Agilent RouterTester

Powered by QA Robot Technology

# BGP-4 Conformance Test Suite

E7861A

Technical Datasheet

Agilent Technologies automated BGP-4 conformance test suite delivers realistic internet-scale routing simulation to provide fast and comprehensive verification of routing conformance to the industry's evolving BGP-4 standards.

Agilent Technologies

## Key Features

- **Comprehensive conformance testing to the IETFs evolving BGP-4 standards**
- **Fully automated stimulus-and-response test suite**
- **Controllable debug level for detailed diagnostics**
- **Clear verdict assignment for each test case**
- **Customizable test scripts**

## Product Overview

The Agilent Technologies' BGP-4 Conformance Test Suite has been designed to quickly and comprehensively verify the conformance of network devices to the industry's evolving BGP-4 standards.

It provides more than 80 automated test cases, covering all key aspects of BGP-4 routing conformance.

All test cases provide clear 'Pass' and 'Fail' verdicts. Flexible reporting and debugging features allows test engineers to identify the detailed course of errors.

The conformance software provides test engineers with access to test script source code. This allows the suite to be totally customized for individual requirements.

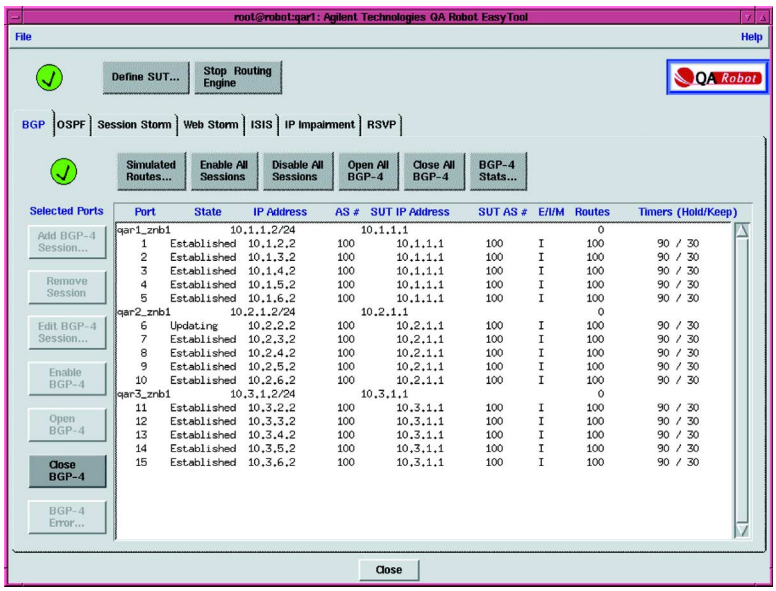
Router manufacturers and service providers can expect to achieve a higher confidence with regard to their routing implementation with Agilent's automated BGP-4 conformance test software.

The BGP-4 Conformance Test suite is a complementary product to Agilent's BGP-4 Protocol Software, which can simulate BGP-4 routes at Internet-scale for comprehensive stress testing.

### Applicable Standards

The BGP-4 Conformance Test Suite will provide verification of conformance to all key aspects of:

- The draft-ietf-idr-bgp4-10 document
- RFC 2796 BGP Route Reflection: An Alternative to full mesh IBGP
- RFC 1997 - BGP-4 Communities Attribute



# Product Features

## BGP-4 Conformance Tests

The suite provides automatic conformance verification to evolving BGP-4 routing protocol standards through more than 80 test cases. All common routing protocol behaviors can be verified including:

- Open Message Format
- Update Message Format
- Path attributes
- Update Message Error Handling
- BGP Finite State Machine
- Update Message Handling
- Aggregation
- Route Reflectors
- BGP-4 Communities

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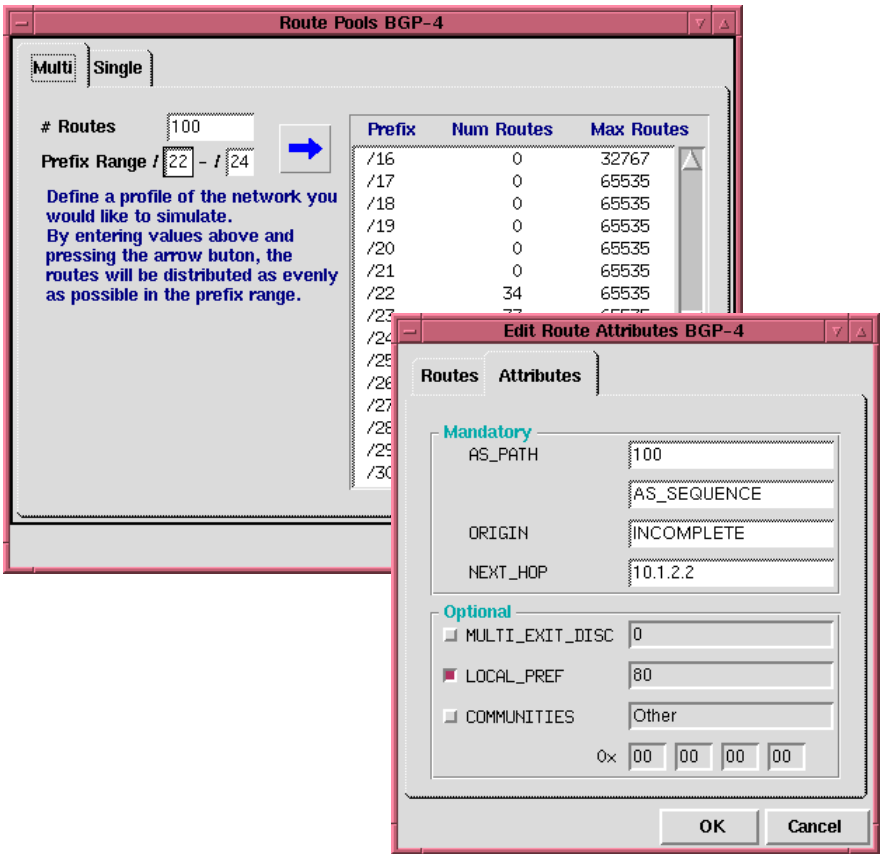


## Test Methodology

Agilent's conformance suite directly reflects the BGP-4 protocol specifications as detailed in:

1. The draft-ietf-idr-bgp4-10 document, which obsoletes RFC 1771 - A Border Gateway Protocol 4 (BGP-4)

2. RFC 2796 BGP Route Reflection: An Alternative to full mesh IBGP, which obsoletes RFC 1966

3. RFC 1997 - BGP-4 Communities Attribute.

Close alignment with these recommendations will ensure your routing implementations are in line with the evolving industry standards and maximize interoperability.

## Diagnostics

Clear verdict assignments for each test case run (such as 'Pass'/'Fail') can help quickly identify implementation errors. More detailed diagnostics can be used to pinpoint the course of any 'Fail' indicators.

Agilent's flexible debug allows the level of diagnostics to be scaled up or down for more (or less) detailed analysis of test results.

It is possible to view the 'Pass'/'Fail' results from an entire test suite at a glance. Details of each test case can then be further analyzed to identify faults. Still, further detail can be analyzed at the routing protocol PDU level for both 'incoming' and 'outgoing' packets.

Test repeatability is achieved by saving test session setups and results. This allows quick regression testing of product enhancements and bug fixes.

## Test Customization

All of Agilent's Conformance Test Suites provide users with open access to test scripts. Test engineers can easily edit the scripts using the QBOL scripting language to create their own customized test cases.

# Technical Specifications

| Router Protocol Behavior Tested | Evolving Standard |
|---|---|
| **OPEN Message Format** | draft-ietf-idr-bgp4-10 |
| **UPDATE Message Format** | draft-ietf-idr-bgp4-10 |
| **Path Attributes** | draft-ietf-idr-bgp4-10 |
| AS_PATH | draft-ietf-idr-bgp4-10 |
| NEXT_HOP | draft-ietf-idr-bgp4-10 |
| MUTLI_EXIT_DISC | draft-ietf-idr-bgp4-10 |
| LOCAL_PREF | draft-ietf-idr-bgp4-10 |
| ATOMIC_AGGREGATE | draft-ietf-idr-bgp4-10 |
| **UPDATE Message Error Handling** | draft-ietf-idr-bgp4-10 |
| **BGP Finite State machine** | draft-ietf-idr-bgp4-10 |
| **UPDATE Message Handling** | draft-ietf-idr-bgp4-10 |
| **Calculation of Degree of Preference** | draft-ietf-idr-bgp4-10 |
| **Route Selection** | draft-ietf-idr-bgp4-10 |
| **Route Dissemination** | draft-ietf-idr-bgp4-10 |
| **Update-Send Process: Internal Updates** | draft-ietf-idr-bgp4-10 |
| **Breaking Ties (Internal Updates)** | draft-ietf-idr-bgp4-10 |
| **Update-Send Process: External Updates** | draft-ietf-idr-bgp4-10 |
| **Multiple Networks Per Message** | draft-ietf-idr-bgp4-10 |
| **Aggregating Routing Information** | draft-ietf-idr-bgp4-10 |
| **Route Reflectors** | bgp_rfc 2796 |
| **Well-known Communities** | bgp_rfc1997 |
| **Communities Attribute Handling** | bgp_rfc1997 |
| **Aggregation** | bgp_rfc1997 |

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## Agilent's RouterTester system

Agilent's RouterTester system offers a powerful and versatile test platform to address the evolving test needs of metro/edge platforms, core routers and optical switches. RouterTester provides Network Equipment Manufacturers and Service Providers with the industry's leading tools for wire speed, multiport traffic generation and performance analysis of today's networking devices.

## Warranty and Support

**Hardware Warranty**

All RouterTester and QA Robot hardware is warranted against defects in materials and workmanship for a period of 3 years from the date of shipment.

**Software Warranty**

All RouterTester and QA Robot software is warranted for a period of 90 days. The applications are warranted to execute and install properly from the media provided. This warranty only covers physical defects in the media, whereby the media is replaced at no charge during the warranty period.

**Software Updates**

With the purchase of any new system controller Agilent will provide 1 year of complimentary software updates. At the end of the first year you can enroll into the Software Enhancement Service (SES) for continuing software product enhancements.

**Support**

Technical support is available throughout the support life of the product. Support is available to verify that the equipment works properly, to help with product operation, and to provide basic measurement assistance for the use of the specified capabilities, at no extra cost, upon request.

**Ordering Information**

To order and configure the test system consult your local Agilent field engineer.


**United States:**

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www.agilent.com/comms/RouterTester



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