The converging domains of voice and data communications are based on IP technologies. TSIP addresses the SIP testing needs of Network Equipment Providers & Service Providers.

Test Suite for Session Initiation Protocol (TSIP)

An Overview

Testing of complex IP based communication networks like IMS or Wireline VoIP and network elements requires sophisticated test tools at every phase of testing.

**TSIP - Test Suite for SIP**, comprises of test cases. The test cases are scripted as call flows represented in XML files. The test suite covers all SIP specification as per RFC 3261 and validates real world scenarios in a typical service provider networks. Test cases are constantly added to TSIP.

TSIP provides a GUI to edit, select and execute test cases in batches. Test cases are categorized as mandatory, recommended and optional.

Test results are provided for executed test cases as pass, fail and inconclusive. Logs with messages and timestamps are available to validate inconclusive results and aids in decision making.

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Features
- Automated SIP conformance testing and simulation
- Tests SIP UA, proxy, registrar and redirect servers
- Customization of SIP and SDP messages
- Graphical interface to edit test cases and scenarios
- Test cases scripted as XML call flows
- Debug and message trace facility
- Support for TCP, UDP and TLS
- Test verdicts as pass, fail and inconclusive
- Detailed and consolidated test reporting in HTML format
- Supported on Linux, Windows, Solaris

Benefits
- Call flow model based design
- Ready to use test cases
- Extensible framework

Standards
- RFC 3262 - reliability of provisional responses in the Session Initiation Protocol (SIP)
- RFC 2976 - SIP INFO method
- RFC 3265 - SIP-specific event yotification
- RFC 3311- UPDATE method
- RFC 3326 - the reason header field for the session initiation protocol
- RFC 3428 - extension for instant messaging
- RFC 3515 - refer method
- Draft-ietf-sip-session-timer-15.txt
- Draft-ietf-sipping-conference-package-09.txt
- Draft-ietf-sipping-Torture Test-04

Components Tested
- SIP entities - UAC / UAS / B2BUA / Proxy / Registrar / Redirect servers
- IMS entities - P-CSCF, I-CSCF and S-CSCF
- Service entities - presence and instant messaging
- End entities - SIP gateways, media servers
- Network security entities - application layer gateways, session border controllers
- Networks - Wireline VoIP networks, broadband networks, IP multimedia subsystems

Test cases cover the features such as, Registration, Proxy, Redirect, Call Control, Refer, Join, Update, Info commands, SIP Offer/Answer Model with SDP, Locating SIP Servers, SIP Event Notification Framework, Presence, Instant Messaging and 3PCC. Test cases cover Valid, Invalid and Inopportune scenarios and are categorized as Mandatory, Recommended or Optional test cases.

Wipro’s TSIP can be used to test SIP elements in an IP network UAC, UAS, Proxys, Redirect Server, Registration Server.