Product Overview

The OSPF routing protocol software module works together with all the basic TeraRouting Tester (TRT) features such as the Flap Scheduler, Traffic Generator, and integrated results. A topology editor provides a visual tool for simulating complex networks quickly. Comprehensive IPv6 support is also available with the OSPFv3 software.

LSA Support

- Router LSA – Type 1
- Network LSA – Type 2
- Summary LSA – Type 3
- ASBR Summary LSA – Type 4
- External – Type 5
- NSSA – Type 7
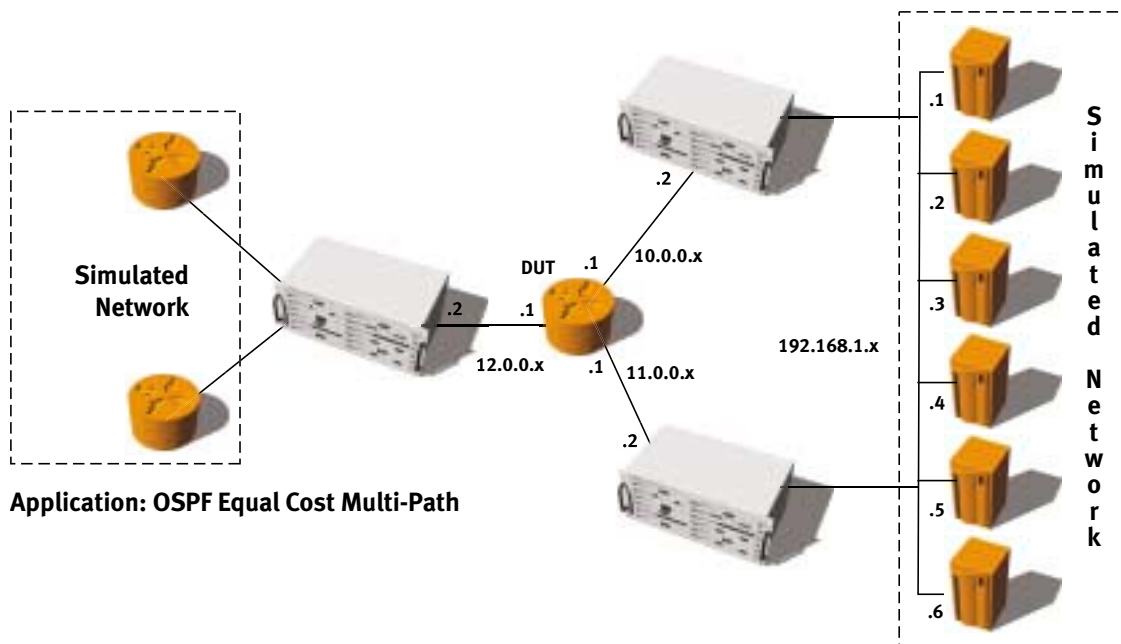- Area-local opaque LSA-Type 10

OSPF Adjacency Features

- 100 OSPF adjacencies per port
- VLAN IDs and priority per adjacency
- ATM VCCs per adjacency
- Emulated adjacencies can be DR, BDR, or None
- IP Address
- Area ID and Router ID
- Cost, MTU, and Hello Interval

- Router Priority and Options
- Router Dead Interval/Retransmit Interval
- LSA Refresh Time/Flood Delay

OSPF LSA Generator

- Quickly configure logical OSPF tree-like topologies on every adjacency
- Area Types: Regular, Stub, Stub No Summary, NSSA, NSSA No Summary
- Number of Router LSAs per Area
- Maximum number of Point-to-Point and Broadcast interfaces
- Maximum number of Transit Networks and routers per Transit Network
- Number of Stub Networks and distribution of addresses
- Number of Summary Networks and distribution of addresses and % of duplicate
- Number of External Networks and distribution addresses and % of duplicate
- Can select generated IP address range
- Can specify Age, Sequence Number, and Checksum (good/bad)
- All options for each LSA block will have useable defaults

Application: OSPF Equal Cost Multi-Path

TeraRouting Tester OSPF applications

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Router LSA (Type 1) Options

- Supports up to 1000 router LSAs per adjacency
- Supports up to 100 links per router LSA
- Can copy/paste and duplicate one or more LSAs/links
- Router ID and Router Options
- Router Type: Virtual Link, Area Border Router, AS Boundary Router
- Supports the following link types: Transit Network, Point-to-Point, Stub Network, Virtual Link

Network LSA (Type 2) Options

- Supports up to 1000 network LSAs per adjacency
- Supports up to 100 links per network LSA
- Can copy/paste and duplicate one or more LSAs/links
- Router ID; each router ID attached to the network
- DR IP address of the network
- Netmask of the network

Summary LSA (Type 3) Options

- Supports millions of Summary LSAs
- Can copy/paste and duplicate one or more LSAs
- Router ID and Prefix Length
- Number of LSAs, Start IP Address, and Increment value for LSA range
- Metric for LSA Range

ASBR-Summary LSA (Type 4) Options

- Can copy/paste and duplicate one or more LSAs
- Advertising Router ID and ASBR Router ID
- Metric

External/NSSA LSA (Type 5/7) Options

- Supports millions of external/NSSA LSAs
- Can copy/paste and duplicate one or more LSAs
- Router ID and Prefix Length
- Number of LSAs, Start IP Address, and Increment value for LSA range
- Metric and Metric Type for LSA range
- Forwarding Address and Route Tag

Area-local Opaque LSA (Type 10) Options

- Router ID and Router Options
- TLV Type: Router or Link
- Opaque ID

OSPF Flap Events

- Break/Restore Physical Link
- Stop/Resume Hellos (all or individual ports/routers)
- Age Summary LSAs (all or individual areas)
- Age ASBR-Summary LSAs (all or individual areas)
- Age External LSAs (all or individual areas)
- Age/Remove Router LSAs
- Age/Remove Network LSAs
- Re-advertise LSAs (all or individual areas)

OSPF Real Time and Final Results

- Port/Router
- Received/Sent Hellos
- Received/Sent Database Descriptors
- Received/Sent Router LSAs
- Received/Sent Network LSAs
- Received/Sent Summary LSAs
- Received/Sent ASBR-Summary LSAs
- Received/Sent External LSAs
- Received/Sent NSSA LSAs
- Received/Sent Requests
- Received/Sent Acks

Related RFCs

- RFC 1587 – Describes the OSPF NSSA option
- RFC 2328 – Describes OSPF Version 2
- RFC 2329 – OSPF Standardization Report
- RFC 2740 – OSPF Version 3 (for IPv6)

Requirements

- TeraRouting Tester software (SWF-1230A or SWF-1239A)
- A SmartBits 600, 6000B, or 6000C chassis with the appropriate hardware modules.
- An IBM or compatible Pentium™ PC running Windows® 2000/NT/XP, with mouse and color monitor.

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-3311A	1000Base Ethernet, GBIC, 2-port, TeraMetrics
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
XLW-3721A	10GBase Ethernet Optical, XENPAK, 1-port, 2-slot, TeraMetrics

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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

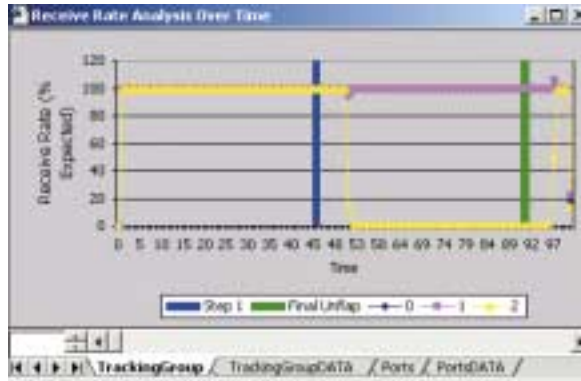BGP software module for TRT

SWF-1235A

IPv6 software module for TRT

SWF-1239A

All available software modules for TRT

SWF-1255A

SmartBits Automation

SUS-SMB

12-month Software Update Support Service

TeraRouting Tester OSPF test result screens

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