# Wireline

NetHawk

### NetHawk EAST® SS7 Testing





## Overview

version 01.02

#### NetHawk EAST® SS7

#### PRODUCT OVERVIEW

NetHawk EAST® SS7 is a versatile diagnostic platform that can emulate the elements of a Signaling System #7 (SS7) network by generating the appropriate signaling to the node or nodes under. Devices under test may include the Signal Transfer Point (STP), Signal Control Point (SCP) and Signal Switching Point (SSP) nodes.

The user can execute a test case controlling multiple protocols, over multiple interfaces to achieve load, regression, conformance or functional testing. EAST®, Environment for Automated System Test, delivers the capability to validate the voice path through both TDM and RTP streams.

#### SS7 TESTING

Pre-built graphical Test Case Packages are available with the various protocols that are supported by NetHawk EAST®. These packages provide the common set of test scenarios to confirm that devices function to industry standards.

#### Key Features

The portfolio of protocol message templates and test cases that NetHawk EAST® supports includes ISUP, BICC, TUP, SCCP, TCAP, INAP and the MTP



Figure 1 – NetHawk EAST®

layers. These protocols can be used to test signaling network elements.

#### Load Testing

Due to its distributed architecture, NetHawk EAST® is capable of scaling to meet the high capacity requirements of almost any test application. To ensure the highest density of processing per link, software processing is also distributed to on-board computers as required to maximize the performance of the entire testing system.

SS7 testing is supported with E1/T1 interfaces for channelized Low Speed Links (LSL) and unchannelized High Speed Links (HSL) in any call application. For SS7 applications, a load tool is available to generate test messages at the full link occupancy of 1 Erlang. This load functionality is supported with 4 HSL (E1 or T1) links per card or 64 LSL (E1 or T1) links per card.

# EAST<sup>®</sup> in brief

- 1. Powerful: NetHawk EAST® is scalable for virtually unlimited traffic load.
- 2. Easy to Use: The GUI is simple and effective; standard settings get you going quick.
- 3. Expert Services: Nethawk services are available with custom test case development experience to meet your specific and custom test coverage needs.
- Flexible: Easy to configure testing scenarios can span multiple protocols and technologies.
- Tier 1 Customer List: NetHawk EAST® has been serving market leading vendors and service providers since the 1999 product launch.



#### Logging Tools

Several logging filters are available to ensure that diagnostic information is available in the most transparent and uncluttered format. Features include flat text file logging, a line diagram event trace, graph views, test object views and marked up test points. In addition, logging files can be split based on context or calls.

Log filters are available for the following conditions:

- > Static
- > Runtime
- > Error log filtering
- > Display log level
- > Logging log level
- > Fail logs
- > Offline log analysis

The log monitor offers up to seven levels of detail to provide the appropriate level of granularity required to analyze the test results.

#### ANALOG AND POTS PHONES

In the Public Switched Telephone Network (PSTN), Analog phones access the telephone network through a PBX. NetHawk EAST® can simulate users in a traditional wireline environment all the way down to simulating multiple Analog phone users.

These scenarios exist for testing traditional SSPs or to initiate a call from a traditional phone to a VoIP Gateway. In either case, NetHawk EAST® supports true end-end testing of the call from a traditional endpoint.

#### CONVERGED TESTING

Convergence drives much of the testing in today's networks and the NetHawk



Figure 2 – SS7 Network; SUT

EAST® test solution ensures that SS7 tests and feature sets can be accessed by the same test cases as each of the wireless and VoIP technologies offered on the test platform.

Applications include testing the Signaling Gateway with functional and stress test scenarios.

#### Sigtran Protocol Support

Protocol package options include the full Sigtran Suite (M3UA, M2UA, IUA and SCTP). The Sigtran series of protocols makes provisions for the seamless transport of SS7 and ISDN signaling between traditional circuit networks and the IP domain. Features of the Sigtran suite include:

- > Complete functional, conformance and high load performance testing.
- Establish the Signaling Gateway, Media Gateway Controller or Application Server as the SUT

- Full protocol emulation with customizable messages and call flow control
- > Support for Positive and Negative testing
- Support for other protocols typically associated with Sigtran (e.g. SCCP, ISUP, ISDN, TCAP, etc.)

#### CONCLUSION

NetHawk EAST® delivers the complete package necessary for testing today's signaling technologies. Because the cost associated with a signaling system failure is high, operators require a high level of confidence in their equipment.

A proven test environment for signaling equipment can help build confidence that networks will perform to expectations. With this in mind, many vendors and operators have chosen NetHawk EAST® as a key component of their test planning for SS7 technologies.