SPIRENT TESTCENTER

UNICAST ROUTING BASE PACKAGE

The Unicast Routing Base Package is a Spirent TestCenter™ component that enables Network Equipment Manufacturers, Service Providers and large Enterprises to quickly evaluate and troubleshoot routing functionality, performance and scalability of any routing device or network.

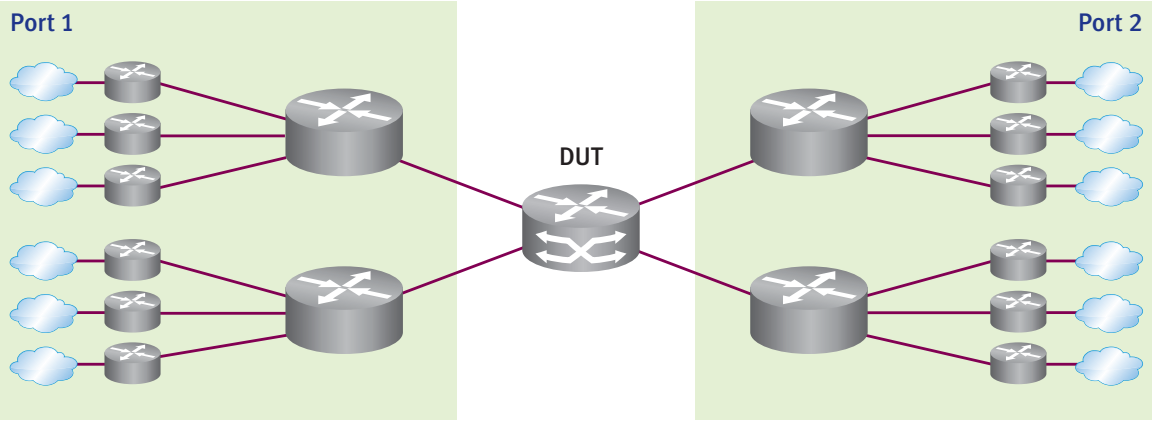
APPLICATIONS

- Evaluate key performance parameters of routers or networks under typical or extreme traffic load conditions for minutes, hours and days
- Quickly set up large RIP, OSPF, IS-IS or BGP network emulations on all ports with data-plane traffic going to each network advertised from all transmitting ports
- Using the Command Sequencer and real-time graphs with integrated events, users can evaluate key performance parameters of routers or networks while responding to common undesirable network events on the control plane
- The Unicast Routing Base package supports testing high availability routing features including Graceful Restart for OSPF, IS-IS and BGP and can be used with the BFD Base Package for integrated BFD testing
- The Unicast Routing Base Package qualifies routers during development, quality assurance, and final regression testing, to requalify routers after software or firmware upgrades and to perform comparative analysis of routers during vendor selection

The Unicast Routing Base Package helps users address the challenge of quickly verifying basic routing functionality and then verifying complex features and applications for enterprise, metro and core routers.

This package includes emulation for IPv4 and IPv6 interior and exterior gateway routing protocols: RIPv1/v2, RIPng, OSPFv2/v3, IS-ISv4/v6, BGP-4 and BGP+; it can emulate a variety of realistic and worst-case conditions and provide benchmark measurements. Users expose the true performance of a router by stress testing the routing software, data forwarding hardware, and the overall system architecture under both static and dynamic routing conditions.

This package is an integrated component of Spirent TestCenter and works with other Spirent TestCenter components providing concurrent support for all key metropolitan and enterprise protocols, including spanning tree, VLAN, DHCP, QoS, Multicast and wire-rate data-plane traffic.



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FEATURES & BENEFITS

- Support for dual-stack IPv4 and IPv6 in all routing emulation and traffic generation allows users to test the migration of routed networks from IPv4 to IPv6 under realistic deployment scenarios
- RIPv1, RIPv2, and RIPng—quick and easy to use
- OSPFv2 and OSPFv3 for IPv4 and IPv6 testing
- IS-IS supports both protocols IPv4 and IPv6
- BGP-4, BGP+, and MP-BGP allows for advanced convergence testing
- Running multiple protocols concurrently on each port lets users test scalability and protocol functionality in the same test
- Router wizard quickly builds hundreds or thousands of emulated routers
- Interactive control of routers allows users to simulate real network conditions and see results on demand any time during a test without starting and stopping the protocols or traffic
- Interactive commands to flap (withdraw or age-out, and readvertise) individual routes or route blocks or by route type
- Use the advanced Command Sequencer with TCL scripts to send SNMP commands, get SNMP data, configure the device under test, run entire test and generate pass/fail results
- Log the real-time exchange of control-plane messages and test over any media type or encapsulation supported by Spirent TestCenter
- Integrated data-plane traffic enables users to send, receive, inspect and accumulate statistics at wire-rate; this allows users to test data-plane router convergence and network high availability features like BFD and Graceful Restart; users can also can monitor the real-time effects that router configurations have on traffic and QoS classes
- Integrated with traffic wizard to quickly build traffic between traffic endpoints behind emulated routers
- View Routes command allows users to see routes advertised by the neighbor router (RIP, OSPFv2, IS-IS and BGP) per emulated router and optionally save the routes to a file (txt or csv) for later analysis
- Support for bidirectional capture and real-time decoder (BPK-1029A) which supports ladder diagrams for RIP, OSPF and BGP and view protocol events as they occur
- RIP, OSPFv2, IS-IS and BGP support for MD-5 authentication for verifying the security and evaluating the performance and behavior of their routers in realistic configurations
- For functional testing, each protocol has its own configurable timers, flag values and diagnostic codes
- Support for Ethernet, ATM and SONET media types and all associated encapsulations for testing over any supported media or encapsulation
- Support for L2TP and GRE tunneling on a per router basis for testing over any supported tunnel mode

TECHNICAL SPECIFICATIONS

Depending on whether there is hardware or software involved, the specifications listed will vary slightly.

BGP, OSPFv2, OSPFv3, IS-IS and RIP Routing:

- For BGP technical details see data sheet: Unicast Routing Base Package For BGP Protocol
- For OSPF technical details see data sheet: Unicast Routing Base Package For OSPF Protocol
- For IS-IS technical details see data sheet: Unicast Routing Base Package For IS-IS
- For RIP technical details see data sheet: Unicast Routing Base Package For RIP Protocol

SUPPORTED MODULES/PLATFORM

- BPK-1004A/B is supported on all Spirent TestCenter test modules and personality cards. For best performance, BPK-1004B should be used with test modules such as HyperMetrics CM, CV or HyperMetrics neXt mX test modules.

SYSTEM REQUIREMENTS

Minimum PC, UNIX, or Linux Requirements by System Size

- For Small Port System (2-25 ports)
  - Minimum Requirement—2.4 GHz Intel Pentium 4 processor (or equivalent), 512 MB RAM and 10 GB of free disk space
  - Recommended System—Intel® Core 2 Duo E6300 processor (or equivalent), 2 GB of free RAM, and 10 GB of free disk space
- For Medium Port System (26-75 ports)
  - Minimum Requirement—3 GHz Intel Pentium 4 processor (or equivalent), 2 GB of free RAM, 15 GB of free disk space
  - Recommended System—Intel Core 2 Duo E6400 processor (or equivalent), 4 GB free RAM, 100 GB of free disk space
- For Large System (76 ports and above)
  - Minimum Requirement—Intel Core 2 Duo E6400 processor (or equivalent), 3 GB free RAM, 100 GB free space on hard drive
  - Recommended System—Intel Core 2 Duo E6600 processor (or equivalent), 4 GB of RAM, 100 GB of free disk space

Spirent TestCenter Hardware Requirements

- Pentium® or greater PC running Windows® XP Professional SP2 with mouse/color monitor required for GUI operation (See Minimum PC Requirements section)
- One Ethernet cable and one 10/100/1000Mbps Ethernet card installed in the PC. SPT-2000A Spirent 2U Chassis and Controller, SPT-5000A Spirent 5U Chassis and Controller, SPT-9000A Spirent 9U Chassis and Controller or SPT 11-U Chassis and Controller
- Operating system languages supported: English, French, German, Italian, Japanese, Korean and Chinese (traditional and simplified)
- Operating systems supported: Windows XP SP2, Windows 2003 Server (32 bit), RedHat EL3 and EL5, Solaris 8.0 and 10.0
- WAN-2003A and SFP-4002A personality module required for ATM testing

ORDERING INFORMATION

Part numbers ending in “A” indicate the standard performance version; those ending “B” indicate the high performance version:

Unicast Routing Base Package A
Supports up to 10 emulated routers per port: BPK-1004A

Unicast Routing Base Package B
Supports up to the maximum supported emulated routers per port: BPK-1004B

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