Internet Protocol version 6 Consortium

Base Interoperability Test Report Revision 1.1

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March 18, 2005

Joe Contact
Company A
1 Main Street
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Mr. Joe Contact,

Enclosed are the results from the IPv6 Core Interoperability testing performed on the Device A. MAC Address aa-bb-cc-dd-ee-ff. Console "show config" command reports software version Release abcd, identified as the TAR-Host1.

The following additional devices were used in conjunction with the TAR-Host1 described above:

TAR-Host1: Device A, version 1.0
MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff

TAR-Host2: Device B, version Release 1.1
MAC: 11-11-11-11-11-11, Link-loacl: fe80::211:11ff:fe11:1111, Global: 3000:: 211:11ff:fe11:1111

REF-Host2: Device C, version Release 1.2
MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 3000:: 222:22ff:fe22:2222

TAR-Router1: Device E, version Release 1.1
MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000:: 244:44ff:fe44:4444, MTU: 1500

TAR-Router2: Device F, version Release 1.2
MAC: 55-55-55-55-55-55, Link-loacl: fe80:: 255:55ff:fe55:5555, Global: 3000:: 255:55ff:fe55:5555, MTU: 1500

REF-Router1: Device G, version Release 1.3
MAC: 66-66-66-66-66-66, Link-loacl: fe80:: 266:66ff:fe66:6666, Global: 3000:: 266:66ff:fe66:6666, MTU: 1500

REF-Router2: Device H, version Release 1.4
MAC: 77-77-77-77-77-77, Link-loacl: fe80:: 277:77ff:fe77:7777, Global: 3000:: 277:77ff:fe77:7777, MTU: 1500

This testing pertains to a set of standard requirements, put forth in RFCs 2460, 2461, 2462, 2463, and 1981. The tests performed are part of the IPv6Ready Logo Base Interoperability Test Suite, which is available on the UNH InterOperability Lab's website:

ftp://ftp.iol.unh.edu/pub/ipv6/testsuites/IPv6Ready_PhaseII_Base_Interop.pdf

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

During the testing process, the following issues were uncovered:

Test	Result
IP6Interop.1.2 B	The NUT bound a non-unique address to its interface and did not fail the Duplicate Address Detection test.

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

Regards,

John Tester

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	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: Basic Interoperability

Tests in this group verify that the target devices are able to engage in various aspects of the base IPv6 protocol.

Test #		Result	
IP6Interop.1.1	**ICMP Echo Interoperability**	**A**	**PASS**
		B	**PASS**
		C	**PASS**
		D	**PASS**
		E	**PASS**
		F	**PASS**
		G	**N/A**
		H	**N/A**
		I	**N/A**

Purpose: To verify that a successful ICMPv6 Echo Request, Echo Reply exchange can be achieved in two directions.

Comments on Test Procedure

A. Link-Local unicast address (Host vs. Host): ICMPv6 Echo Requests were transmitted from TAR-Host1 to the link-local address of TAR-Host2. ICMPv6 Echo Requests were then transmitted from TAR-Host2 to the link-local address of TAR-Host1. The packets on Network 1 were observed.

B. Global Unicast Address (Host vs. Host): ICMPv6 Echo Requests were transmitted from TAR-Host1 to the global address of TAR-Host2. ICMPv6 Echo Requests were then transmitted from TAR-Host2 to the global address of TAR-Host1. The packets on Network 1 were observed.

C. Multicast Address (Host vs. Host): REF-Router1's interface on Network1 was disabled. ICMPv6 Echo Requests were transmitted from TAR-Host1 to the All Nodes Multicast address (ff02::1). ICMPv6 Echo Requests were then transmitted from TAR-Host2 to the All Nodes Multicast address (ff02::1). The packets on Network 1 were observed.

D. Link-Local Unicast Address (Host vs. Router): ICMPv6 Echo Requests were transmitted from TAR-Host1 to the link-local address of TAR-Router1. ICMPv6 Echo Requests were then transmitted from TAR-Router1 to the link-local address of TAR-Host1. The packets on Network 1 were observed.

E. Global Unicast Address (Host vs. Router): ICMPv6 Echo Requests were transmitted from TAR-Host1 to the global address of TAR-Router1. ICMPv6 Echo Requests were then transmitted from TAR-Router1 to the global address of TAR-Host1. The packets on Network 1 were observed.

F. Multicast Address (Host vs. Router): ICMPv6 Echo Requests were transmitted from TAR-Host1 to the All Nodes Multicast address (ff02::1). ICMPv6 Echo Requests were then transmitted from TAR-Router1 to the All Nodes Multicast address (ff02::1). The packets on Network 1 were observed.

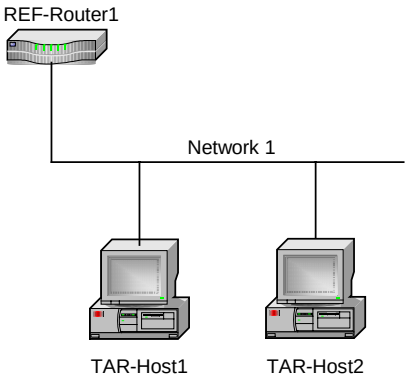
G. Link-Local Unicast Address (Router vs. Router): ICMPv6 Echo Requests were transmitted from TAR-Router1 to the link-local address of TAR-Router2. ICMPv6 Echo Requests were then transmitted from TAR-Router2 to the link-local address of TAR-Router1. The packets on Network 1 were observed.

H. Global Unicast Address (Router vs. Router): ICMPv6 Echo Requests were transmitted from TAR-Router1 to the global address of TAR-Router2. ICMPv6 Echo Requests were then transmitted from TAR-Router2 to the global address of TAR-Router1. The packets on Network 1 were observed.

I. Multicast Address (Router vs. Router): ICMPv6 Echo Requests were transmitted from TAR-Router1 to the All Nodes Multicast address (ff02::1). ICMPv6 Echo Requests were then transmitted from TAR-Router2 to the All Nodes Multicast address (ff02::1). The packets on Network 1 were observed.

Comments on Test Results

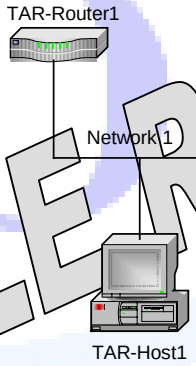
A-C



Network 1: 3000::/64
MAC: 66-66-66-66-66-66, Link-loacl: fe80:: 266:66ff:fe66:6666, Global: 3000:: 266:66ff:fe66:6666, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
TAR-Host2: MAC: 11-11-11-11-11-11, Link-loacl: fe80::211:11ff:fe11:1111, Global: 3000:: 211:11ff:fe11:1111

TAR-Host2 received all the ICMPv6 Echo Requests sent from TAR-Host1 and responded with ICMPv6 Echo Replies. TAR-Host1 received all the ICMPv6 Echo Requests sent from TAR-Host2 and responded with ICMPv6 Echo Replies.

D-F



Network 1: 3000::/64
TAR-Router1: MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000:: 244:44ff:fe44:4444, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff

TAR-Router1 received all the ICMPv6 Echo Requests sent from TAR-Host1 and responded with ICMPv6 Echo Replies. TAR-Host1 received all the ICMPv6 Echo Requests sent from TAR-Router1 and responded with ICMPv6 Echo Replies.

G-I
These tests are performed on Routers only.

Test #		Result	
IP6Interop.1.2	**Address Autoconfiguration and Duplicate Address Detection**	**A**	**PASS**
		B	**FAIL**
		C	**PASS**
		D	**PASS**
		E	**N/A**
		F	**N/A**

Purpose: To verify that a device can properly initialize on a network and communicate with other on-link partners.

Comments on Test Procedure

A. Duplicate Address Detection- Tentative Address Unique (Host vs. Host): All devices on Network 1 were initialized. Time was allowed for all devices on Network1 to perform Stateless Address Autoconfiguration and Duplicate Address Detection. An ICMPv6 Echo Request was transmitted from REF-Router1 to the Link-Local Address of TAR-Host1. An ICMPv6 Echo Request was then transmitted from REF-Router1 to the Link-Local Address of TAR-Host2. The packets were observed on Network 1.

B. Duplicate Address Detection- Tentative Address Duplicated (Host vs. Host): TAR-Host2 was configured to have the same Link-local Address as TAR-Host1. All devices on Network 1 were initialized, initializing TAR-Host2 before TAR-Host1. Time was allowed for all devices on Network1 to perform Stateless Address Autoconfiguration and Duplicate Address Detection. An ICMPv6 Echo Request was transmitted from REF-Router1 to the Link-Local Address of TAR-Host1. The packets were observed on Network 1.

C. Duplicate Address Detection- Tentative Address Unique (Host vs. Router): All devices on Network 1 were initialized. Time was allowed for all devices on Network1 to perform Stateless Address Autoconfiguration and Duplicate Address Detection. An ICMPv6 Echo Request was transmitted from REF-Host2 to the Link-Local Address of TAR-Host1. An ICMPv6 Echo Request was then transmitted from REF-Host2 to the Link-Local Address of TAR-Router1. The packets were observed on Network 1.

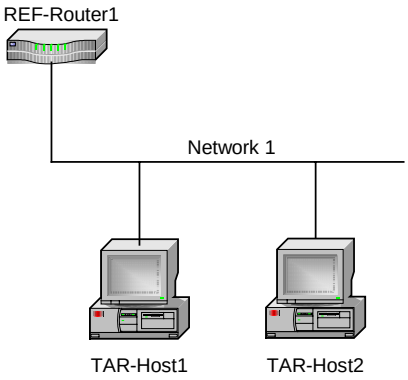
D. Duplicate Address Detection- Tentative Address Duplicated (Host vs. Router): TAR-Router1 was configured to have the same Link-local Address as TAR-Host1. All devices on Network 1 were initialized, initializing TAR-Router1 before TAR-Host1. Time was allowed for all devices on Network1 to perform Stateless Address Autoconfiguration and Duplicate Address Detection. An ICMPv6 Echo Request was transmitted from REF-Host2 to the Link-Local Address of TAR-Host1. The packets were observed on Network 1.

E. Duplicate Address Detection- Tentative Address Unique (Router vs. Router): All devices on Network 1 were initialized. Time was allowed for all devices on Network1 to perform Stateless Address Autoconfiguration and Duplicate Address Detection. An ICMPv6 Echo Request was transmitted from REF-Host1 to the Link-Local Address of TAR-Router1. An ICMPv6 Echo Request was then transmitted from REF-Host1 to the Link-Local Address of TAR-Router2. The packets were observed on Network 1.

F. Duplicate Address Detection- Tentative Address Duplicated (Router vs. Router): TAR-Router2 was configured to have the same Link-local Address as TAR-Router1. All devices on Network 1 were initialized, initializing TAR-Router2 before TAR-Router1. Time was allowed for all devices on Network1 to perform Stateless Address Autoconfiguration and Duplicate Address Detection. An ICMPv6 Echo Request was transmitted from REF-Host1 to the Link-Local Address of TAR-Router1. The packets were observed on Network 1.

Comments on Test Results

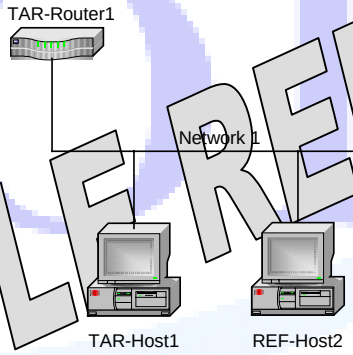
A-B



Network 1: 3000::/64
REF-Router1: MAC: 66-66-66-66-66-66, Link-loacl: fe80:: 266:66ff:fe66:6666, Global: 3000:: 266:66ff:fe66:6666, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
TAR-Host2: MAC: 11-11-11-11-11-11, Link-loacl: fe80::211:11ff:fe11:1111, Global: 3000:: 211:11ff:fe11:1111

A. TAR-Host1 and TAR-Host2 responded to the ICMPv6 Echo Requests transmitted by REF-Router1.
B. TAR-Host1, responded to the ICMPv6 Echo Requests transmitted by REF-Router1. TAR-Host1 must not bind the non-unique address to its interface.

C-D



Network 1: 3000::/64
TAR-Router1: MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
REF-Host2: MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 3000:: 222:22ff:fe22:2222

C. TAR-Host1 and TAR-Router1 responded to the ICMPv6 Echo Requests transmitted by REF-Host2.
D. TAR-Router1, and not TAR-Host1, responded to the ICMPv6 Echo Requests transmitted by REF-Host2.

E-F
These tests are performed on Routers only.

Test #		Result	
IP6Interop.1.3	**Processing Router Advertisements- Prefix Discovery**	**A**	**PASS**
		B	**PASS**
		C	**PASS**

Purpose: To verify that a device can properly perform prefix discovery.

Comments on Test Procedure

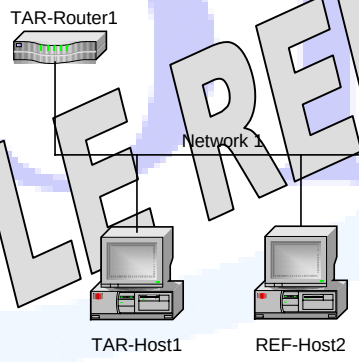
A. Single Prefix Discovery (Host vs. Router): TAR-Router1 was configured to transmit Router Advertisements with one Prefix (valid lifetime > 0). The interface on TAR-Host1 that is connected to Network1 was administratively disabled and then enabled allowing time for TAR-Host1 and REF-Host2 to perform stateless address autoconfiguration and DAD. An ICMPv6 Echo Request was transmitted from REF-Host2 to the Global Address of the TAR-Host1.

B. Multiple Prefix Discovery (Host vs. Router): TAR-Router1 was configured to transmit Router Advertisements with two prefixes: Prefix1, Prefix2 (valid lifetimes > 0). An ICMPv6 Echo Request was transmitted from REF-Host2 to the Global Address of the TAR-Host1 associated with Prefix1. An ICMPv6 Echo Request was then transmitted from REF-Host2 to the Global Address of the TAR-Host1 associated with Prefix2.

C. Prefix Lifetime expires (Host vs. Router): TAR-Router1 was configured to transmit Router Advertisements with Prefix1 (valid lifetime = 30sec). An ICMPv6 Echo Request was transmitted from REF-Host2 to the Global Address of the TAR-Host1 associated with Prefix1. 35 seconds to was allowed to pass. An ICMPv6 Echo Request was then transmitted from REF-Host2 to the Global Address of the TAR-Host1 associated with Prefix1.

Comments on Test Results

A-C



Network 1: 3000::/64
TAR-Router1: MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
REF-Host2: MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 3000:: 222:22ff:fe22:2222

A. TAR-Host1 responded to all ICMPv6 Echo Requests from REF-Host2 with ICMPv6 Echo Replies.

B. TAR-Host1 responded to all ICMPv6 Echo Requests from REF-Host2 with ICMPv6 Echo Replies. TAR-Host1 also responded to ICMPv6 Echo Requests from REF-Host2 with ICMPv6 Echo Replies associated with Prefix2.

C. TAR-Host1 responded to ICMPv6 Echo Requests from REF-Host2 with ICMPv6 Echo Replies associated with Prefix1. After 35 seconds, TAR-Host1 timed out its Prefix1. TAR-Host1 did not respond to ICMPv6 Echo Requests from the TAR-HOST1.

Test #		Result	
IP6Interop.1.4	**Processing Router Advertisements- Router Lifetime**	**A**	**PASS**
		B	**PASS**

Purpose: To verify that a device can properly perform Router Discovery.

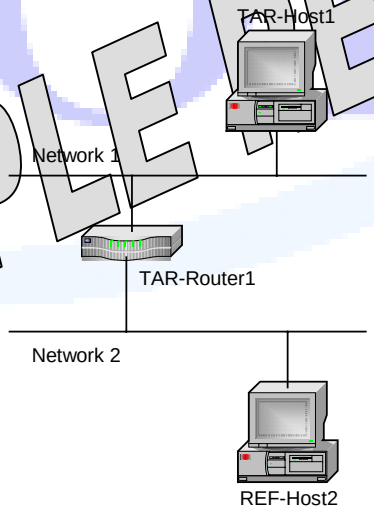
Comments on Test Procedure

A. Default Router List management in terms of received Router Lifetime (Host vs. Router): TAR-Router1 was configured to transmit Router Advertisements with Router Lifetimes equal to 0 and at a normal interval on Network1, and Router Lifetimes greater than the Router Advertisement interval on Network2. An ICMPv6 Echo Request was transmitted from REF-Host2 to the Global Address of the TAR-Host1. TAR-ROUTER1 was configured to transmit Router Advertisements with Router Lifetimes set to 600 seconds and Router Advertisement Intervals set to 60 seconds on both Network1 and Network2. An ICMPv6 Echo Request was transmitted from TAR-Host1 to the Global Address of the REF-Host2. TAR-Router1 was then configured to transmit Router Advertisements with the Router Lifetime set to 0 on Network1. An ICMPv6 Echo Request was transmitted from REF-Host2 to the Global Address of the TAR-Host1.

B. Default Router List management in terms of received Router Lifetime (Host vs. Router): TAR-Router1 was configured to transmit Router Advertisements with Router Lifetimes equal to 600 and Router Advertisement Intervals set to 60 seconds on both Network1 and Network2. An ICMPv6 Echo Request was transmitted from TAR-Host1 to the Global Address of REF-Host2. TAR-Router1 was configured on Network1 to have a Router Lifetime set to 30 seconds and Router Advertisement Interval set to 60 seconds. 35 seconds was allowed to pass for the Default Router lifetime to expire. An ICMPv6 Echo Request was transmitted from REF-Host2 to the Global Address of TAR-Host1.

Comments on Test Results

A-B



Network 1: 3000::/64
Network 2: 9000::/64
TAR-Router1: Net1; MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
Net2; MAC: 44-44-44-44-44-45, Link-loacl: fe80:: 244:44ff:fe44:4445, Global: 9000::244:44ff:fe44:4445, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
REF-Host2: MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 3000:: 222:22ff:fe22:2222

A. TAR-Host1 solicited for REF-Host2 on-link. Following the second Router Advertisement, TAR-Host1 used TAR-Router1 as its first hop for Network2 and the Echo Request was visible on Network2. REF-Host2 sent an Echo Reply with a Destination Address of TAR-Host1's Global Address. Following the third Router Advertisement, TAR-Host1 did not transmit an Echo Reply using TAR-Router1 as its first hop and did not transmit a multicast Neighbor Solicitation with a target address set to TR1's link-local address.
B. TAR-Host1 used TAR-Router1 as its first hop for Network2 and the Echo Request should be visible on Network2. REF-Host2 sent an Echo Reply with a Destination Address of the TAR-Host1's Global Address. After waiting 35 seconds, TAR-Host1 did not transmit an Echo Reply using TAR-Router1 as its first hop and did not transmit a multicast Neighbor Solicitation with a target address set to TR1's link-local address.

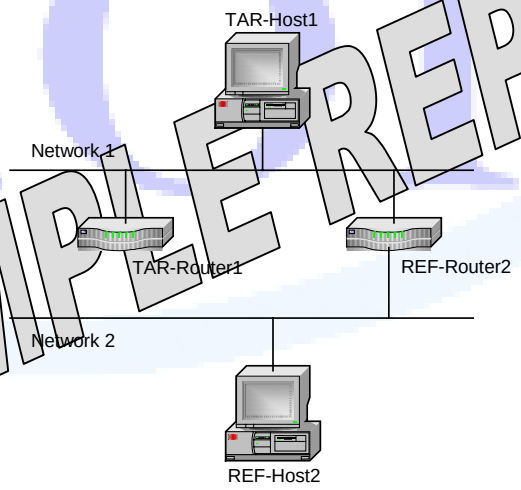
Test #		**Result**	
IP6Interop.1.5	**Redirect Function**	**A**	**PASS**

Purpose: Verify the correct interoperability between a device's redirect handling with that of various IPv6 implementations.

Comments on Test Procedure

A. An ICMPv6 Echo Request was transmitted from TAR-Host1 to the Global Address of REF-Host2. Time was allowed for TAR-Router1 to send an ICMPv6 Redirect message to TAR-Host1 specifying REF-Router2 as a better first hop. An ICMPv6 Echo Request was then transmitted from TAR-Host1 to the Global Address of REF-Host2.

Comments on Test Results



Network 1: 3000::/64
Network 2: 9000::/64
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
TAR-Router1: MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
REF-Router2: Net1; Link-local=fe80::, Global= 3000::
Net2; Link-local=fe80::, Global= 9000::
REF-Host2: MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 9000:: 222:22ff:fe22:2222

A. TAR-Router1 sent an ICMPv6 Redirect message to the TAR-Host1 indicating REF-Router2 as a better first hop to Network2. TAR-Host1 then used REF-Router2 as its first hop for the Echo Request destined for Net-

work2, indicating that it processed the ICMPv6 Redirect Message and applied it to its Routing Table. REF-Host2 responded to the Echo Request with an ICMPv6 Echo Reply.

Test #		Result	
IP6Interop.1.6	**Path MTU Discovery and Fragmentation**	**A**	**PASS**
		B	**PASS**
		C	**PASS**
		D	**N/A**

Purpose: Verify that devices can participate in path MTU discovery and handle fragmentation in an IPv6 network.

Comments on Test Procedure

A. PMTU Discovery (Host vs. Router): The interface on Network1 on TAR-Router1 was configured with a path MTU of 1500 bytes. The interface on Network2 on TAR-Router1 was configured with a path MTU of 1280 bytes. A 1400 byte ICMPv6 Echo Request was transmitted from the Global Address of TAR-Host1 to the Global Address of REF-Host2.

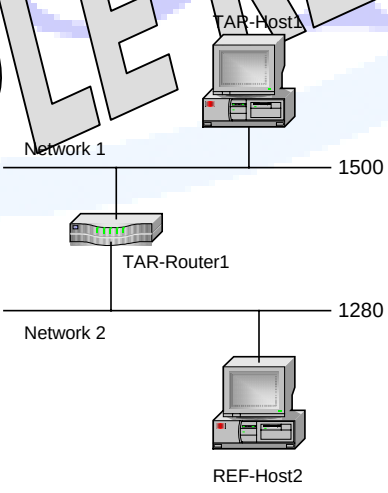
B. Fragmentation/Reassembly (Host vs. Host): A 1400 byte ICMPv6 Echo Request was transmitted from the Global Address of TAR-Host1 to the Global Address of TAR-Host2. A 1400 byte ICMPv6 Echo Request was then transmitted from the Global Address of TAR-Host2 to the Global Address of TAR-Host1.

C. Fragmentation/Reassembly (Host vs. Router): Static routes were configured from TAR-Router1 to REF-Router1 and from REF-Router1 to REF-Router2. REF-Router2 was configured to transmit Router Advertisements with a Router Lifetime > 0 on Network 3. A 1400 byte ICMPv6 Echo Request was transmitted from the Global Address of TAR-Router1 to the Global Address of TAR-Host1. A 1400 byte ICMPv6 Echo Request was then transmitted from the Global Address of TAR-Host1 to the Global Address of TAR-Router1.

D. Fragmentation/Reassembly (Router vs. Router): Static routes were configured from TAR-Router1 to REF-Router1, from REF-Router1 to REF-Router2, and from REF-Router2 to TAR-Router2. A 1400 byte ICMPv6 Echo Request was transmitted from the Global Address of TAR-Router1 to the Global Address of TAR-Router2. A 1400 byte ICMPv6 Echo Request was then transmitted from the Global Address of TAR-Router1 to the Global Address of TAR-Router2.

Comments on Test Results

A

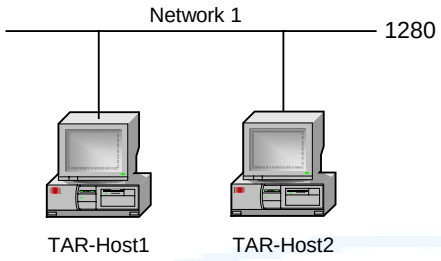


Network 1: 3000::/64
Network 2: 9000::/64
TAR-Router1: Net1; MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
Net2; MAC: 44-44-44-44-44-45, Link-loacl: fe80:: 244:44ff:fe44:4445, Global: 9000::244:44ff:fe44:4445, MTU: 1500

TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
REF-Host2: MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 9000:: 222:22ff:fe22:2222

A. TAR-Host1 attempted to send the Echo Request without fragmenting. TAR-Router1 sent an ICMPv6 Packet Too Big Message, and the TAR-Host1 lowered its path MTU estimate and fragmented the Echo Request. REF-Host2 responded to the Echo Request sent by TAR-Host1 with an Echo Reply.

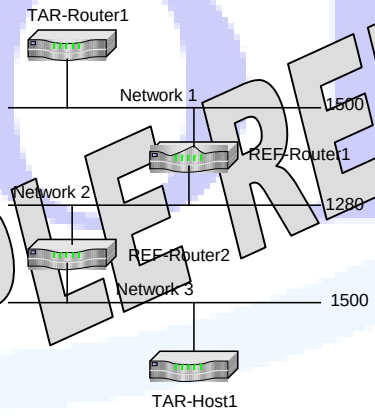
B



Network 1: 3000::/64
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
TAR-Host2: Link-local=fe80::, Global= 3000::

B. TAR-Host1 sent the Echo Request with fragmenting. TAR-Host2 responded to the fragmented Echo Request sent by TAR-Host1 with an Echo Reply. TAR-Host2 then sent the Echo Request with fragmenting. TAR-Host1 reassembled and responded to the fragmented Echo Request with an Echo Reply.

C



Network 1: 3000::/64
Network 2: 3001::/64
Network 3: 3002::/64
TAR-Router1: Link-local=fe80::, Global= 3000::
REF-Router1: Net1; MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
Net2; MAC: 44-44-44-44-44-45, Link-loacl: fe80:: 244:44ff:fe44:4445, Global: 3001::244:44ff:fe44:4445, MTU: 1500
REF-Router2: Net2: MAC: 77-77-77-77-77-77, Link-loacl: fe80:: 277:77ff:fe77:7777, Global: 3001:: 277:77ff:fe77:7777, MTU: 1500
Net3; MAC: 77-77-77-77-77-78, Link-loacl: fe80:: 277:77ff:fe77:7778, Global: 3002:: 277:77ff:fe77:7778, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3002:: 2bb:ccff:fedd:eeff

C. TAR-Router1 attempted to send the Echo Request without fragmenting. REF-Router1 sent an ICMPv6 Packet Too Big Message, and the TAR-Router1 lowered its path MTU estimate and fragmented the Echo Request. TAR-Host1 responded to the Echo Request sent by TAR-Router1 with an Echo Reply. TAR-Host1 then attempted to send the Echo Request without fragmenting. REF-Router2 sent an ICMPv6 Packet Too Big Message, and the TAR-Host1 lowered its path MTU estimate and fragmented the Echo Request. TAR-Router1 responded to the Echo Request sent by TAR-Host1 with an Echo Reply.
D. This test is performed on Routers only.

Test #		Result	
IP6Interop.1.7	**Routing Header Processing**	**A**	**PASS**
		B	**N/A**

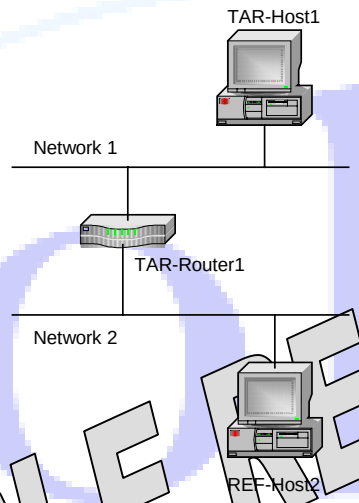
Purpose: Verify that devices can properly process a Routing header.

Comments on Test Procedure

A. Routing header (Host vs. Router): REF-Host2 transmitted an ICMPv6 Echo Request with a Routing header. The Routing header is specified to go through TAR-Router1 and the destination TAR-Host1.
B. Routing header (Router vs. Router): REF-Host1 transmitted an ICMPv6 Echo Request with a Routing header. The Routing header is specified to go through TAR-Router1, then TAR-Router2 and then the destination REF-Host1. REF-Host1 then transmits an ICMPv6 Echo Request with a Routing header. The Routing header is specified to go through TAR-Router2, then TAR-Router1 and then the destination REF-Host1.

Comments on Test Results

A



Network 1: 3000::/64
Network 2: 9000::/64
TAR-Router1: Net1; MAC: 44-44-44-44-44-44, Link-loacl: fe80:: 244:44ff:fe44:4444, Global: 3000::244:44ff:fe44:4444, MTU: 1500
Net2; MAC: 44-44-44-44-44-45, Link-loacl: fe80:: 244:44ff:fe44:4445, Global: 9000::244:44ff:fe44:4445, MTU: 1500
TAR-Host1: MAC: aa-bb-cc-dd-ee-ff, Link-local: fe80::2bb:ccff:fedd:eeff, Global: 3000:: 2bb:ccff:fedd:eeff
REF-Host2: MAC: 22-22-22-22-22-22, Link-loacl: fe80:: 222:22ff:fe22:2222, Global: 9000:: 222:22ff:fe22:2222

A. TAR-Host1 transmitted an Echo Reply to REF-Host2's Global Address using TAR-Router1 as a first hop. If the Echo Reply contains a Routing header, it did not reverse the received Routing header.
B. This test is performed on Routers only.