IPv6 Consortium

RIPng Interoperability Test Report Revision 1.0

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January 1, 2003

Mr(s). Vendor
Company Name
Main Street
Anyplace, Anywhere 90210

Mr(s). Vendor,
Enclosed are the results from the IPv6 Core Interoperability testing performed on:

> DeviceName HERE. Identified as "SHORT NUT HERE" MAC Address 00-00-CA-02-38-38 s/n 0002493. Console "system" command reports software version 3.99.26.

This testing pertains to a set of standard requirements, put forth in [RFC 2080 & 2460]. The tests performed are part of the IPv6 Core Interoperability Test Suite, which is available on the UNH InterOperability Lab's website:

ftp://ftp.iol.unh.edu/pub/ipv6/testsuites/RIPng_Interop_Plan.pdf

As always, we welcome any comments regarding this Test Suite.

During the testing process, the following issues were uncovered:

Test	Result
RIPng_Interop_1.1	Conformance problems were encountered with certain Testing Routers.

If you have any questions about the test procedures or results, please feel free to contact me via e-mail at jdoe@iol.unh.edu or by phone at 603-862-2804.

Regards,

John Doe

The following table contains the test results and their meanings.

Result	Interpretation
PASS	The NUT was observed to exhibit conformant behavior.
FAIL	The NUT was observed to exhibit non-compliant behavior.
PASS with Comments	The NUT was observed to exhibit conformant behavior, however this behavior deviated from previous compliant results. An additional explanation of the situation is included.
WARN	The NUT was observed to exhibit behavior that is not recommended.
Refer to Comments	From the observations, a valid pass or fail could not be determined. An additional explanation of the situation is included.
Not Applicable (N/A)	The NUT does not support the technology required to perform these tests.
Not Available (N/A)	Due to testing station or time limitations, the tests could not be performed, or were performed in a limited capacity.
Not Tested (N/T)	Not tested due to time constraint of the test period.
Borderline	The observed values of the parameter is valid at one extreme, and invalid at the other extreme.
Informative	Results are for informative purposes only and are not judged on a pass or fail basis.

Group 1:

Test #		Result	
RIPng_Interop.1.1	**Route Origination**	**A**	**PASS**
		B	**PASS**
		C	**PASS**
		D	**PASS**
		E	**PASS**
		F	**PASS**
		G	**PASS**
		H	**PASS**

Purpose: To verify that a router correctly communicates RIPng routes to other routers on the network running RIPng, including routes for directly attached networks and redistributed static routes.

Comments on Test Procedure

A. RIPng protocol was allowed to configure. TR1's routing table was checked.
B. TN1 transmitted an Echo Request packet with destination equal to the IP address of TN6 to the hardware address of TR1.
C. TN1 transmitted an Echo Request packet with destination equal to the IP address of TN4 on network N6A to the hardware address of TR1. TN1 transmitted an Echo Request packet with destination equal to the IP address of TN4 on network N6B to the hardware address of TR1.
D. TN1 transmitted an Echo Request packet with destination equal to the IP address of TN5 to the hardware address of TR1.
E. TN1 transmitted an Echo Request packet with destination equal to the IP address of TN2 on network N4A to the hardware address of TR1. TN1 transmitted an Echo Request packet with destination equal to the IP address of N4B to the hardware address of TR1.
F. TN1 transmitted an Echo Request packet with destination equal to IP address of TN3 to the hardware address of TR1.
G. The route to TN3/64 was removed from the RUT and replaced with TN3/64, NH TR4(N3), Metric 1. TN1 transmits an Echo Request packet with destination equal to the IP address of TN3 to the hardware address of TR1.
H. All routes were removed from the RUT. Parts B through F were repeated.

Comments on Test Results

A. TR1 had the following routes:
   - Default, NH RUT(N2), Tag 10, Metric 3
   - N6A/40, NH RUT(N2), Tag 10, Metric 2
   - N6B/48, NH RUT(N2), Tag 10, Metric 2
   - N3/48, NH RUT(N2), Tag 0, Metric 2
   - N4A/48, NH TR2(N2), Tag 10, Metric 2
   - N4B/40, NH TR2(N2), Tag 10, Metric 2
   - TN3/64, NH RUT(N2), Tag 10, Metric 2

B. The RUT forwarded the Echo Request to TR5(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
C. The RUT forwarded the Echo Request to TR4(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
D. The RUT forwarded the Echo Request to TN5. The HL of the forwarded packet was equal to the initial HL minus 2.
E. In both steps TR1 forwarded the Echo Request directly to TR2(N2). The HL of the forwarded packet was equal to the initial HL minus 1.
F. The RUT forwarded the Echo Request to TR3(N3). The HL of the forwarded packet was equal to the initial HL minus 2.

G. The RUT forwarded the Echo Request to TR4(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
H. The RUT forwarded the Echo Request to TR5(N3). The HL of the forwarded packet was equal to the initial HL minus 2 except those in Part E, which was equal to the initial HL minus 1.

Test #		Result	
RIPng_Interop.1.2	**Route Learning and Propagation**	**A**	**PASS**
		B	**PASS**
		C	**PASS**
		D	**PASS**
		E	**PASS**
		F	**PASS**
		G	**PASS**
		H	**PASS**

Purpose: To verify that a router can interoperate with other RIPng implementations.

Comments on Test Procedure

A. RIPng protocol was allowed to configure. The RUT's routing table was checked. All RIPng packets sent by the RUT on N1 were observed.
B. TN1 transmitted an Echo Request packet with destination equal to the IP address of TN6 to the hardware address of the RUT.
C. TN1 transmitted and Echo Request packet with the destination equal to the IP address of TN4 on network N6A to the hardware address of the RUT. TN1 transmitted an Echo Request packet with the destination equal to the IP address of TN4 on network N6B to the hardware address of the RUT.
D. TN1 transmited an Echo Request Packet with destination equal to the IP address of TN5 to the hardware address of the RUT.
E. TN1 transmited an Echo Request Packet with destination equal to the IP address of TN2 on network N4A to the hardware address of the RUT. TN1 transmited an Echo Request Packet with destination equal to the IP address of TN2 on network N4B to the hardware address of the RUT.
F. TN1 transmits an Echo Request Packet with destination equal to the IP address of TN3 to the hardware address of the RUT.
G. The route TN3/64 was removed from TR1 and replaced with TN3/64, NH TR4(N3), metric 1. TN1 transmited an Echo Request Packet with destination equal to the IP address of TN3 to the hardware address of the RUT.
H. All routes were removed from TR1. Parts B through F were repeated.

Comments on Test Results

A. the RUT should have the following routes:
   - Default, NH TR1(N2), Tag 10, Metric 3
   - N6A/40, NH TR1(N2), Tag 10, Metric 2
   - N6B/48, NH TR1(N2), Tag 10, Metric 2
   - N3/48, NH TR1(N2), Tag 0, Metric 2
   - N4A/48, NH TR2(N2), Tag 10, Metric 2
   - N4B/40, NH TR2(N2), Tag 10, Metric 2
   - TN3/64, NH TR1(N2), Tag 10, Metric 2

   Any other routes present were compatible with the present configuration. The RIPng packets sent by the RUT on N1 reflected this route table.
B. TR1 forwarded the Echo Request to TR5(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
C. TR1 forwarded the Echo Request to TR4(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
D. TR1 forwarded the Echo Request to TN5. The HL of the forwarded packet was equal to the initial HL minus 2.

E. In both parts the RUT forwarded the Echo Request to TR2(N2). The HL of the forwarded packet was equal to the initial HL minus 1.
F. TR1 forwarded the Echo Request to TR3(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
G. TR1 forwarded the Echo Request to TR4(N3). The HL of the forwarded packet was equal to the initial HL minus 2.
H. TR1 forwarded the Echo Request to TR5(N3). The HL of the forwarded packet was equal to the initial HL minus 2 except those in Part E, which was equal to the initial HL minus 1.

Test #		Result	
RIPng_Interop.1.3	**Routing Convergence**	**A**	**PASS**
		B	**PASS**
		C	**PASS**
		D	**PASS**
		E	**PASS**

Purpose: To verify that a router can interoperate with other RIPng implementations.

Comments on Test Procedure

A. TN1 transmitted Echo Requests destined for TN2 to the hardware address of the RUT(N1). TN2 transmitted Echo Requests destined for TN4 to the hardware address of TR2(N2). TN4 transmitted Echo Requests destined for TN3 to the hardware address of TR3(N4). TN3 transmitted Echo Requests destined for TN1 to the hardware address of TR1(N3).
B. The RUT's interface to N@ was disconnected. A time of 200 seconds was allowed to elapse. TN1 transmitted Echo Requests destined for TN2 to the hardware address of the RUT(N1).
C. The RUT's interface to N2 was reconnected, and TR2's interface to N4 was disconnected. A time of 200 seconds was allowed to elapse. N2 transmitted Echo Request destined for TN4 to the hardware address of TR2(N2).
D. TR2's interface to N2 was reconnected, and TR3's interface to N3 was disconnected. A time of 200 seconds was allowed to elapse. TN4 transmitted Echo Requests destined for TN3 to the hardware address of TR3(N4).
E. TR3's interface to N3 was reconnected, and TR1's interface to N1 was disconnected. A time of 200 seconds was allowed to elapse. TN3 transmits Echo Requests destined for TN1 to the hardware address of TR3(N3).

Comments on Test Results

A. Each Echo Request should reach its destination.
B. Each Echo Request should reach its destination.
C. Each Echo Request should reach its destination.
D. Each Echo Request should reach its destination.
E. Each Echo Request should reach its destination.