



# Spirent TestCenter™ 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 2.0 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.

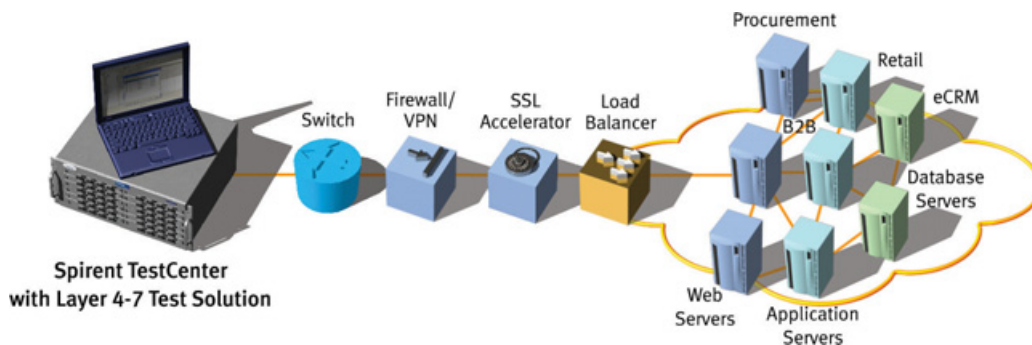
It is essential that the performance of your network infrastructure, security systems and Web applications are carefully tested to ensure performance goals are met. The Spirent TestCenter Layer 4-7 Test Solution is aimed at testing your network and applications.

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.

## APPLICATIONS

Spirent TestCenter™ 2.0 delivers game changing advantages in productivity and ensures subscribers' quality of experience. 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.



Spirent TestCenter generates realistic Layer 4-7 traffic without the need for racks of workstations.



- **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.
- ### 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.
  - **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 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 and handles more than 10,000 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 streaming through multicast: Video on Demand infrastructures can now be fully tested before they are rolled out to production using the user-driven Video on Demand support offered by Spirent TestCenter Layer 4-7.
    - 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

Series 2000 modules provide higher performance than Series 1000 modules; contact your Spirent representative for details.

The Layer 4-7 solution supports all Spirent TestCenter Series 2000 test modules and personality cards.

Series 2000 Modules	
Performance (per port-pair)	
Simultaneously Connected Simulated Users with Unique IP Addresses	100,000
TCP Requests per Second	2,000
HTTP Bandwidth	140Mbps

## REQUIREMENTS

- Pentium® or greater PC running Windows® XP Professional SP2 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
- A SPT-2000A Spirent 2U Chassis and Controller, SPT-5000A Spirent 5U Chassis and Controller or SPT-9000A Spirent 9U Chassis and Controller
- Operating system languages supported: English, French, German, Italian, Japanese, Korean, and Chinese (traditional and simplified)

## MINIMUM PC REQUIREMENTS

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

## ORDERING INFORMATION

### For Spirent TestCenter 5u and 9u chassis:

PRODUCT	PART NUMBER
Layer 4-7 System Software Base Package A	BPK-1033A
Enhanced HTTP Base Package A	BPK-1034A
SSL Base Package A	BPK-1035A
SMTP/POP3 Mail Protocols Base Package A	BPK-1036A
Capture/Replay Base Package A	BPK-1037A
IPSec Base Package A	BPK-1038A
IPv6 Base Package A	BPK-1039A
SIP Base Package A	BPK-1040A
Worksuite Manager Base Package A	BPK-1041A
Streaming MMS (Windows Media) Base Package A	BPK-1042A
Denial of Service Base Package A	BPK-1043A
Application Testing Base Package A	BPK-1044A
VoD Multicast Base Package A	BPK-1045A
RTSP/RTP Quicktime Base Package A	BPK-1046A
RTSP/RTP Real Proxy Base Package A	BPK-1047A
Multimedia Messaging Service (MMS)	BPK-1048A
PPP over Ethernet Base Package A	BPK-1049A

### For Spirent TestCenter 2U chassis:

PRODUCT	PART NUMBER
Layer 4-7 System Software Base Package A	BPK-1033A-2U
Enhanced HTTP Base Package A	BPK-1034A-2U
SSL Base Package A	BPK-1035A-2U
SMTP/POP3 Mail Protocols Base Package A	BPK-1036A-2U
Capture/Replay Base Package A	BPK-1037A-2U
IPSec Base Package A	BPK-1038A-2U
IPv6 Base Package A	BPK-1039A-2U
SIP Base Package A	BPK-1040A-2U
Worksuite Manager Base Package A	BPK-1041A-2U
Streaming MMS (Windows Media) Base Package A	BPK-1042A-2U
Denial of Service Base Package A	BPK-1043A-2U
Application Testing Base Package A	BPK-1044A-2U
VoD Multicast Base Package A	BPK-1045A-2U
RTSP/RTP Quicktime Base Package A	BPK-1046A-2U
RTSP/RTP Real Proxy Base Package A	BPK-1047A-2U
Multimedia Messaging Service (MMS)	BPK-1048A-2U
PPP over Ethernet Base Package A	BPK-1049A-2U

## 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/gs](http://www.spirent.com/gs) or contact your Spirent sales representative.



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