



## Veryx ATTEST™ PIM-SM Conformance Test Suite DATASHEET

**Veryx ATTEST™-CTS Protocol Independent Multicast-Sparse Mode (PIM-SM)** automated test suite provides Equipment Manufacturers and Service Providers an easy and efficient solution for verification of PIM Sparse mode implementation in Ethernet Switches and Routers deployable in IPv4 networks. ATTEST enables significant speeding-up of testing cycles and enhanced "time-to-market".

Veryx ATTEST PIM-SM Conformance Test Suite is designed for conformance testing of Protocol Independent Multicast version 2 – Sparse Mode protocol using ATTEST -- a powerful test framework that requires minimal time for set-up and enables efficient use of time and resources.

Veryx has devised over 250 test cases that comprehensively test for PIM-SM conformance. These test cases have been grouped into 13 convenient test groups based on the IETF specification for each category of functions.

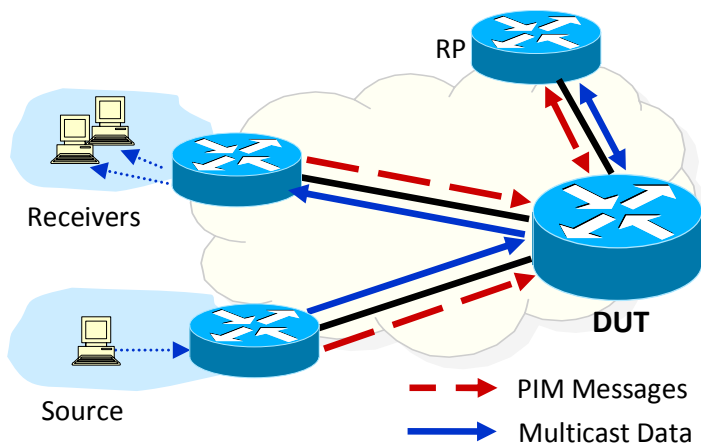


Figure 1. An example of an IPv4 multicast network supporting PIM-SM

### SPECIFICATIONS

IETF RFC 4601  
IETF RFC 5059

### PIM-SM TESTS

- \* Packet Format
- \* Finite State Machine (FSM)
- \* Data Forwarding
- \* Join/Prune
- \* Register
- \* Designated Router (DR)
- \* Neighbor Discovery
- \* Rendezvous Point (RP)
- \* Local Membership
- \* Bootstrap Router (BSR)
- \* Source Specific Shortest Path Tree (SPT)
- \* Assert
- \* Source Specific Multicast (SSM)

### PLATFORM REQUIREMENTS

- \* ATTEST 6.x Framework
- \* 3 Ethernet ports
- \* Serial or additional Ethernet port for DUT management

ATTEST PIM-SM test cases perform conformance testing for Designated Router, Rendezvous Point and Bootstrap Router functionality of PIM-SM routers. Tests verify for frame formats, neighbor discovery, Join/Prune behavior, SPT behavior, as well as Register, Assert and Source Specific Multicast messages. Finite State Machine cases verify for (\*,\*, RP), (\*, G), (S, G) and (S, G, rpt) states. Data forwarding behavior is also verified.

ATTEST PIM-SM Test Suites are written in industry standard Tcl scripts. Well-defined APIs and source files provide the flexibility to add, customize or modify the test cases for specific requirements. Together with ATTEST-CTS PIM-DM, IGMPv1v2 and IGMPv3, Veryx provides one of the most comprehensive solutions for conformance testing of IP Multicast in Routers and Switches. Carrier Ethernet and Layer-2 Switch Test Suites such as RSTP, MSTP and VLAN are also available.

### About Veryx Technologies

Veryx Technologies (formerly Net-O<sub>2</sub> Technologies) provides innovative Verification and Measurement Solutions for the global communications industry. ATTEST solutions verify networking equipment being used for Access, Carrier Ethernet, Data Center, Edge, Enterprise, Industrial and Security. The unique offerings from Veryx enable customers to reduce the "time-required-to-test" and enhance their "time-to-market".

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