



# TeraRouting Tester™ Software Module IPv6

## Product Overview

The next generation of the Internet is here. IPv6 technology has moved out of the experimental phase and into production networks and equipment. Governmental networks, academic institutions, and 3G cellular technologies are already dependent upon IPv6. Spirent Communications provides the tools to let equipment manufacturers, service providers, and other organizations effectively test advanced IPv6 functionality and scalability.

Spirent Communications' IPv6 software module augments the standard TeraRouting Tester (TRT) protocol suites by adding comprehensive IPv6 support. This module supports all of the traditional IPv4 features, protocols, and applications, and also adds IPv6 addressing, routing, and ancillary protocols. All tests can be conducted interactively, or scripts can be generated to automate the testing procedures.

## Key Features

- “10 to 10” support – Interface speeds from 10 Megabits to 10 Gigabits
- Neighbor Discovery Protocol (NDP)
- Dual stack operation to support transitional networks
- Generate millions of routes using all types of prefixes
- Full routing protocol support
- Unicast and multicast routing

## Routing Protocols

The IPv6 software package operates in conjunction with the traditional TRT IP routing protocol modules. In all cases, dual-mode (IPv4 and IPv6) operations are fully supported in order to emulate transitional networks. Additionally, the Neighbor Discovery Protocol (NDP) is supported to facilitate the automatic detection of peers and hosts. The following IPv6 routing protocols are supported:

- RIPng
- BGP4+
- ISISv6
- OSPFv3
- PIM-SMv6
- MLD (versions 1 and 2)

## IPv6 Features

- Emulate millions of hosts and networks
- Emulate hundreds of peers and adjacencies
- Route generation wizards simplify route creation
- Traffic wizards automatically send traffic to/from all of the emulated networks

- Group and track routes by prefix or other user-defined parameters
- Multiple protocols per port
- Real-time events log
- Real-time graphical results screens
- Comprehensive protocol decodes
- Neighbor Discovery Protocol (NDP)
- Easy-to-use GUI
- Complete API for test automation
- GUI-to-API conversion utility
- Sub-interface support for VLANs
- Flap scheduler for negative testing
- Automatic traffic generation based upon advertised routes
- Fully interactive and dynamic testing

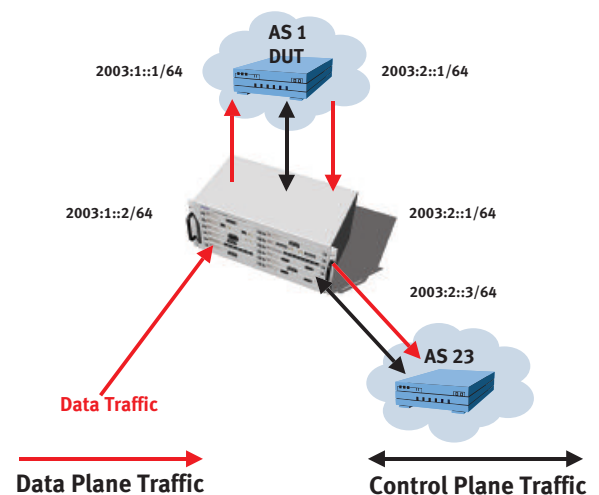
## Related RFCs and Drafts

- RFC 1195 – Integrated ISIS
- RFC 2080 – RIPng for IPv6
- RFC 3262 – Protocol Independent Multicast – Sparse Mode (PIM-SM)
- RFC 2545 – BGP for IPv6
- RFC 2710 – Multicast Listener Discovery (MLD)
- RFC 2740 – OSPFv3 for IPv6
- RFC 2858 – MultiProtocol BGP
- RFC 2460 – IPv6 Specification
- RFC 2461 – Neighbor Discovery for IPv6
- RFC 3810 – MLD version 2

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TeraRouting Tester IPv6 applications

### Supported Modules

Module	Description
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 or SWF-1239A)
- The appropriate IPv4 routing protocol 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

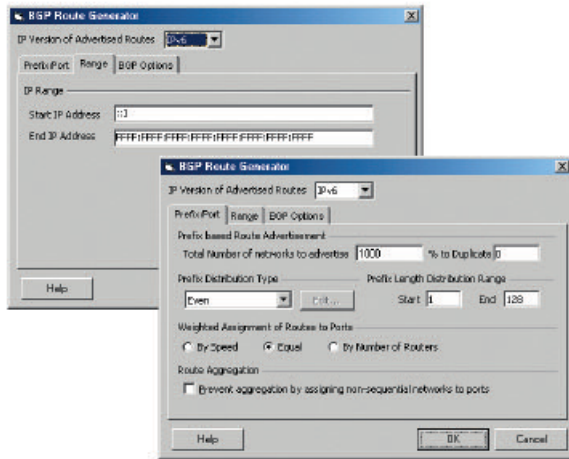
### Ordering Information

- 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 Software module for TRT
- SWF-1234A**  
BGP software module for TRT
- SWF-1235A**  
IPv6 software module for TRT
- SWF-1236A**  
Multicast Routing software module for TRT
- SWF-1237A**  
Spanning Tree (STP/RSTP) software module for TRT
- SWF-1239A**  
All available software modules for TRT
- SWF-1255A**  
SmartBits Automation

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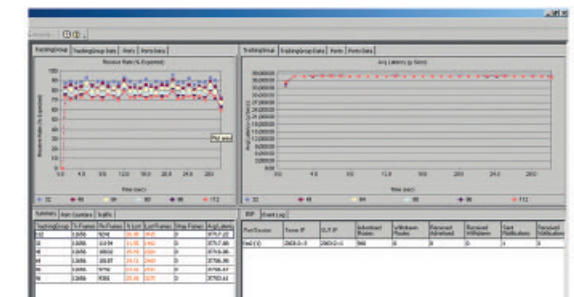
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IPv4
IPv6
IPv4
IPv6
IPv4 and IPv6
IPv4
IPv4 and IPv6

	IPv6 Address	IPv4 Gateway	IPv4 Prefix Length	IPv6 Address	IPv6 Gateway	IPv6 Prefix Length
IPv4	192.0.0.2	192.0.0.1	24	FE03::32:2	FE03::32:1	120



TeraRouting Tester IPv6 setup and test result windows

