DATA SHEET

IxChariot® Server and Desktop Editions

Test and Improve Application Performance with Flexible Software-Based Test Tool

Problem: Ensuring Network Changes Won't Disrupt Service Quality and Performance

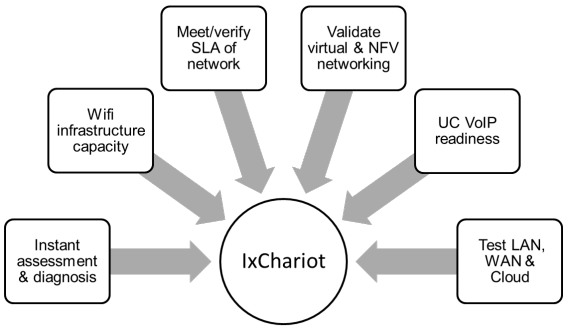
Today's networks are in constant flux. Organizations frequently add new business services to their networks, and network equipment undergoes continual updates and upgrades. Whether existing network devices are capable of supporting a new service is a question often left to chance. To avoid blunders, organizations need to qualify the network, assess performance, and predict the quality of experience (QoE) of newly deployed services. For quality assurance engineers and IT teams, it is critical to have fast and efficient ways to verify and quantify performance before shipping products or rolling out services.

Solution: Efficient Software-Based Testing to Check Device and Network Readiness

IxChariot instantly assesses and troubleshoots networks and applications before and after deployment. This powerful assessment tool uses software agents called Performance Endpoints to simulate application traffic and deliver key performance metrics to a central console for easy management. The result is a fully instrumented system for confidently assessing the performance and reliability of networks and applications running on a wide variety of transport

Highlights

- Validate your devices and networks with proven software-based solution you can rely on
- Validate Wi-Fi clients and access points (APs) based on Wi-Fi Alliance certification tool
- Instantly assess network performance, including wireless performance and geo-location
- Leverage distributed and portable performance endpoints deployed on mobile, PC, Mac or in any hypervisor or cloud provider
- Manage your tests from modern and intuitive web-based user interface
- Control the performance of your devices, networks, and applications based on comprehensive key performance metrics, including throughput, packet loss, jitter, delay, MOS, and application latency
- Emulate and report key metrics from complex application flows including voice and video, services like Netflix, YouTube, and Youku to understand the ability of your network and equipment to deliver quality user experience

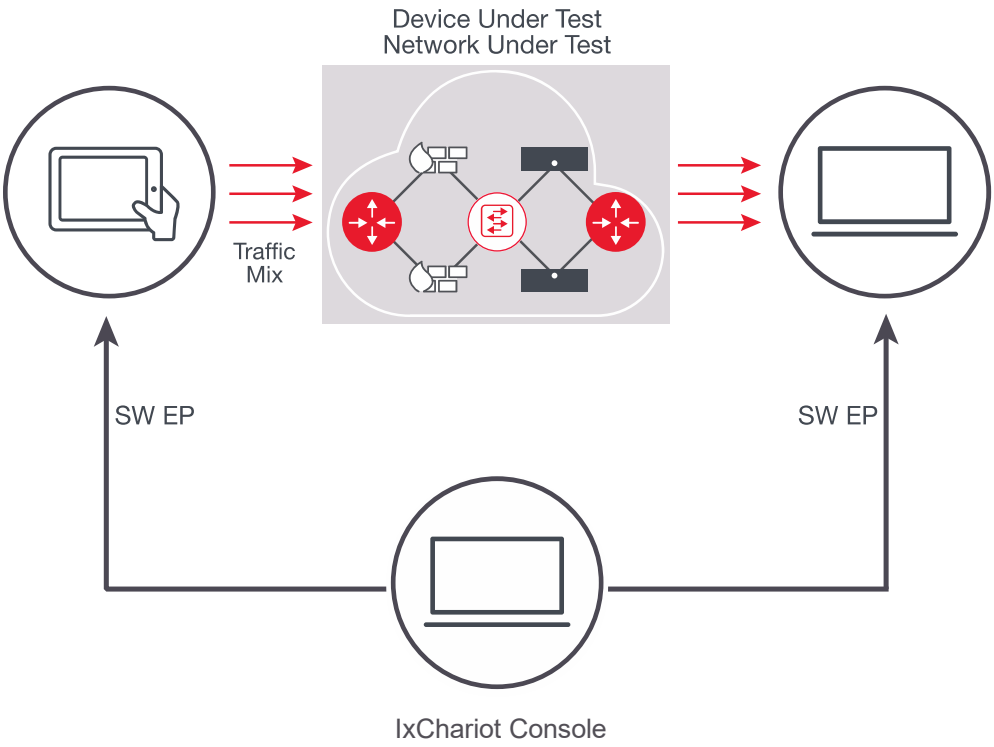


KEYSIGHT TECHNOLOGIES

interfaces, including wired, wireless, and virtual data centers. Pre-deployment, QA teams or IT teams can run “what-if” scenarios to predict an application’s impact on devices or the network.

How Does IxChariot Work?

IxChariot simulates real-world applications to predict device, system, and network performance under realistic load conditions. The solution consists of an IxChariot Console and Performance Endpoints that are distributed throughout multiple sites and data centers, end-user PCs, and mobile devices.



IxChariot Server and Desktop Editions

IxChariot console is available in two editions. The IxChariot Server Edition is hosted on a Linux server and is accessed through a web interface. The IxChariot Desktop Edition is installed as a heavy client on Windows PCs or servers. Both editions share the same licensing and are compatible with the same endpoints so users can select the best option for their use case.

	IxChariot Server Edition	IxChariot Desktop Edition
Console Operating System	Linux Centos, installed as an open virtual appliance, access via Web browser	Windows application
Licensing	IxChariot floating license bundles	
Key Features	• Multi-user access • IxChariot anywhere or manual endpoints configuration	• Desktop application – single-user ownership • Manual endpoint configuration

	IxChariot Server Edition	IxChariot Desktop Edition
	• Application library	• Advanced traffic pattern editing
Use Cases	• Deployment in complex topologies • Realistic traffic pattern • NFV/virtual	• Advanced test script editing • Bring console “on the go” • Wi-Fi Alliance certified tests

IxChariot Performance Endpoints

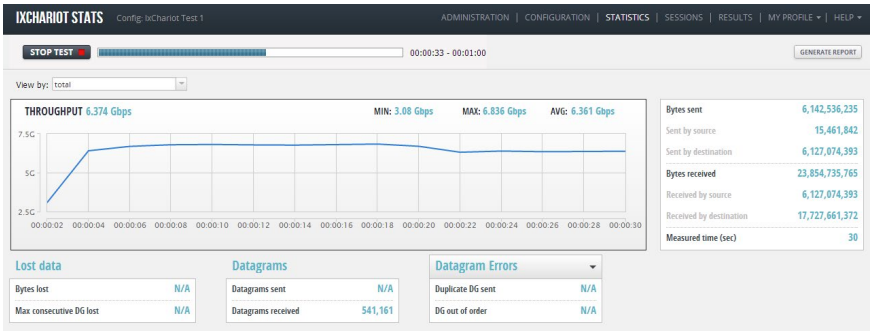
Performance endpoints run on “everything”

- Endpoints are traffic generators – compatible with both IxChariot Server and Desktop editions
- Endpoints can be installed on any Windows or Linux PC/server
- Endpoints are available on Android and iPhone, installed from Google Play and Apple Store
- Endpoints are ready to run on several off-the-shelf small-board PCs
- Support for Raspberry Pi B+, BeagleBone Black, and others
- Runs on virtual and physical (Windows, Mac, Linux) servers
- Ixia hardware endpoints available: XRPi2 and XR2000



Interactive real-time statistics

- Use IxChariot Server or Desktop console to control endpoints and define test scenarios
- Inject real traffic into the network to measure the impact of new applications
- View test results in real-time; measure all critical network metrics including up/down bitrate, loss, jitter, delay, Voice MOS, and Video MDI



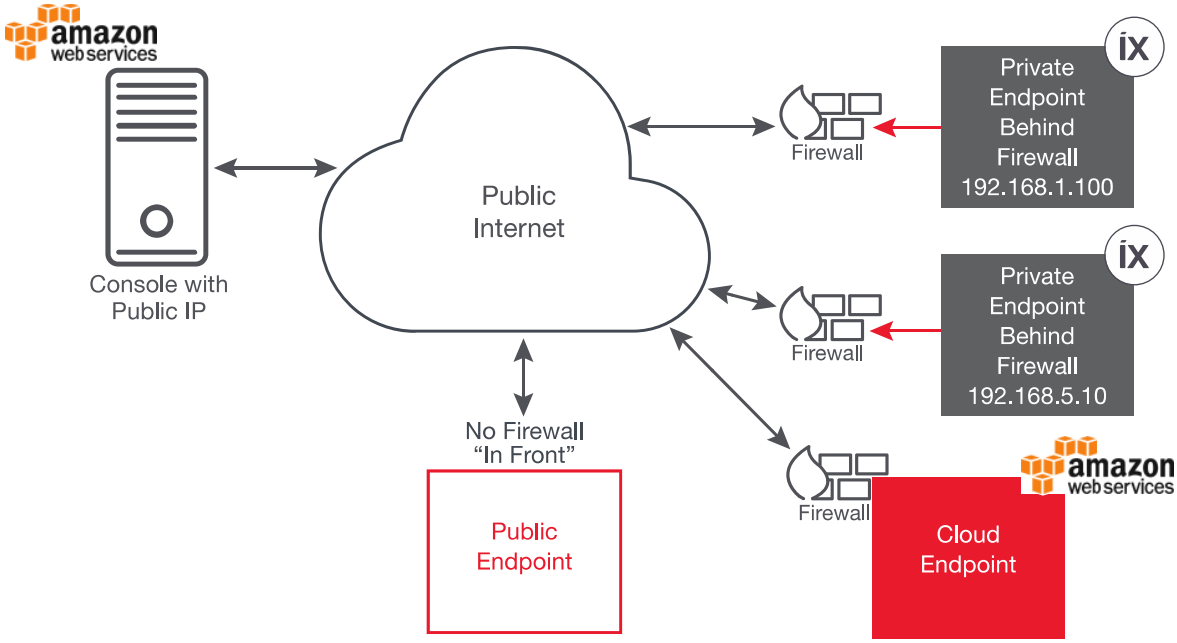
IxChariot Server Edition

Server Edition: “IxChariot anywhere”

Server Edition adds the ability to run IxChariot from the cloud with the main console hosted from one site or data center and exposed publicly for easy access by multiple teams. Patented Ixia technology allows endpoints to traverse company firewalls to deliver a seamless and elegant solution for assessing network performance between private and cloud networks—without compromising security.

Key features

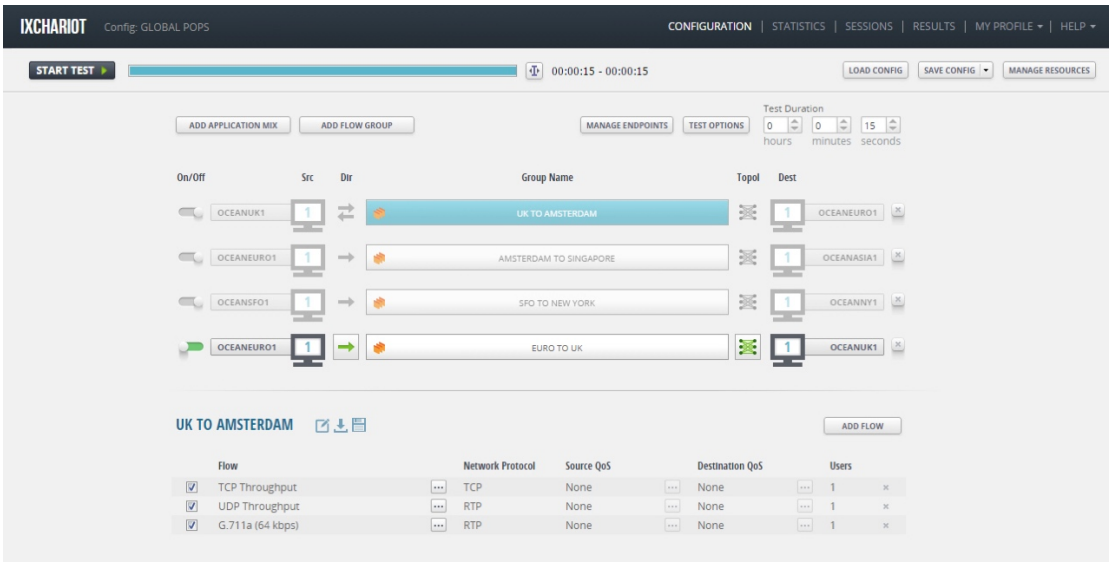
- **Cloud-capable console** – Runs on EC2 and private cloud
- **New HTML5-based web interface** – Zero client installation; browser-based
- **Multi-user system** – Create and run tests simultaneously
- **Test from behind firewalls** – No configuration required
- **100% software endpoints** – Runs on “everything”
- **Setup your own public points** – Endpoints on any VPS/cloud
- **Centrally manage endpoints** – Verify connectivity before use
- **Measure throughput, jitter, packet loss, end-to-end delay** – Per-user metrics
- **Adaptive Streaming emulation** – Like Netflix, Apple TV, YouTube, Youku
- **Create sophisticated traffic patterns** – AppMix, TCP, UDP, and RTP over IPv4 and IPv6
- **Manage test resources** – Built-in resource manager to re-use test scripts
- **Download IxChariot Server** – Available as an open virtual appliance (OVA)
- **Available on Amazon EC2 marketplace** – Bring-your-own-license (BYOL)
- **Full REST API** – Control and integrate with anything



Server Edition Quick Feature Overview

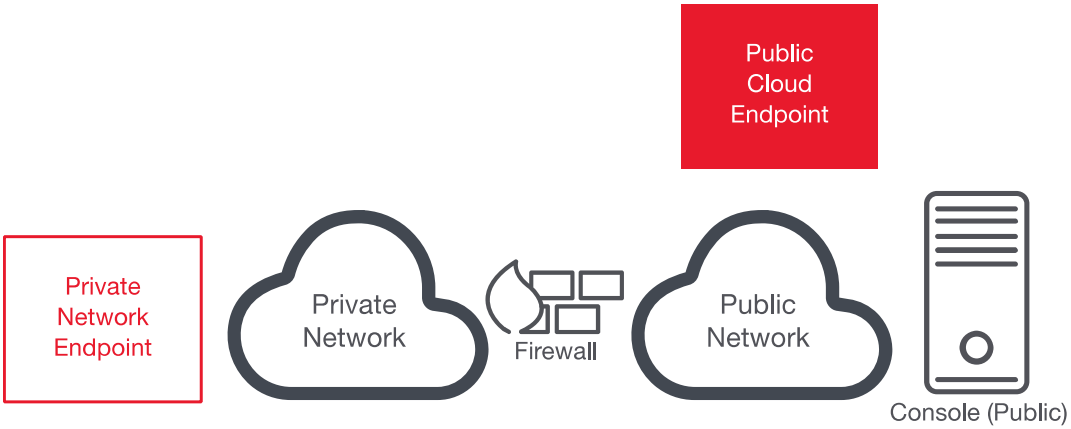
Securely host and run tests from any browser

- Web-based platform, uses HTLM5 for access from any modern browser; multi-user access
- Deploy web console on your LAN or private cloud
- Run on Amazon EC2 with bring-your-own-license (BYOL), deployed from Amazon AWS Marketplace



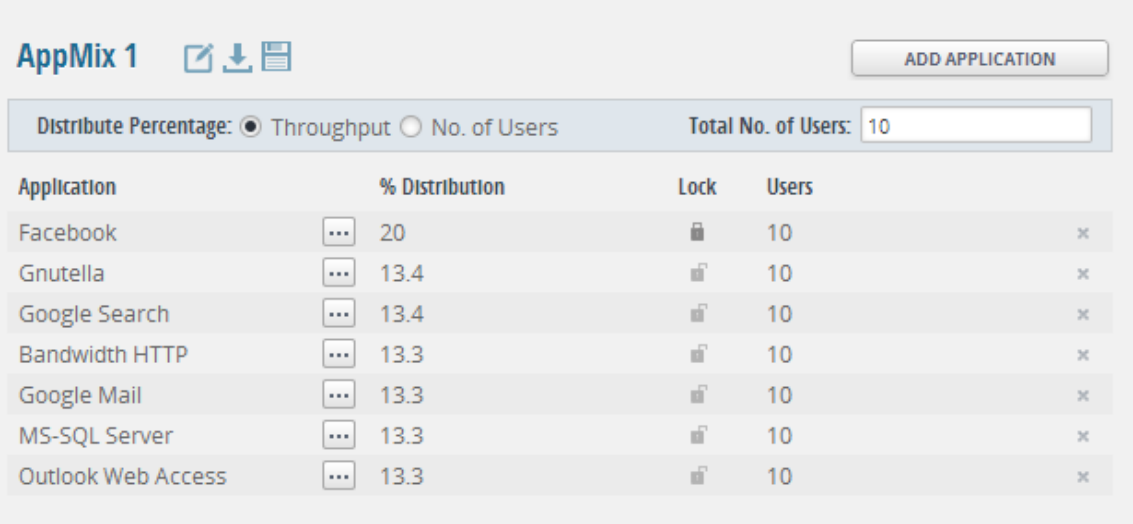
Run endpoints anywhere – LAN, Cloud, Public

- Supports private endpoints running on devices/servers behind enterprise firewalls
- Public points of presence running on any Cloud provider (AWS EC2, Rackspace, Azure)
- Endpoints auto-register and maintain heartbeat to the console/registration service



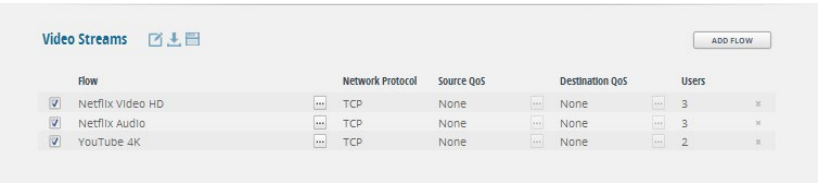
Application Emulation

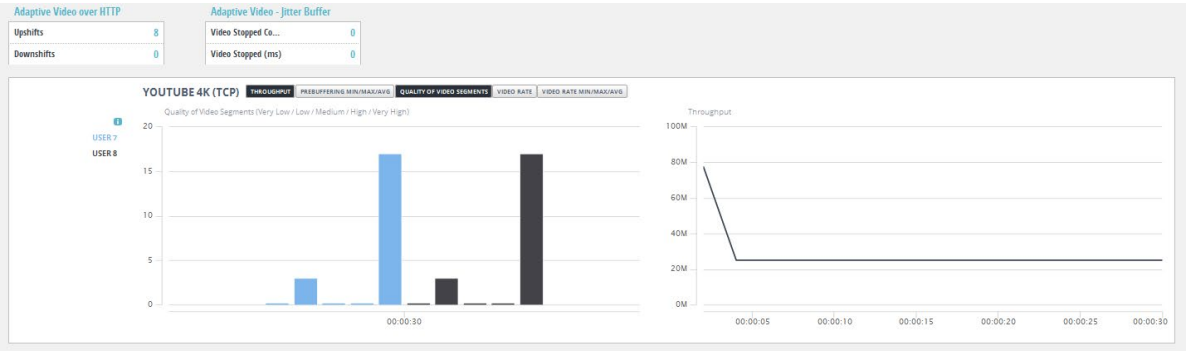
- Configure mixes of applications based on number of users or based on generated throughput
- Ready to run popular applications (~100)



HTTP adaptive streaming Emulation

- Configure video flow from Netflix, YouTube, Apple TV, Youku, and Daily Motion or create your own flow
- Test your device or network with one or many flows and validate key metrics for user experience
  - Video quality delivered
  - Video buffering events
- Mix with other applications



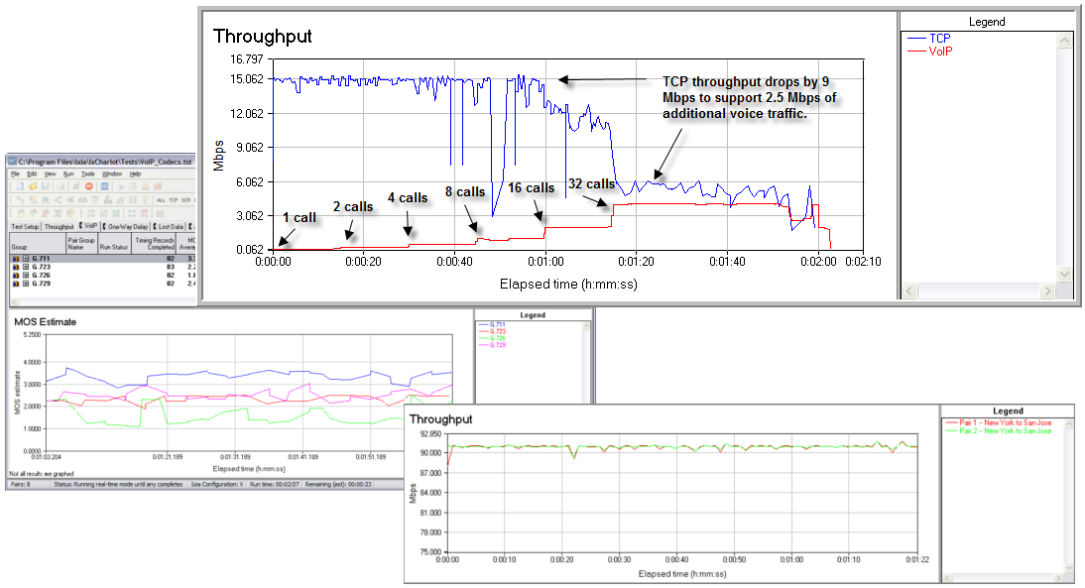


IxChariot Desktop Edition

Desktop is Ixia's original version of IxChariot and offers a very mature interface as a Windows application. It offers many advanced features for creating complex application simulations with advanced configuration tools for building your test scenarios. It also has the advantage of being a transportable application: install it on a windows laptop and bring it with you for ad-hoc assessments on remote sites!

Desktop edition key features

- Install as a Windows application – One user per server
- Use 150+ application scripts to simulate enterprise, triple-play, and Internet traffic
- Generate real-world application behavior at the transport layer (Layer 4)
- Simulate separate control-plane and data-plane activity using Application Groups
- Create sophisticated traffic patterns with and without QoS for IPv4 and IPv6
- Measure throughput, jitter, packet loss, end-to-end delay, MOS, and MDI
- Seamlessly correlate IP statistics with 802.11 client stats such as RSSI
- Embed custom payloads to test specific data content across the network
- Measure IPTV channel 'zap' times
- Reliable Wi-Fi alliance certified test tool
- TCL and C advanced API



IxChariot Desktop GUI

Detailed Product Specifications

	Server Edition	Desktop Edition
Scalability	Supports up to 100,000 connections (endpoint pairs) representing hundreds of thousands of end-users	
Protocols	TCP, UDP, RTP, IPv4, IPv6, IP Multicast, VoIP (G.711, G.723, G.726, G.729)	
Voice Simulation	• VoIP (G.711, G.723, G.726, G.729, AMR) • Skype, Skype for Business	• VoIP (G.711, G.723, G.726, G.729, AMR)
Video simulation	• Video RTP flows (MPEG2, MPEG4) • Adaptive streaming: Netflix, YouTube, Youku, AppleTV, Daily Motion	• Video RTP flows (MPEG2, MPEG4)
Management	• Supported on IPv4 and IPv6 networks • Handles test failures in error prone networks, including Wi-Fi for management • Supports in-band and out-of-band management and traffic paths • IxChariot Anywhere: endpoints communicate to console and automatic detection of NAT/FW	• Supported on IPv4 and IPv6 networks • Handles test failures in error prone networks, including Wi-Fi for management • Supports in-band and out-of-band mgmt. and traffic paths
API Support	• Python	• TCL • C
System Requirements (Server)	• OVA deployment: VMware ESXi 5.x or newer, VMWare Player 6.x or newer • Minimal VM provisioning: 1GB RAM, 1 VCPU • Support for multiple simultaneous tests and user sessions • Available on Amazon marketplace for cloud deployment	• Microsoft Windows Vista, XP, 7, 2000 Server, 2003 Server, 2008 Server, 2012 Server • Minimum hardware: Pentium III, 512MB RAM, 500MB disk space
WIFI Metrics	• RSSI, BSSID, SSID, link speed, Channel ID	• RSSI, BSSID
Performance Endpoints	• Microsoft Windows: 2008 R2, 2012, 7, 8	

	Server Edition	Desktop Edition
	• Linux (x86, x86_64) • Several others, look for “Endpoint Library” on Ixia support site	
Mobile Device Endpoints	• Android – on Google Play Store • IOS – on Apple Store • Search for “endpoint” in appstores	
XR2000 and XRPi2 Hardware Endpoint	• Supported, turnkey hardware endpoints • Look on Ixia website for full specifications	
Supported Test Types	• Throughput TCP and UDP • VoIP, video, streaming traffic	

Supported Applications Library (Server Edition)		
• AOL Instant Messenger • AOL Webmail • Bandwidth HTTP • Bandwidth Raw • BitTorrent Cisco EMIX • BitTorrent Enterprise • BitTorrent File Download • BitTorrent RMIX 5M • BitTorrent Service Provider • Facebook • Facebook Android • Facebook Android Chat Session • HTTPS Simulated Financial • IMAPv4-Advanced Financial • POP3-Advanced Financial • SMB Client File Download Financial • SMBv2 Auth Session Financial • SMBv2 File Download Financial • SMTP Email Financial • Flash Enterprise • FTP Small download • FTP Active mode	• HTTP Flash Video Service Provider • HTTP GET - Android42 to Apache Server • HTTP GET - BlackBerry10 to Apache Server • HTTP GET - Chrome25 (Windows 7) to Apache Server • HTTP GET - Firefox19 (Windows 7) to Apache Server • HTTP GET - IE9 (Windows 7) to Apache Server • HTTP GET - Opera11 (Linux) to Apache Server • HTTP GET - Opera12 (OS X) to Apache Server • HTTP GET - Safari6 (OS X) to Apache Server • HTTP LTE Mix • HTTP Mobile Europe • HTTP Mobile North America • HTTP RMIX 30K • HTTP RMIX 130K • HTTP RMIX 25K • HTTP Service Provider	• iTunes Desktop App Store • Jabber Chat • MS-SQL Server • MySQL Database Update • Netflix Service Provider • Oracle Database • Oracle Enterprise • Outlook Web Access • Pandora LTE Mix • Pandora • POP3 LTE Mix • POP3 RMIX 4K • POP3 RMIX 16K • POP3 RMIX 90K • PostgreSQL • Raw Enterprise • Raw LTE mix • Raw Service Provider • Raw Wireless • RTMP • SMB Client File Download • SMB Enterprise • SMTP Cisco EMIX • SMTP Email • SMTP Enterprise

Supported Applications Library (Server Edition)		
• FTP Cisco EMIX • FTP Enterprise • Gnutella • Google Mail • Google Play LTE Mix • Google Play Search View and Download • Google Search • Google GTalk Chat • HTTP Audio • HTTP Cisco EMIX • HTTP Compressed • HTTP Enterprise • HTTP Flash Video	• HTTP Text • HTTP Video • HTTP Video Enterprise • HTTPS LTE Mix • HTTPS Simulated • HTTPS Simulated Enterprise • HTTPS Simulated Service Provider • ICQ • IMAP Cisco EMIX • IMAP LTE Mix • IMAP RMIX 4K • IMAP RMIX 16K • IMAP RMIX 90K	• SMTP RMIX 4K • SMTP RMIX 16K • SMTP RMIX 90K • SSH • Twitter Json • Webex • Windows Live (MSN) Messenger v15 • Yahoo IM Chat v10 • Yahoo Mail • YouTube Enterprise • YouTube LTE Mix • YouTube Service Provider

Supported Simulated Application Library (Desktop Edition)		
• Active Directory • Baan • CCMail • Citrix • Lotus Notes • LDAP • Microsoft Exchange • Microsoft RDP/ Terminal Services • Microsoft SQL Server • Oracle • SAP • Online gaming – FPS and RTS • DNS • NNTP • POP3	• HTTP/HTTPS • FTP (active/passive) • SMTP • Telnet • AIM • Yahoo IM • MSN Messenger • ICQ • BitTorrent • eDonkey2000 • Kazaa • NetMeeting • Realmedia • SIP • H.323	• Active Directory • Baan • CCMail • Citrix • Lotus Notes • LDAP • Microsoft Exchange • Microsoft RDP/ Terminal Services • Microsoft SQL Server • Oracle • SAP • Online gaming – FPS and RTS • DNS • NNTP • POP3

Ordering Information

License bundles

920-0020

IxChariot Software, Single User Console Seat License

920-0050

IxChariot Software, Floating License Add On, 10 Pairs

920-0051

IxChariot Software, Floating License Add On, 50 Pairs

920-0034

IxChariot Software, Floating License Add On, 200 Pairs

920-0015

IxChariot Software, Floating License Add On, 500 Pairs

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