



TeraRouting Tester™ Software Module

IS-IS

Product Overview

The IS-IS routing protocol software module works together with all of the basic TeraRouting Tester (TRT) features such as the flap scheduler, traffic generator, and integrated real-time results. The IS-IS software module supports fully interactive testing for Level 1 and Level 2 IS-IS routing, along with comprehensive traffic engineering. Support for IS-ISv4 and IS-ISv6 is available.

IS-IS Adjacency Features

- 100 IS-ISv4 or IS-ISv6 adjacencies per module
- IPv4 or IPv6 transport per adjacency
- Millions of routes
- Emulates Level 1, Level 2, or Level 1/Level 2 routers
- Supports up to three areas per emulated router
- System ID and Circuit ID of each emulated router
- Link metrics per level
- Narrow, wide, or narrow/wide metric modes
- Hello Interval, Flood Delay, LSP Refresh Timer, and Retransmit Interval
- Support for traffic engineering extensions
- VLAN IDs and priority per session
- Support for Q-in-Q VLAN stacking per session

IS-IS LSP Generator Wizard

- Quickly configure IS-IS networks for Level 1 areas and Level 2 backbone LSPs
- Quantity of routers in the area
- Maximum number of point-to-point and broadcast links per router
- Maximum number of transit networks and routers per transit network
- Number of internal routes, prefix length distribution, and percent duplicates
- Number of external routes, prefix length distribution, and percent duplicates
- Can generate default traffic engineering parameters
- Select generated IP address range
- Generate routes in a manner that prevents route aggregation

LSP Options

- System ID of the originating router
- Pseudonode ID of the designated IS
- Age, lifetime, sequence number, overload bit, and attached bit
- Good or bad checksum
- Number of neighbors
- Neighbor ID, pseudonode ID, and standard and wide metrics for each neighbor link
- Supports the following traffic engineering extensions: local and remote IP addresses, administrative group, maximum/reservable/unreserved bandwidth
- Route Blocks may be assigned to an LSP with the following fields:
 - IPv4 or IPv6 routes
 - Number of routes, start IP address, and increment value for block
 - Internal or external routes
 - Up/Down bit
 - Narrow and wide metrics
 - Can copy/paste and duplicate one or more LSPs/links

IS-IS Flap Events

- Break/restore physical links
- Stop/resume hellos (all or individual ports/routers)
- Set/clear overload bit (all or individual ports/routers)
- Zero the LSP age (all or individual LSPs)
- Remove LSP neighbor (all or individual LSP and neighbor tuples)
- Withdraw routes per area, prefix length, primary, or secondary route
- Readvertise LSPs by area

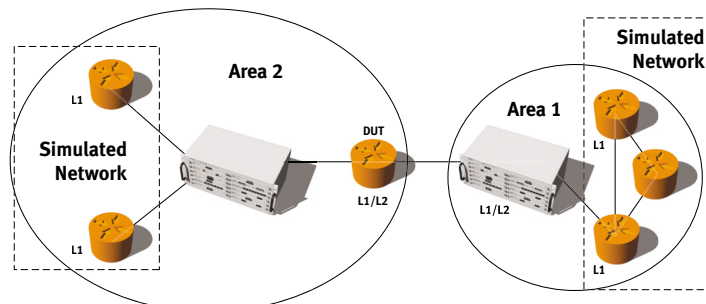
IS-IS Real Time and Final Results

- Statistics per port and per router
- Sent/Received point-to-point Hellos
- Sent/Received Level 1/Level 2 LAN Hellos
- Sent/Received Level 1/Level 2 LSPs
- Sent/Received Level 1/Level 2 PSNPs
- Sent/Received Level 1/Level 2 CSNPs

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Application: ISIS Border Router

Related Specifications

- SO/IEC 10589 – Base IS-IS specification
- RFC 1195 – Describes the use of IS-IS for IPv4 routing
- draft-ietf-isis-traffic-xx – Describes traffic engineering extensions for IS-IS
- draft-ietf-isis-ipv6-xx – Describes the use of IS-IS for IPv6 routing

Supported Modules

Module	Description
ATM-3451A	ATM OC-3c (STM-1c), 2-port, multi-mode, 1300nm, TeraMetrics
ATM-3451As	ATM OC-3c (STM-1c), 2-port, single mode, 1310nm, TeraMetrics
ATM-3453A	ATM OC-3c/OC-12c (STM-1c/STM-4c), 2-port, multi-mode, 1300nm, TeraMetrics
ATM-3453As	ATM OC-3c/OC-12c (STM-1c/STM-4c), 2-port, single mode, 1310nm, TeraMetrics
LAN-3301A	10/100/1000Base-T Ethernet, Copper, 2-port, TeraMetrics
LAN-3302A	10/100Base-T Ethernet, Copper, 2-port, TeraMetrics
LAN-3306A	10/100Base-T Ethernet, Copper, 4-port, TeraMetrics XD
LAN-3321A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 2-port, TeraMetrics XD
LAN-3325A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 4-port, TeraMetrics XD
LAN-3327A	10/100/1000 Mbps and Gigabit Ethernet Fiber, 1-port, TeraMetrics XD
POS-3505As	POS OC-48c (STM-16c), 1-port, single mode, 1310nm, TeraMetrics
POS-3505Ar	POS OC-48c (STM-16c), 1-port, single mode, 1550nm, TeraMetrics
POS-3511A	POS OC-3c/OC-12c (STM-1c/STM-4c), 2-port, multi-mode, 1300nm, TeraMetrics
POS-3511As	POS OC-3c/OC-12c (STM-1c/STM-4c), 2-port, single mode, 1310nm, TeraMetrics
POS-3519As	POS OC-192c (STM-64c), 1-port, 2-slot, single mode, 1310nm, TeraMetrics
POS-3519Ar	POS OC-192c (STM-64c), 1-port, 2-slot, single mode, 1550nm, TeraMetrics
XFP-3731A	10GBase Ethernet, XFP MSA, 1-slot, TeraMetrics
XLW-3721A	10GBase Ethernet, XENPAK MSA, 1-port, 2-slot, TeraMetrics

Requirements

- TeraRouting Tester software (SWF-1230A) with the appropriate hardware modules
- A SmartBits® 600x or 6000x chassis with the appropriate hardware modules
- A Pentium™ or greater PC running Windows® 2000/NT/XP, with mouse and color monitor

Ordering Information

SWF-1230A

TeraRouting Tester with RIP software module

SWF-1231A

OSPF software module for TRT

SWF-1232A

IS-IS software module for TRT

SWF-1233A

MPLS (RSVP-TE, LDP, VPN) software module for TRT

SWF-1234A

BGP software module for TRT

SWF-1235A

IPv6 software module for TRT

SWF-1236A

MultiCast (IGMP, MLD, PIM) software module for TRT

SWF-1237A

Spanning Tree (STP/RSTP, PVST+/RPVST+) software modules for TRT

SWF-1239A

All available software modules for TRT

SWF-1255A

SmartBits API and Scripting Automation Interface

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.com/gs or contact your Spirent sales representative.

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