SPIRENT AVALANCHE
LAYER 4-7 TESTING SOLUTION
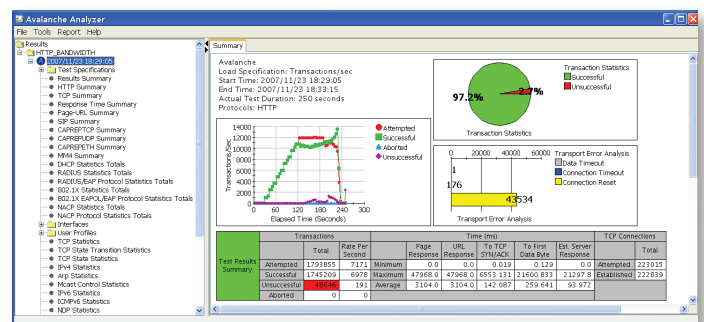## SECURITY TESTING AND APPLICATION PERFORMANCE

Spirent's Avalanche™ Layer 4-7 testing solution provides capacity, security and performance testing for network infrastructures, cloud and virtual environments, Web application infrastructures and Triple Play services that ensures Quality of Service (QoS) and Quality of Experience (QoE) for your customers. Avalanche pinpoints network capacity with the highest performing Layer 4-7 traffic generation capability available at multi 10Gbps rates.

APPLICATIONS

- Network Performance Testing
- Web Application Testing
- Triple Play Testing
- Security Testing
- Cloud and Virtual Network Testing

FEATURES & BENEFITS

- **Multi 10Gbps Line Rate Stateful Traffic**—Spirent Avalanche provides the capability to generate stateful traffic at multiple 10Gbps rates allowing trunk ports to be directly tested or to determine the impact of multiple GigE ports being aggregated over 10Gbps or large-scale 10Gbps native deployments.

- **Flexible Load Profile**—Spirent Avalanche's flexible load profile offers testers the flexibility to specify load variables such as connections per second, concurrent connections, transactions per second, new user sessions per second and concurrent users

- **Real-Time Statistics**—Spirent Avalanche offers real-time statistics across all protocols and reporting tool that makes analyzing results faster and easier

- **Network Devices Performance Testing**—Spirent Avalanche provides performance and capacity testing on a variety of network devices including: Firewall, Virtual Devices, Application Firewall, Load Balancer, Cache, Proxy, URL Filter, Content Filter, Anti-Virus, Anti-Spyware, Reverse-Proxy, SSL Accelerator, HTTP/HTTPS Accelerator, SMTP Relay, IDS/IPS, IPSec VPN Gateway and SSL VPN Gateway

- **Application Server Performance Testing**—Spirent Avalanche can validate performance of several types of real servers including Web Server, Application Server, Mail Server, DHCP Services, FTP Server, DNS Server, Telnet Server, RTSP/RTP QuickTime Streaming Server, Multicast Server, HTTP Adaptive Bitrate Streaming, and more

- **Triple Play Performance Testing**—Spirent Avalanche can perform Triple Play testing, validate Triple Play service from the user's point of view with realistic voice calling, unicast and multicast streaming video, and simulate Internet data traffic using static IP address or IP address assign by DHCP over PPPoE, VLAN and Stacked VLANs (e.g., Q-in-Q)

- **Web Application Testing**—Spirent Avalanche can perform Web application testing including Web services, SOA, ERP and CRM applications with Spirent Avalanche's application testing capability to support cookie, session ID, dynamic link, automatic follow redirect, additional header, content validation, SOAP message, think time, variable think time and variable assignment

- **Network Security Testing**—Spirent Avalanche provides extensive testing for secure network communication, vulnerability assessment, attack generation, and user authentication including: IPSec, SSL, 802.1x, Network Access Control (NAC), RADIUS, and SSLVPN

- **Avalanche Virtual**—Is a software solution based on the industry-leading Spirent Avalanche platform that tests and stresses virtualized data center environments. It offers both Enterprise and Cloud Service Providers an unparalleled opportunity to correlate the impact of large-scale cloud-based application deployments by creating real-world user emulation and traffic generation directly in the cloud.
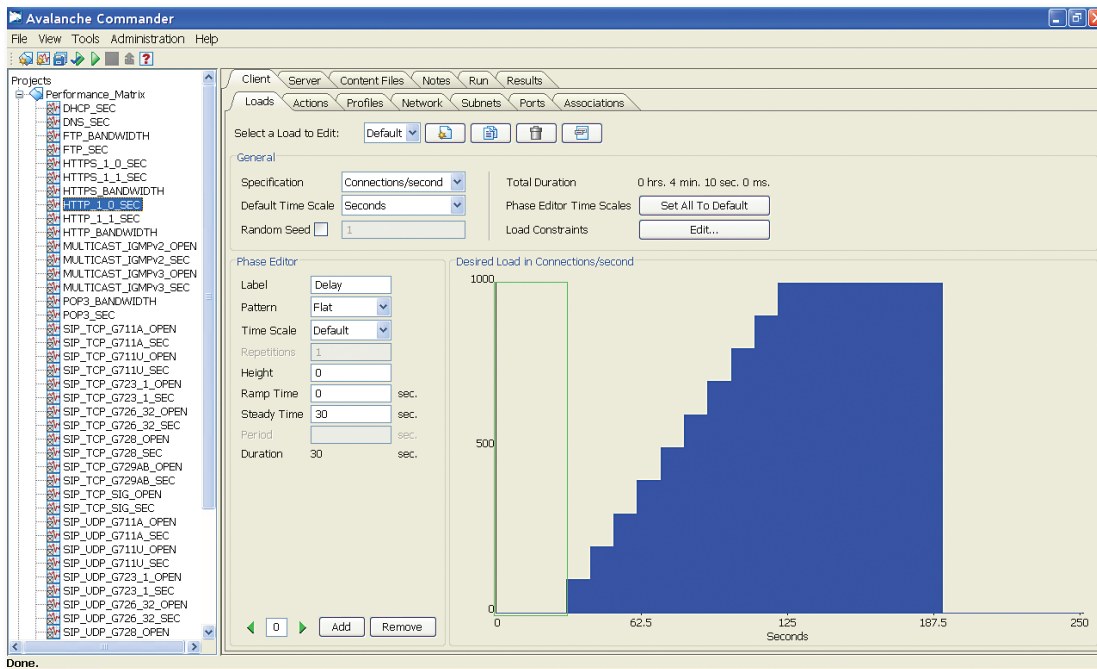

Avalanche Analyzer

	Spirent Avalanche™		Spirent TestCenter™		
	290	**3100**	**HyperMetrics CM**	**HyperMetrics AP**	**HyperMetrics mX**
FEATURE	**PER APPLIANCE**		**PER PAIR PORT**	**PER MODULE**	**PER MODULE**
Number of Test Users	2 Test Users	8 Test Users	1 Test User	Up to 8 Test Users	Up to 8 Test Users
Type of Simulation	Client and Server	Client and Server	Client and Server	Client and Server	Client and Server
Network Interfaces	• 4x 10/100/1000 Copper	• 8x 10/100/1000 Copper • 8x 10/100/1000 Fiber • 4x 10/100/1000 Copper and 4x 10/100/1000 Fiber • 8x 10/100/1000 Copper and 2x 10GbE • 8x 10/100/1000 Fiber and 2x 10GbE • 8x10 GbE SPF+	• CM-1G-D12 HyperMetrics CM 10/100/1000 Dual Media 12-Ports • CM-1G-D4 HyperMetrics CM 10/100/1000 Dual Media 4-Ports	• CPU-5002A 8x 10/100/1000 Dual Media • CPU-5003A 2x 10G XFP Module	• MX-10G-S2 HyperMetrics mX 2-PORT 10G SFP+ Module • MX-10G-S4 HyperMetrics mX 4-PORT 10G SFP+ Module • MX-10G-S8 HyperMetrics mX 8-PORT 10G SFP+ Modul
Network Access Protocol	DHCP, PPPoE and IPSec (IKEv1 and IKEv2)				
Network Realism	Line speed limitation, network latency, packet loss and fragmentation				
IP Version Supported	IPv4 and IPv6				
Encapsulation Protocol	802.1Q and 802.1 Q-in-Q				
Transport	TCP, UDP, SSLv2, SSLv3, TLSv1, and SSLVPN Cisco Anyconnect™				
Data Protocol	HTTP, HTTPS, FTP (Active/Passive), DNS, wTELNET, SMTP, POP3, IMAP4, RADIUS, MM4, ICMP, CIFS and Capture/Replay				
Extended Protocols	BitTorrent, Gnutella, MSN, Yahoo, SKYPE, SQL, MYSQL, Oracle, SMB, NFS, Remote Desktop, Exchange, LDAP				
Authentication	802.1x, Network Access Control (NAC), Radius				
Voice Protocol	SIP over TCP, SIP over UDP, HTP Adaptive Bitrate Streaming for Apple™, Microsoft™, and Adobe™				
Voice Codec Supported	G711A, G711U, G.723.1, G726-32, G.728 and G729AB				
Voice Quality Measurement	MOS score based on R-factor CIFS and NFS				
File Access Protocol	CIFS, NFS				
Video Protocol	Flash Media Streaming using RTMP and RTMPT, Unicast Streaming Quicktime RTSP/RTP, Unicast Streaming Real Network RTSP/RTP, Unicast Streaming Microsoft MMS, Multicast Streaming IGMPv2, IGMPv3 and MLDv2				
Video Codec Supported	MPEG-1, H.261, MPEG-2. H.262, MPEG-4. H.264				
Video Quality Measurement	MDI measurements along with additional stats to detect picture quality				
Attack Generation	L2/L4 DDoS Attacks and L4/L7 Application Attacks including SANs Top-20 Internet Security Attacks				
Reporting	Integrated CSV test results analyzer fully customizable with report generation in PDF and HTML; also provides over 300 statistics per IP address				
Automation	GUI to TCL and Automatic goal seeking using WorkSuite Manager				

SPIRENT®

Avalanche Commander

SUPPORTED MODULES & PLATFORMS

- Spirent Avalanche 290 Portable

- Spirent Avalanche 3100

- Spirent Avalanche Virtual Software Platform

- Spirent TestCenter Application Performance Dual Media CPU Module, 8-Port 1G

- Spirent TestCenter Application Performance Dual Port 10G Module

- Spirent TestCenter Converged Multiplay 10/100/1000, 4-Port and 12-Port Dual Media CPU modules

- Spirent TestCenter mX 2-Port, 4-Port and 8-Port 10G modules

REQUIREMENTS

An IBM® compatible PC must meet the following minimum requirements to run the Spirent Avalanche:

- One 10/100/1000Base-T unshielded twisted pair (UTP) cable

- One 10 Mbps or 10/100/1000 Mbps Ethernet NIC card

- Intel® E6300 Core 2 Duo 4 (or equivalent)

- One serial port

- Minimum of 2GB of RAM

- Minimum 10 GB free space on the hard drive

- Windows® XP operating system, Service Pack 2 (SP2)

- Windows 7 operating system

- An SVGA color monitor (or equivalent) and a mouse

- Microsoft Terminal Services™ or HyperTerminal™, or equivalent communications software package

- DVD-ROM drive

ORDERING INFORMATION

PRODUCT	PART NUMBER
Spirent Avalanche 3100 Appliance	CEE-3100
Spirent TestCenter Application Performance Dual Media CPU Module for 2U Chassis and 9U Chassis	CPU-5002A
Spirent TestCenter Layer 4-7 System Software Base Package A for 2U Chassis	BPK-1200

Other hardware and software configurations are available, please contact Spirent for more information

SPIRENT PROFESSIONAL SERVICES

Professional Services

- *Test lab optimization:* Test automation engineering services

- *Service deployment and service-level optimization:* Vendor acceptance testing, SLA benchmarking, infrastructure and security validation

- *Device scalability optimization:* POC high scalability validation testing

Education Services

- *Web-based training:* 24/7 hardware and software training

- *Instructor-led training:* Hands-on methodology and product training

- *Certifications:* SCPA and SCPE

Implementation Services

- Optimized new customer productivity with up to three days of on-site assistance

SPIRENT GLOBAL SERVICES

Spirent Global Services provides a variety of professional services, support services and education services—all focused on helping customers meet their complex testing and service assurance requirements. For more information, visit the Global Services Website at www.spirent.com/ or contact your Spirent sales representative.

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