms	
Hawkeye	Automate network performance checks and improve the application delivery experience with choice of software endpoints or plug-and-play XR2000 and XRPI hardware endpoint
XR2000 and XRPI Hardware Endpoint	Works with Hawkeye to provide: <ul style="list-style-type: none"> • Active network and application assessment and monitoring • Advanced routing support • Active traffic generation supporting 150+ applications • Up to line-rate generation • Endpoint-to-endpoint tests: UDP, TCP traffic, voice, video, and traffic mixes
Test endpoints	Supplied software endpoints for a wide variety of operating systems, including: <ul style="list-style-type: none"> • Microsoft Windows • Windows CE/Mobile • Linux, including Embedded Linux • Mac OS, IOS • Android • Virtual machines running on any hypervisor or cloud (Microsoft Azure, AWS)

[Products and Features available for proactive performance monitoring](#)



Hawkeye Results Dashboard

Figure 2.

Hawkeye Deployment Scenario

