

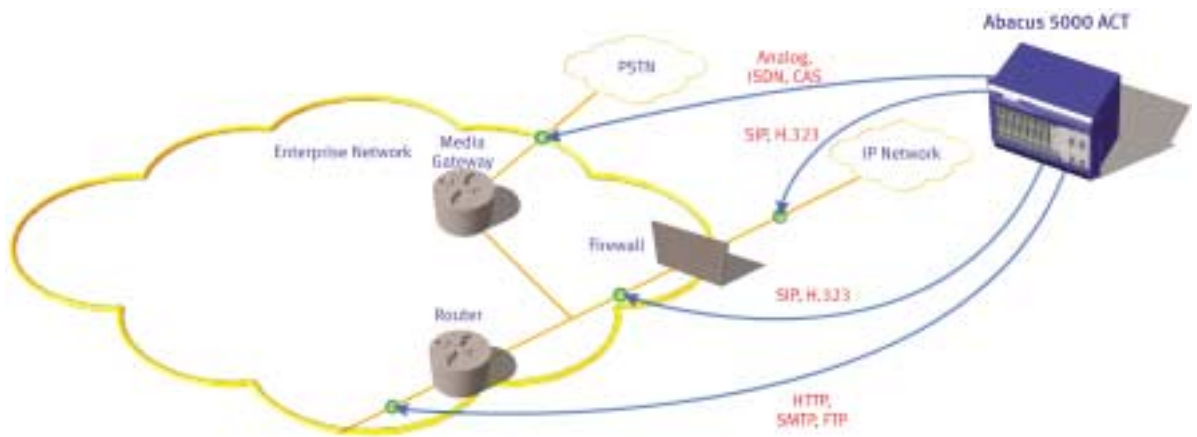


ABACUS 5000 Triple Play Testing ACT-5000 Client Subsystem ACT-5001 Server Subsystem

Abacus 5000 ACT System Overview

Spirent Communications' Abacus 5000 Architecture for Converged Network Testing (ACT-5000) system analyzes the interaction between voice, video and data in a converged network.

system to fine-tune their networks, ensuring optimal capacity, performance, interoperability and voice quality throughout the network. By testing the service before going live, engineers can be proactive instead of having to react to problems and issues as they are discovered.



Awarded “Best of Show” at N+I 2004, the ACT-5000 system is used by equipment vendors, service providers and enterprises to analyze the impact of real world data and video traffic on voice quality.

Triple Play Testing

The ACT-5000 system reduces the risk involved in rolling out bundled services by validating voice quality in a data-centric environment.

- Identify interdependencies among voice, video, and data traffic
- Ensure voice quality and avoid the risk of a failed rollout
- No more “plug and pray” for triple play

The ACT-5000 system provides outstanding flexibility in the way you test your converged networks, whether at the device or the network infrastructure level. The ACT-5000 Client Subsystem and the ACT-5001 Server Subsystem work together to help you obtain real world traffic results without incurring real world costs.

The Abacus 5000 ACT system is integrated with the Abacus 5000 IP Telephony Migration Test System. It provides direct correlation over time of the impact of web and video traffic on voice quality. Using the Abacus 5000 ACT subsystem, service providers can speed their deployments, avoid the risk of failed rollouts and lost productivity, and ensure that they have selected the right infrastructure and design for the network before a triple play service is activated. Service providers can also use the Abacus 5000 ACT

Measure Voice Quality in the Presence of Data

Measuring voice quality in the presence of data enables service providers to analyze and test network equipment and infrastructure before deploying new voice services on data and video networks.

With an Abacus 5000 ACT system, engineers can test potential scenarios to identify what happens to voice call establishment and voice quality when their network infrastructure is exposed to real world data traffic of varying levels. For the first time, equipment vendors, service providers and enterprises are able to demystify the complex interdependencies of all

traffic types, eliminating the need for guesswork or trial and error.

ACT-5000 Client Subsystem Overview

The ACT-5000 Client Subsystem is a data load-testing single subsystem that generates high levels of realistic network and user traffic, safely predicting how your network device, application or infrastructure will perform under real-world conditions. The ACT-5000 Client Subsystem helps you improve availability by testing applications and systems at and beyond

Spirent Communications
26750 Agoura Road
Calabasas, CA
91302 USA
E-mail: productinfo@spirentcom.com

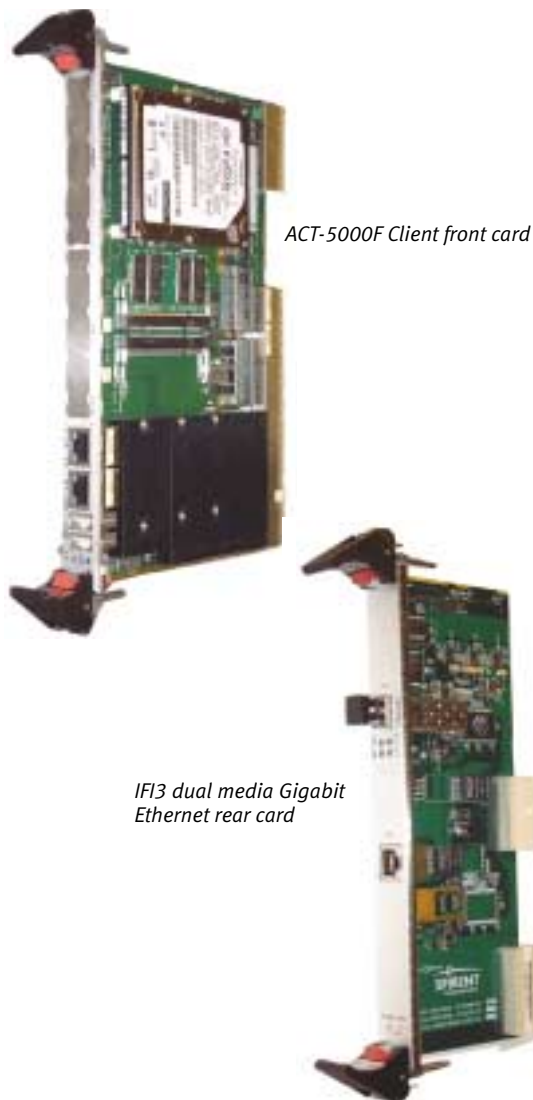
Sales Contacts:
North America
+1 800-927-2660
Europe, Middle East, Africa
+33-1-6137-2250
Asia Pacific
+852-2166-8382
All Other Regions
+1 818-676-2683

www.spirentcom.com



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expected peak loads. With it, you can evaluate new network devices and device software before releasing them to market, purchasing or deploying them in your network. As a result, you rely upon new technology only after its capabilities and limitations have been demonstrated.



ACT-5000F Client front card

IF13 dual media Gigabit Ethernet rear card

ACT-5001 Server Subsystem Overview

The ACT-5001 Server Subsystem realistically simulates the behavior of large Web, application and database server environments. Combined with the ACT-5000 Client Subsystem data load-generator, this cost-effective and intuitive system eliminates the need to build large and cumbersome test infrastructures.

When you place a device or network between the ACT-5000 Client Subsystem and the ACT-5001 Server Subsystem, you subject it to a high volume of realistic user requests on one side, and accurate and consistent multiprotocol responses on the other.

This realistic yet manageable traffic enables you to assure the stability and performance of load balancers, firewalls, intrusion detection systems, SSL accelerators and other network devices before you deploy them in your network, enabling you to foresee real world performance levels before you have to depend upon them.

Flexible Load Specifications

With the ACT-5000 Client Subsystem and ACT-5001 Server Subsystem, you can specify data load using variables such as user sessions, new user sessions per second, transactions, transactions per second, connections or connections per second. You can specify a single load profile for the entire test or specify a separate load profile for each user profile in the test, which allows you to simulate actions, network characteristics and load for a particular set of users. Graduated load-stressing capabilities enable you to set up user and network parameters just once and then perform tests at multiple load levels. This level of flexibility helps you more realistically simulate user and network traffic.

Network Realism

The ACT-5000 Client Subsystem and the ACT-5001 Server Subsystem deliver a high degree of network realism, so that you can simulate the conditions that most seriously affect performance. The subsystems' protocol capabilities that enable you to accurately test for performance-draining activities include support for:

- HTTP 1.0/1.1
- HTTPS
- DNS
- Telnet
- FTP

High Performance

The ACT-5000 Client Subsystem or the ACT-5001 Server Subsystem delivers 950 Mbps high-speed performance. The system can generate 15,000 HTTP requests per second while simulating realistic user traffic traversing multiple, different Web sites at varying connection speeds. With IP masquerading, the ACT-5000 Client Subsystem and ACT-5001 Server Subsystem can simulate 600K concurrent connections, each appearing to come from a different IP address.

Extensive, Flexible Reporting

The ACT-5000 Client Subsystem and the ACT-5001 Server Subsystem provide real-time statistics for critical variables across all protocols, so you can determine how your equipment or infrastructure holds up while testing is in progress. You can also gather SNMP statistics from the devices or software components being tested to compare such variables as CPU utilization with end-user response time. Avalanche Analyzer™, Spirent's flexible reporting tool, gives you an integrated picture of all relevant statistics in a single report, and allows you to export them into JPEG, PDF or HTML formats.

Quick Setup and Intuitive Controls

Setup and browser configuration for the ACT-5000 and ACT-5001 Subsystems are straightforward and intuitive. You can access their capabilities directly from a desktop browser-based GUI. Its intuitive controls let you quickly set up new tests without having to write extensive scripts.

ACT-5000 Client and ACT-5001 Server Specifications

ACT-5000 Client: Network Realism

- Generates HTTP/1.0, HTTP/1.1 and HTTPS (including persistence and simultaneous connection settings); DNS; and Telnet traffic
- Handles multi-level HTTP redirects
- Supports HTTP proxies and proxy caches
- Enables network delay settings
- Simulates packet loss
- Allows simulation of TCP/IP stack characteristics and control over:
 - Maximum segment size
 - Slow start/congestion avoidance
 - VLAN tagging
 - IP fragmentation
 - TCP timeout behavior
- Link-speed emulation (from 9600 bps to gigabit LAN speeds)

ACT-5001 Server: Realistic, Accurate Emulation

The ACT-5001 Server Subsystem responds to both static and dynamic URL requests, and provides support for HTTP/1.0, HTTP/1.1. It provides control over such server characteristics as:

- Server headers
- IP addresses
- Size of returned data with configurable size distributions
- Mime type of returned data
- Application status codes returned
- Embedded text within returned data
- Last modified and expired header

Flexible Reporting

- Real-time statistics provide instant feedback during infrastructure performance tests
- SNMP monitoring and reporting
- Avalanche Analyzer generates reports and graphs that can be exported in JPG, PDF and HTML formats

Intuitive Operation

- Fast setup—installation into an Abacus 5000 chassis, power-up and browser configuration typically takes only a few minutes
- Easy-to-use, browser-based GUI
- Test new functionality without writing extensive scripts

Interfaces

- ICG-3001R IFI3 rear card for load generation, 1 port dual media Gigabit Ethernet with 1000Base-SX and 10/100/1000Base-T

Physical Connection

- ACT-5000 Client and ACT-5001 Server front cards fit in the Abacus 5000 chassis
- ICG-3001R IFI3 dual media Gigabit Ethernet rear card provides one SFP connector and one RJ-45 connector

- The standard 1000Base-SX SFP transceiver supports multi-mode (MM) fiber optic cable
- The optional 1000BASE-LX SFP transceiver supports single mode (SM) fiber optic cable

Electrical

- Power draw: Approx. 50 W per board

Ordering

Client Subsystem

- ACT-5000: Client Subsystem, with 1 port dual media Gigabit Ethernet

Server Subsystem

- ACT-5001: Server Subsystem, with 1 port dual media Gigabit Ethernet

Optional Transceiver

- ICG-3001LX: 1000BASE-LX Gigabit Ethernet SFP Transceiver, SM 1310NM

For More Information

Abacus 5000 system information is at www.spirentcom.com/voice. Learn more about Spirent IP Telephony test systems and services; download product literature, white papers and test methodologies. Contact your local Spirent sales representative for details.

**Spirent
Communications**
26750 Agoura Road
Calabasas, CA
91302 USA
E-mail: productinfo@spirentcom.com

Sales Contacts:
North America
+1 800-927-2660
**Europe,
Middle East, Africa**
+33-1-6137-2250
Asia Pacific
+852-2166-8382
All Other Regions
+1 818-676-2683

www.spirentcom.com

