

SPIRENT TESTCENTER

AVALANCHE

LAYER 4-7 TEST SOLUTION

Convergence is creating a new generation of integrated network devices and services that are much more complex than ever before. The resulting increased complexity, scarcity of testing skills and architectural shortcomings in current test systems are hurting the ability of manufacturers to ship products on time at escalating quality levels and slowing service providers' ability to deploy networks that get Quality of Experience (QoE) right the first time.

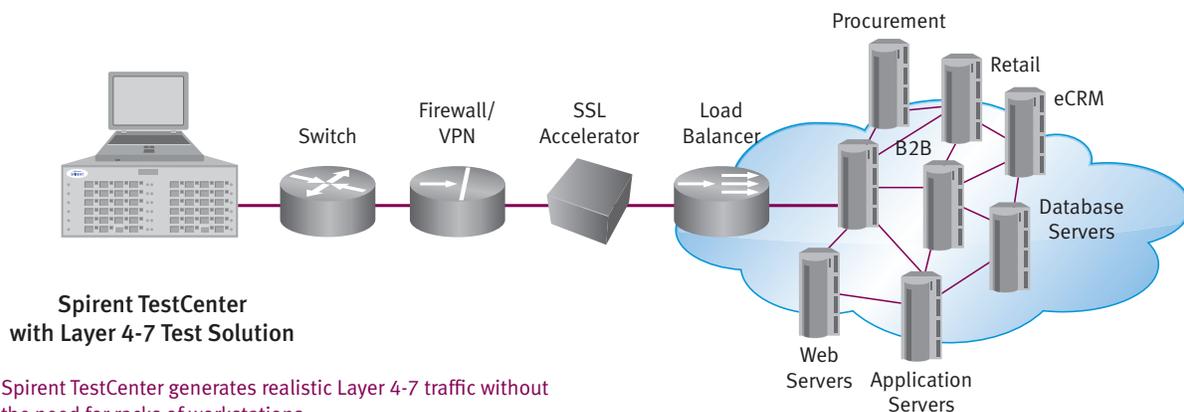
INCREASE PRODUCTIVITY: GET THERE FASTER WITH SPIRENT TESTCENTER

- Test with your unique mix of traffic:** With its unparalleled support for a wide variety of protocols, Spirent TestCenter enables you to test networks and applications with your unique traffic mix. Capture your custom applications and replay them using the Layer 4-7 Solution on Spirent TestCenter.
- Realistic user and network testing:** Testing with “clean” traffic does not accurately simulate the real world. Use Spirent TestCenter to introduce real effects like dropped packets, latencies, think times and click-aways to get an accurate forecast of how your applications will perform in your production network.
- Reduce time to test:** Built-in samples get you started with testing while automation support helps you repeat tests quickly.
- One tool for most of your testing needs:** Test a range of devices including but not limited to firewalls, IDS/IPS systems, proxy and caching servers, URL and cache filters, traffic accelerators, mail and Web servers, IPSec and SSL VPN gateways, Windows and Real Media servers.

Spirent can help you address this challenge with Spirent TestCenter™ with its innovative Inspire Architecture™. Now you can create and execute more complex test cases in less time with the same resources—and scale tests higher while debugging problems faster. The results: Lower CAPEX and OPEX, faster time to market, greater market share and higher profitability.

It is essential that the performance of your network infrastructure, security systems and Web applications are carefully tested to ensure performance goals are met. The Spirent TestCenter Layer 4-7 Test Solution is aimed at testing your network and applications.

Heavy demands placed on the network by the emerging combination of voice, video and data traffic are creating new challenges for IT staff. Spirent's Layer 4-7 testing solutions quickly identify potential points of failure by stress-testing the infrastructure. Large quantities of highly realistic simulated user and network traffic can be generated, recreating a wide range of real-world loading scenarios. Test with Spirent TestCenter and make sure you are prepared.



SPIRENT TESTCENTER LAYER 4-7 TEST SOLUTION

APPLICATIONS

Spirent TestCenter delivers game-changing advantages in productivity and ensures subscribers' QoE. With Spirent testing solutions, customers can maximize today's growth opportunities with a vision towards technologies of the future.

- **Triple Play Testing:** Test the capacity of your network to handle new kinds of traffic by incorporating voice, video and data in a single test.
- **Security Testing:** Incorporate viruses in your email. Introduce Denial of Service attacks along with real traffic. Stop the attacks while letting good user traffic through with acceptable performance.
- **Web Application Testing:** Is your online business ready for Black Friday? Will the Christmas traffic bring your Website to its knees? Do not wait until then to find out. Use Spirent TestCenter to test at and beyond expected loads to make sure that you are prepared ahead of time.
- **Network Infrastructure Testing:** Your network is the lifeblood of your business. Use Spirent TestCenter frequently to test different parts of the network and regularly monitor its performance.
- **Virtual and Cloud Testing:** Virtualized versions of Spirent testing solutions provide traffic generation and testing directly in the cloud for specific virtualized infrastructure performance and capacity assessment.

KEY FEATURES

- **Network and user realism:** Spirent TestCenter provides control over TCP/IP stack characteristics such as maximum segment size, delayed ACKs, IP fragmentation and TCP time-out behavior. Spirent TestCenter also emulates different browsers, decompresses gzips, encodes URLs and applies a whole set of realistic user level attributes.
- **Capture replay:** Industry-standard packet capture (PCAP) files can be used as the source of TCP or UDP traffic that Spirent TestCenter will use to generate connections. In addition select from a library of pre-made application flows such as Netflix™, BitTorrent, Facebook™, and others.
- **Extensive, flexible reporting:** Spirent TestCenter provides real-time statistics for critical variables across all protocols. SNMP statistics can also be gathered from the components being tested and correlated with statistics from Spirent TestCenter.
- **Support for automation:** Tests created in the GUI can be converted into Tcl and incorporated into your automation environment. An industry-leading automation platform called WorkSuite Manager is included, which can be used as a test harness and for iterative testing.

- **Flexible load specifications:** Spirent Test Center provides considerable flexibility to specify load variables such as user sessions, new user sessions per second, transactions, transactions per second, connections or connections per second.
- **Server support:** Spirent TestCenter can be used to simulate a range of real servers such as Web servers, mail servers, FTP servers, DNS servers, Telnet servers and streaming servers.
- **Multi-protocol support:** Spirent TestCenter Layer 4-7 solution supports all major protocols, including: HTTP 1.0/1.1, HTTPS, FTP, streaming media, IPv6, voice (SIP), mail (SMTP/POP3), DNS, Telnet, 802.1Q VLAN tagging, IPSec, DNSSEC, CIFS, NFS and PPPoE. Broad-based protocol support enables you to accurately test for performance-sensitive network activities such as:
 - **E-commerce:** Generate realistic Web traffic using browser cookies, session IDs, HTTP posts and SSL-encrypted traffic.
 - **Mail:** SMTP and POP3 support lets you simulate large numbers of users sending and receiving messages. The system is compatible with all major mail servers and supports simulation and analysis of e-mail attachments, including valid documents and viruses.
 - **Streaming media:** Generates thousands of concurrent streaming requests, enabling you to assess the capacity of large streaming media farms and streaming-aware devices using QuickTime, Real Networks and Windows Media.
 - **Video on Demand (VoD) streaming through multicast:** VoD infrastructures can now be fully tested before they are rolled out to production using the user-driven VoD support offered by Spirent TestCenter Layer 4-7. In addition support for next generation HTTP adaptive streaming provides extensive VOD client and server testing capabilities.
 - **File transfer:** Spirent TestCenter FTP support allows you to simulate large numbers of users fetching files ranging from 1 KB to 1 GB and beyond.
 - **Next-generation IP:** Spirent TestCenter IPv4 and IPv6 dual-stack support delivers a wide range of testing capabilities to any IP environment.
- **Network latency, packet loss and fragmentation:** Spirent TestCenter includes a high-accuracy delay factor that mimics latencies of typical users' connections. Asymmetric broadband connections are accurately emulated, with traffic moving downstream at high speeds and slower rates upstream. Simulated levels of packet loss and performance degrading fragmentation can also be specified, including simulation of in-order fragments, lost fragments and reverse-order fragments.

- **TCP/IP stack characteristics:** Spirent TestCenter provides control over TCP/IP stack characteristics such as maximum segment size, delayed ACKs, IP fragmentation and TCP time out behavior. These capabilities enable you to simulate different network environments and fine tune your device or infrastructure in environments displaying different types of TCP behavior.
- **21st century security:** Spirent TestCenter supports a broad set of IPsec security testing capabilities for testing complex variations in today's security infrastructures. It delivers realistic application simulation, high degrees of user realism and supports a complete range of intranet, extranet and remote access VPN configurations for both IPv4- and IPv6-based networks. In addition, SSL VPN-encrypted sessions can be simulated as a part of the overall emulation, including the generation and receipt of validated certificates. Keeping malicious traffic out of the network is equally important. Spirent TestCenter provides an additional layer of security by ensuring the infrastructure is capable of protecting against viruses and denial of service attacks, even when the network is experiencing extreme loads.
- **Triple Play/IP Telephony (SIP) testing:** Two factors have created a sharp demand for VoIP testing: Network demands created by provisioning voice, video and data services to a large number of customers; and, revolutionary IP Telephony technology that delivers global calling nearly free of cost. Spirent TestCenter answers this testing challenge by introducing support for the Session Initiation Protocol (SIP), the leading IP Telephony protocol. Spirent TestCenter is the only testing device on the market that can generate VoIP (SIP), video (multicast and unicast streaming) and data (HTTP, HTTPS, FTP, etc.) traffic from the same port, from the same GUI and from the same appliance.
- **Quick setup and intuitive controls:** Spirent TestCenter Layer 4-7 solution setup is quick and intuitive. The solution is quickly and easily configured from the GUI, which provides intuitive controls that enable you to quickly set up new tests without writing extensive scripts.

SUPPORTED MODULES

Spirent's Avalanche Layer 4-7 Application can be used on a myriad of Spirent TestCenter cards from 1 Gbps to 100 Gbps and Virtual application.

Please contact your Spirent Sales Associate for more information.

REQUIREMENTS

- Pentium® or greater PC running Windows® XP Professional SP2 or Windows 7 32/64 bit OS with mouse/color monitor required for GUI operation. See Minimum PC Requirements section.
- One Ethernet cable and one 10/100/1000 Mbps Ethernet card installed in the PC
- Operating system languages supported: English, French, German, Italian, Japanese, Korean, and Chinese (traditional and simplified)

MINIMUM PC REQUIREMENTS

- Small Port System: 1-25 ports
 - 2.4 GHz Pentium 4 or equivalent with 512 MB of free RAM and 10 GB of free disk
- Medium Port System: 26-75 ports
 - 3 GHz Pentium 4 or equivalent with 2 GB of RAM and 15 GB of free disk space
- Large Port (75+ ports)
 - E6400 Intel® Core™ 2 Duo or equivalent with 3 GB of RAM and 100 GB of free disk space

SPIRENT GLOBAL SERVICES

Spirent Global Services optimizes your productivity with Spirent TestCenter over a broad range of technologies:

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 x 7 hardware and software training
- **Instructor-led training:** Hands-on methodology and product training
- **Certifications:** SCPA and SCPE certifications

Implementation Services

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

Visit www.spirent.com/Solutions-Directory/Global_Seervices or contact your Spirent sales representative.

SPIRENT TESTCENTER
LAYER 4-7 TEST SOLUTION

ORDERING INFORMATION	
For Spirent TestCenter 11U Chassis	
Product	Part Number
AVALANCHE SYSTEM SOFTWARE BASE PKG A	BPK-1200A
AVALANCHE SSL BASE PKG A	BPK-1201A
AVALANCHE SMTP/POP3/IMAP4 MAIL PROTOCOLS BASE PKG A	BPK-1202A
AVALANCHE IPSEC BASE PKG A	BPK-1204A
AVALANCHE IPV6 BASE PKG A	BPK-1205A
AVALANCHE VOICE OVER IP SIP BASE PKG A	BPK-1206A
AVALANCHE APPLICATION TESTING BASE PKG A	BPK-1210A
AVALANCHE VIDEO STREAMING MULTICAST BASE PKG A	BPK-1211A
AVALANCHE VIDEO STREAMING UNICAST BASE PKG A	BPK-1213A
AVALANCHE MULTIMEDIA MESSAGING SERVICE MM4 BASE PKG A	BPK-1214A
AVALANCHE PPP OVER ETHERNET BASE PKG A	BPK-1215A
AVALANCHE DHCP BASE PKG A	BPK-1216A
AVALANCHE RADIUS BASE PKG A	BPK-1217A
AVALANCHE 802.1X/NAC BASE PKG A	BPK-1218A
AVALANCHE CIFS BASE PKG A	BPK-1221A
AVALANCHE RTMP BASE PKG A	BPK-1222A
AVALANCHE VULNERABILITY ASSESSMENT BASE PKG A	BPK-1223A
AVALANCHE SAPEE BASE PKG A	BPK-1224A
AVALANCHE NFS BASE PKG A	BPK-1225A
AVALANCHE HTTP ABR VIDEO BASE PKG A	BPK-1228A
For Spirent TestCenter 3U Chassis	
AVALANCHE SYSTEM SOFTWARE BASE PKG A - 2PK MOD	BPK-1200A-2XMOD
AVALANCHE SSL BASE PKG A - 2PK MOD	BPK-1201A-2XMOD
AVALANCHE SMTP/POP3/IMAP4 MAIL PROTOCOLS BASE PKG A-2PK MOD	BPK-1202A-2XMOD
AVALANCHE IPSEC BASE PKG A - 2PK MOD	BPK-1204A-2XMOD
AVALANCHE IPV6 BASE PKG A 2PK MOD	BPK-1205A-2XMOD
AVALANCHE VOICE OVER IP SIP BASE PKG A - 2PK MOD	BPK-1206A-2XMOD
AVALANCHE APPLICATION TESTING BASE PKG A - 2PK MOD	BPK-1210A-2XMOD

ORDERING INFORMATION (CONTINUED)	
For Spirent TestCenter 3U Chassis (continued)	
Product	Part Number
AVALANCHE VIDEO STREAMING MULTICAST BASE PKG A - 2PK MOD	BPK-1211A-2XMOD
AVALANCHE VIDEO STREAMING UNICAST BASE PKG A - 2PK MOD	BPK-1213A-2XMOD
AVALANCHE MULTIMEDIA MESSAGING SVC MM4 BASE PKG A - 2PK MOD	BPK-1214A-2XMOD
AVALANCHE PPP OVER ETHERNET BASE PKG A - 2PK MOD	BPK-1215A-2XMOD
AVALANCHE DHCP BASE PKG A - 2PK MOD	BPK-1216A-2XMOD
AVALANCHE RADIUS BASE PKG A - 2PK MOD	BPK-1217A-2XMOD
AVALANCHE 802.1X/NAC BASE PKG A - 2PK MOD	BPK-1218A-2XMOD
AVALANCHE CIFS BASE PKG A - 2PK MOD	BPK-1221A-2XMOD
AVALANCHE RTMP BASE PKG A - 2PK MOD	BPK-1222A-2XMOD
AVALANCHE VULNERABILITY ASSESSMENT BASE PKG A - 2PK MOD	BPK-1223A-2XMOD
AVALANCHE SAPEE BASE PKG A - 2PK MOD	BPK-1224A-2XMOD
AVALANCHE NFS BASE PKG A - 2PK MOD	BPK-1225A-2XMOD
AVALANCHE ABR VIDEO STREAMING CLIENT - 2PK MOD	BPK-1228A-2XMOD
AVALANCHE ABR VIDEO BASE PKG A - 2PK MOD	BPK-1228A-2XMOD

SPIRENT 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.

AMERICAS 1-800-SPIRENT • +1-818-676-2683 • sales@spirent.com

EUROPE AND THE MIDDLE EAST +44 (0) 1293 767979 • emeainfo@spirent.com

ASIA AND THE PACIFIC +86-10-8518-2539 • salesasia@spirent.com

© 2012 Spirent Communications, Inc. All of the company names and/or brand names and/or product names referred to in this document, in particular the name “Spirent” and its logo device, are either registered trademarks or trademarks pending registration in accordance with relevant national laws. All rights reserved. Specifications subject to change without notice. Rev. D 04/12

