SPIRENT ABACUS

SIP PROXY AND REGISTRAR TESTING

ABACUS 5000—IP TELEPHONY SIGNALING AND MEDIA TRAFFIC GENERATOR

Spirent Communications' Abacus™ 5000 IP Telephony Migration Test System emulates the SIP Proxy/Registrar function. The SIP Proxy/Registrar is ideal for testing Session Border Controllers (SBC), Firewall and other network security elements.

SIP PROXY HIGHLIGHTS

- Emulates network server side
- Operates as a Stateful proxy processing engine
- Creats and maintains a server transaction associated with one or more client transaction
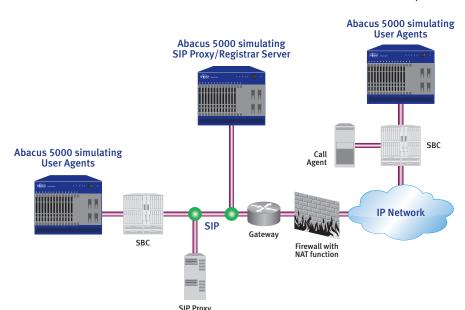
SIP REGISTRAR HIGHLIGHTS

- Accepts REGISTER requests
- Places REGISTER information into the location service
- Binds contact address or addresses with a SIP user

Abacus 5000 Applications

- Emulates network server side to isolate media gateway testing
- Tests SBC and Firewall end to end, from SIP UE to SIP servert
- Test QoS enabled VoIP routers
- Provides the highest IP Telephony signaling and media generation in the industry
- Executes up to 780,000 simultaneous registered SIP users per chassis

Provides seamless test interoperability between SIP, AS-SIP, H.323, H.248/Megaco, MGCP, Skinny, SIP-T, SIP-I, SIGTRAN, BICC, SS7, Analog, TDM

A SIP proxy server routes SIP requests to user agent servers and SIP responses to user agent clients.

A SIP registrar is a server that accepts REGISTER requests and places the information it receives into the location service for the domain it handles.

Spirent's Abacus 5000 enables network equipment manufacturers and service providers to emulate the SIP Proxy/Registrar functions. The SIP Proxy/Registrar is ideal for testing Session Border Controllers (SBC) or Session Border Gateways (SBG) and Firewall core functionality during development and deployment. The SIP Proxy/Registrar is also used for testing security policy servers or any device that can be located between the UA and the Registrar.

ABACUS 5000—IP TELEPHONY SIGNALING AND MEDIA TRAFFIC GENERATOR

BENEFITS

Abacus 5000 simulates real-world network conditions by emulating the SIP proxy/registrar server functionality. Abacus SIP Proxy/Registrar server can route a high volume of transactions and registrations at a high rate per second. Spirent's SIP Proxy/Registrar is supported on Abacus 5000's ICG3 subsystems.

Abacus 5000 ICG3 subsystems also include test methodologies for all-in-one MGC/softswitch testing, IP Telephony and IMS testing. Abacus 5000 simulates hundreds of thousands IP telephones and/or gateways, generating the SIP signaling end points and RTP to perform performance and scalability tests on SBCs or SBGs.

SIP PROXY/REGISTRAR

SIP Proxy/Registrar Server

Spirent Abacus 5000's industry leading SIP Proxy/Registrar server is a stateful proxy server. The proxy server processes incoming requests. The proxy server determines where to route the request, choosing one or more next hop locations. The register accepts REGISTER requests and places the information it receives into the location service for the domain it handles.

The SIP Registrar binds contact addresses with a SIP user. With end point registration, the SIP Registrar obtains the knowledge of where the user can be reached

Supported Proxy Requests

The following requests can be successfully processed by the SIP Proxy:

- INVITE
- BYE
- REGISTER
- PING
- CANCEL
- UPDATE
- SUBSCRIBE
- NOTIFY
- REFER

Authentication

The SIP Proxy supports the following authentication schemes:

- No authentication
- MD5 authentication
- IMS authentication

Graphical Configuration

The Network Topology Diagram (NTD) provides a graphical user interface to setup test cases for Media Gateway, Signaling Gateway, Softswitch and Network Element testing.

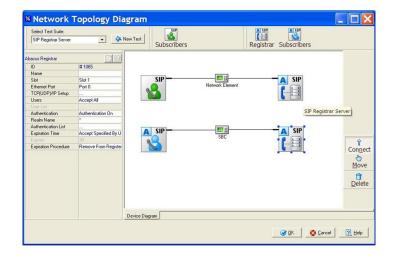Abacus 5000's NTD is also used to setup the SIP Proxy/Registrar functions with the SIP UA's:

- Abacus Registrar Server
- SIP Subscribers
- Abacus SIP Subscribers

SIP Proxy/Registrar Server

The Abacus GUI provides an extensive set of configuration parameters to configure the SIP Proxy/Registrar, which include user list and authentication credentials.

The user list allows the Abacus SIP Proxy/Registrar Server to accept all the users who send a registration or limit users based on their Address or Record (AOR). Authentication allows the Abacus SIP Proxy/Registrar Server to perform user authentication with realm, user name and password.

Other Abacus SIP Proxy/Registrar Server parameters include Expiration Time and Expiration Procedure. The SIP Proxy/Registrar can set grant expiration limits to users, and keep or remove users from its database when a user's expiration expires.

SIP and Abacus SIP Subscribers

Abacus SIP Proxy/Registrar offers a graphical display for the SIP and Abacus SIP subscribers. The SIP subscriber represents the second party (user agent). The Abacus SIP subscriber represents the second party when another Abacus ICG3 subsystem is used to simulate SIP subscribers.

Abacus SIP Subscribers

The combination of Abacus SIP Registrar with the SIP Signaling Traffic Generator offers a powerful end to end Registration traffic. The VoIP IP Telephony signaling and Media Traffic Generator offers a powerful solution to simulate high scale signaling. SIP Call control is sold separately.

High Scale Signaling Emulation

Spirent Abacus 5000's industry leading SIP signaling emulation offers a large-scale test solution. Abacus 5000 emulates real-world signaling traffic scenarios with up to 512,000 SIP signaling endpoints and up to 780,000 simultaneous registered SIP users per instance. The high scale signaling is achieved with the ICG3D subsystem. ICG3D emulates 20,000 SIP signaling endpoints and 65K simultaneous registered SIP users per card.

Abacus 5000 provides powerful, fully integrated media generation and analysis capabilities to test the functionality of devices such as:

- Session Border Controller
- Network Border Switch
- PSTN Gateway Services and Security
- Border Gateway
- Session Controller
- Signaling Session Border Gateway (SSBG)
- Data Session Border Controller (DSBC)
- Firewall

Test Results and Reports

SIP Registrar results are displayed numerically as statistics per subsystem (card). The SIP Registrar Server Statistics are collected and displayed in real time as current or accumulated counters.

Proxy Statistics

- Total number of successfully "proxied" transactions since the beginning of the test
- Total number of the transactions failed to be "proxied" ("routed")
- Momentary number of the transactions being processed

Call statistics

- Number of successful calls established since the beginning of the test
- Number of successful calls ended
- Number of currently ongoing calls
- Average call length

Supported Interfaces

The SIP Proxy/Registrar server is supported on the Abacus 5000 IP Telephony Signaling and Media Traffic Generator (ICG3D).

ICG3 Front Card   IDI3 Rear Card

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ORDERING INFORMATION

Abacus 5000

Ordering information for the Abacus 5000 and the ICG3 circuit generator with firmware options is available in the following data sheets:

- Abacus 5000 IP Telephony MigrationTest System
- ICG3 Subsystem—IP Telephony Signaling and Media Traffic Generator

SIP Proxy/Registrar Firmware Option

- SIP Proxy Emulation, ICL/ICG3 (P/N SWF-3255)

FOR MORE INFORMATION

Visit Spirent Communications' Web site at www.spirent.com/go/voice where you can learn about Spirent IP Telephony test systems and services, download product literature, white papers and test methodologies. Contact your local sales representative for details.

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/gs or contact your Spirent sales representative.

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