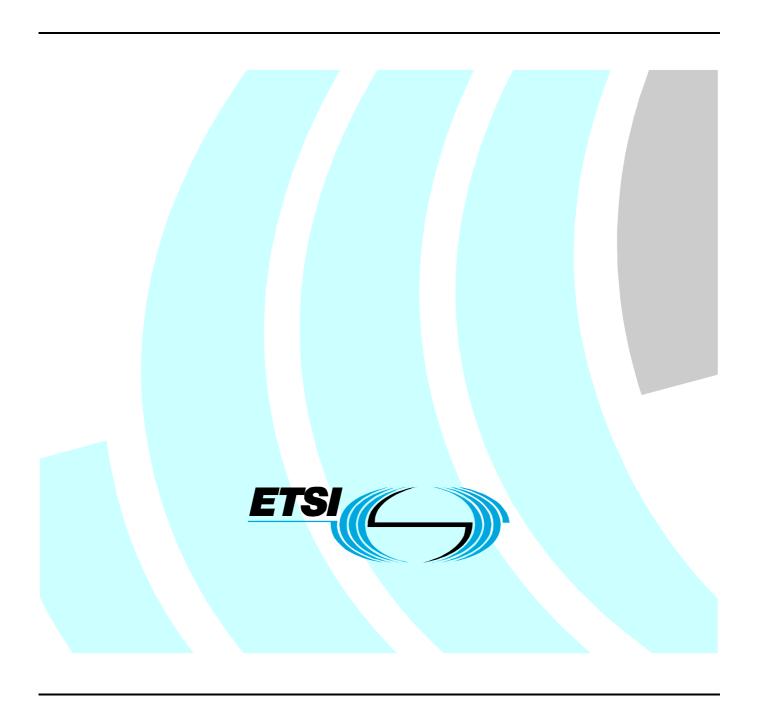
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Technical Specification

Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); IPv6 Core Protocol; Interoperability Test Suite (ITS)



Reference

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Methods for Testing and Specification (MTS).

1 Scope

The present document specifies the interoperability Test Descriptions (TDs) with integrated Test Purposes (TPs) for the IPv6 Core standards. The TDs are presented in the tabular form specified in ETSI TS 102 424 [1] and the TPs are defined using the TPLan notation also described in ETSI TS 102 424. The Test Suite Structure is based on the IETF RFCs which, together, form the IPv6 Core specification and is reflected in the use of "Group/End Group" statements in the TPLan code presented in annex A.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1	1]	ETSI TS 102 424 (2005): "Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); IPv6 Testing: Methodology and Framework".
[2	2]	IETF RFC 1981: "Path MTU Discovery for IP version 6".
[3	3]	IETF RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification".
[4	1]	IETF RFC 2461: "Neighbor Discovery for IP Version 6 (IPv6)".
[5	5]	IETF RFC 2462: "IPv6 Stateless Address Autoconfiguration".
[6	5]	IETF RFC 2463: "Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification".
[7	7]	IETF RFC 2675: "IPv6 Jumbograms".
[8	3]	IETF RFC 3513: "Internet Protocol Version 6 (IPv6) Addressing Architecture".

3 Abbreviations

TPLan

TSS

For the purposes of the present document, the following abbreviations apply:

EUT	Equipment Under Test
HS	Host
i/f	interface
LL	Link Local
M/cast	Multicast
MTU	Maximum Transmission Unit
PMTU	Path MTU
QE	Qualified Equipment
RT	Router
SL	Site Local
TP	Test Purpose
TD	Test Description

Test Purpose Language

Test Suite Structure

4 IPv6 Core Interoperability Test Specification

4.1 Introduction

The IPv6 Core Interoperability Test Descriptions (TDs) defined in the following clauses are derived from the Test Purposes (TPs) specified in annex A.

4.2 Test Descriptions

4.2.1 RFC 2460, IPv6 Core Specification

4.2.1.1 Generate IPv6 Packet

No tests specified in this group.

4.2.1.2 Process IPv6 Packet

4.2.1.2.1 Process IPv6 Header

TP_COR_1097_01
TP_COR_1097_02

4.2.1.2.1.1 Process Hop Limit

	Test Description							
Identifier:	TD_COR_1002_01							
Summary:	EUT decreases the Hop Limit field of a traversed IPv6 packet and forwards it							
Test Purpose:	TP_COR_1002_01 Reference: RQ_COR_1002 Configuration	: CF_02	.2_I					
<pre>with { QE1 'configured with a unique global unicast address '</pre>								
	and QE2 'configured with a unique global unicast address'							
	igured with two unique global unicast addresses on the link ecting QE1 and EUT, and the link connecting QE2 and EUT, respective							
COIII	ecting QET and EUT, and the Tink connecting QEZ and EUT, respective	very, }						
<pre>ensure that {</pre>								
when { EUT re	ceives 'a packet'							
	aining 'QE1 as source address and QE2 as destination address'							
	aining 'Hop Limit > 1' }							
then { EUT se	nds 'the packet with the Hop Limit decremented' to QE2 }							
Pre-test	FUT actablished as the default sector for OFA							
	 EUT established as the default router for QE1 							
	conditions:							
Step	T1 C	1/	1! - 4					
	Test Sequence	Ver						
	·	Vere Pass	dict Fail					
1	Cause QE1 to send an Echo Request with QE2 identified as the destination							
·	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1	Pass	Fail					
2	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1 Check: Does protocol monitor on link2 show that the Echo Request							
2	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1 Check: Does protocol monitor on link2 show that the Echo Request was sent from QE1 to QE2, with a decremented hop limit?	Yes Yes	Fail No					
2	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1 Check: Does protocol monitor on link2 show that the Echo Request	Pass	Fail					
2	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1 Check: Does protocol monitor on link2 show that the Echo Request was sent from QE1 to QE2, with a decremented hop limit?	Yes Yes	Fail No					
2	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1 Check: Does protocol monitor on link2 show that the Echo Request was sent from QE1 to QE2, with a decremented hop limit?	Yes Yes	Fail No					
2	Cause QE1 to send an Echo Request with QE2 identified as the destination and hop limit larger than 1 Check: Does protocol monitor on link2 show that the Echo Request was sent from QE1 to QE2, with a decremented hop limit?	Yes Yes	Fail No					

Test Description						
Identifier:	TD_COR_1002_02					
Summary:	Summary: EUT drops a traversed IPv6 packets with Hop Limit = 1 and returns an ICMP error message to the source					
Test Purpose: TP_COR_1002_02 Reference: RQ_COR_1002 Configuration: CF_022_I						
with { QE1 'configured with a unique global unicast address '						

```
and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
             connecting QE1 and EUT, and on the link connecting QE2 and EUT, respectively' \}
ensure that {
   when { EUT receives 'a packet'
        containing 'QE1 as source address and QE2 as destination address'
and containing 'Hop Limit = 1' }
   then { EUT discards 'the packet'
   and EUT sends 'an ICMP error message' to QE1 }
Pre-test
                         EUT established as the default router for QE1
conditions:
                                                                                                  Verdict
      Step
                                              Test Sequence
                                                                                             Pass
                                                                                                         Fail
       1
                  Cause QE1 to send an Echo Request with QE2 identified as the destination
                  and hop limit of 1
                             does the protocol monitor on link2 show that the Echo Request
       2
                    Check:
                                                                                              No
                                                                                                         Yes
                             was sent from QE1 to QE2?
                             does the protocol monitor on link1 show that an ICMP error
       3
                    Check:
                                                                                              Yes
                                                                                                         No
                             message was sent from EUT to QE1?
Observations
```

		Test D	Description						
Identifier:	TD_COR_1058_01		-						
Summary:	Discard packets if h	lop Limit <= 1							
Test Purpose:	TP_COR_1058_01	Reference:	RQ_COR_1058	Configuration:	CF_02	22_l			
ensure that {									
when { QE1 is requested to 'send a packet to QE2'									
	<pre>containing 'Routing header Type = 0' and containing 'Segments Left value other than zero'</pre>								
			e other than zero' e not greater than	the number of add	aroagog				
aı		the Routing hea	_	the number of aut	iresses				
ar	nd containing 'an	_							
and no	ot containing 'mul	ticast address	as next address to	be visited or IPv	76 Desti	nation'			
	nd containing 'IPv	_							
	nd containing 'EUT								
,	ends 'ICMP "Time E		message' to QE1						
and EUT di	iscards 'the packe	t' }							
Pre-test	CUT actablic	shed as the default							
conditions:	EUI establis	sned as the default	router for QE1						
		Took Co			Van	dict			
Step		rest se	quence		Pass	GICT Fail			
4	0	Lan Eska Danisa	ddl. dl. a fall accidents manage		Pass	raii			
1		i an Ecno Request	with the following prop	erties:		L			
	- hop limit =1								
	- type 0 routing h								
	- EUT as next ro								
	- QE2 as final de	stination							
2	Check: does th	e protocol monitor	on link2 show that the	Echo Request	No	Yes			
		nt from QE1 to QE		,					
3	Check: does th	e protocol monitor	on link1 show that an I	CMP "Time	Yes	No			
			was sent from EUT to						
Observations						•			

A QE cannot send out any message with hop limit = 0, thus hop limit = 1 is chosen for this test

Test Description							
Identifier:	Identifier: TD_COR_1059_01						
Summary:	Summary: Process packets if Hop Limit > 1						
Test Purpose: TP_COR_1059_01 Reference: RQ_COR_1059 Configuration: CF_022_				CF_022_I			
ensure that {							
when { QE1 i	s requested to 'sen	d a packet to QE	2 '				

and :	and containing 'Segments Left value other than zero' and containing 'Segments Left value not greater than the number of the Routing header' and containing 'an even "Hdr Ext Len" value' not containing 'multicast address as next address to be visited or and containing 'IPv6 hop limit > 1' and containing 'EUT as next routing hop' }		
then { EUT s	ends 'the packet to QE2' }		
Pre-test conditions:	EUT established as the default router for QE1		
Step	Test Sequence	Verdict	
		Pass	Fail
1	Cause QE1 to send an Echo Request with the following properties: - hop limit >1 - type 0 routing header - EUT as next routing hop - QE2 as final destination		

4.2.1.2.2 Process Flow Label

```
Test Description
Identifier:
                 TD_COR_1130_01 --* NO TEST SPECIFIED
Summary:
                 EUT detects two packets with different hop-by-hop option contents but the same source and
                 destination addresses and the same flow label
Test Purpose:
                TP_COR_1130_01 | Reference:
                                                    RQ_COR_1130
                                                                      Configuration:
                                                                                          CF_022_I
with { QE1 'configured with a unique global unicast address
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting QE1 and
            EUT and, the link connecting QE2 and EUT, respectively' }
ensure that {
  when { EUT receives 'two packets'
            containing 'QE1 as source address and QE2 as destination address'
        and containing 'a same flow label'
        and containing 'different hop-by-hop options' }
   then { {\tt EUT\ sends}} 'an ICMP parameter problem message' to {\tt QE1}
   and EUT discards 'the packets' }
```

Observations

This IOP test is practically impossible. One router cannot guarantee the arrival and processing of two different packets at same time.

```
Test Description
Identifier:
                 TD_COR_1130_02 --* NO TEST SPECIFIED *--
Summary:
                 EUT detects two packets with different routing header contents but the same source and destination
                 addresses and the same flow label
                                                    RQ_COR_1130 Configuration:
Test Purpose:
                 TP_COR_1130_02 | Reference:
with { QE1 'configured with a unique global unicast address
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting QE1 and
            EUT and, the link connecting QE2 and EUT, respectively' }
ensure that {
  when { EUT receives 'two packets'
            containing 'QE1 as source address and QE2 as destination address'
        and containing 'a same flow label'
        and containing 'different hop-by-hop options'
```

```
then { EUT sends 'an ICMP parameter problem message' to QE1
and EUT discards 'the packets'}
}
```

This IOP test is practically impossible. One router cannot guarantee the arrival and processing of two different packets at same time.

4.2.1.3 Extension Headers

4.2.1.3.1 Process Extension Headers

	Test Description							
Identifier:	TD_COR_1004_01							
Summary:	EUT does NOT process (modify) a Routing Header contained in a packet N	OT destined for	or the EUT					
Test Purpose:	TP_COR_1004_01 Reference: RQ_COR_1004 Configuration	on: CF_03	31_I					
with { QE1 'configured with a unique non link-local unicast address'								
and QE2 'configured as a router with a unique non link-local unicast address'								
and QE3 'configured with a unique non link-local unicast address'								
<pre>and EUT 'configured with one unique non link-local unicast address on each link' and EUT 'established as the default Router for QE1' }</pre>								
and Eur esta	abilished as the default Router for QET							
ensure that {								
	eceives 'a packet' from QE1							
	caining 'an indication that QE2 is the destination'							
	caining 'a Routing Header'							
indi	<pre>cating 'QE2 as the first node to process the Routing Header and QE3 as the final destination of the packet' }</pre>							
then { FIF !	forwards the packet, with the Routing Header UNMODIFIED' to QE2							
}	orwards the passet, with the hoating header officering							
Pre-test	QE2 is configured as a Router							
conditions:	EUT established as the default router for QE1							
Step	Test Sequence	Ver	dict					
•	•	Pass	Fail					
1	Cause QE1 to send an Echo Request with QE3 identified as the final							
destination, QE2 as an intermediate hop and normal routing tables								
bypassed (ping6 -r QE2 QE3)								
2	Check: Does protocol monitor show that the Echo Request was sent	Yes	No					
	from QE1 to QE3?							
3	Check: Does QE1 receive an Echo Reply fromQE3?	Yes	No					
Observations	Officer. Does we'l receive an Echo Nepry Homwes:	165	111					

Test Description						
dentifier: TD_COR_1004_02* TESTED BY TD_COR_1064_01 *						
Summary:	EUT does NOT process(remove) a Fragmentation Header contained in a packet NOT destined for					
	the EUT					
Test Purpose:	TP_COR_1004_02	Reference:	RQ_COR_1004	Configuration:	CF_022_I	
with { QE1 'con:	figured with a non	link-local unicas	st address'	-	•	
and EUT 'con:	figured with a uniq	ue non link-local	unicast address	on each link' }		
				•		
<pre>ensure that {</pre>						
when { EUT re	eceives 'a packet'	from QE1				
cont	taining 'an indicat	ion that QE2 is t	the destination'			
and conf	taining 'a Fragment	ation Header' }				
then { EUT ':	forwards the packet	with its Fragmen	ntation Header' t o	OE2 }		
}						
` }						
Observations }						
Observations }						

```
Test Description
Identifier:
                   TD COR 1004 03 --* NO TEST SPECIFIED *-
Summary:
                   EUT does NOT process (modify or remove) a Destination Options Header in a packet NOT destined
                   for the EUT
Test Purpose:
                  TP_COR_1004_03 Reference:
                                                         RQ_COR_1004
                                                                             Configuration:
                                                                                                 CF_031_I
with { QE1 'configured with a unique non link-local unicast address'
   and QE2 'configured as a router with a unique non link-local unicast address'
   and QE3 'configured with a unique global unicast address'
   and EUT 'configured with a unique non link-local unicast address on each link' }
ensure that {
   when { EUT receives 'a packet' from QE1
             containing 'an indication that QE2 is the destination'
         and containing 'a Destination Options Header' }
   then { EUT 'forwards the packet, with the Destination Options Header UNMODIFIED'
              to QE2 }
```

In an interoperability testing environment it is almost (if not totally) impossible to reproduce the conditions that would reliably cause the Destination Options Header to be used.

Test Description							
Identifier: TD_COR_1005_01* NO TEST SPECIFIED *							
Summary:	Summary: EUT processes a Destination Options Header contained in a packet destined for the EUT						
Test Purpose: TP_COR_1005_01 Reference: RQ_COR_1005 Configuration: CF_011_I							
with { QE 'conf	igured with a uniq	ue link-local ado	dress'				
and EUT 'conf	igured with a uniq	ue link-local add	dress' }				
ensure that {							
	eceives 'fragment p	ackets of a Requ	est that requires	a Reply' from OE			
	aining 'a Fragment						
	nation Options Hea	_	_	,			
	the same results	-	_				
The usag	The usage choice depends on the processing resources consumed-						
then { EUT se	ends 'the expected	Reply' to QE }					
}	_	,					

Observations

In an interoperability testing environment it is almost (if not totally) impossible to reproduce the conditions that would reliably cause the Destination Options Header to be used.

4.2.1.3.2 Routing Header

4.2.1.3.2.1 Process Routing Header

```
Test Description
Identifier:
                 TD_COR_1042_01
Summary:
                 Discard packet & generate ICMP error message if packet size larger than MTU
                 TP_COR_1042_01 Reference:
                                                   RQ_COR_1042
                                                                                        CF_022_I
Test Purpose:
                                                                     Configuration:
with { 'Link2 configured with a smaller MTU than Link1'
ensure that {
   when { QE1 is requested to 'send a packet larger than Link2 MTU to QE2'
                   containing 'EUT as next routing hop' }
   then { EUT discards 'the packet'
      and EUT sends 'ICMP "Packet too big" error message 'to QE1 }
```

PMTU of link1 is set to a value greater than PMTU of link2.		
Test Sequence	Ver	dict
·	Pass	Fail
Cause QE1 to send an Echo Request with the following properties: - (PMTU of link2) < Echo Request packet size < (PMTU of link1) - EUT is the next routing hop QE2 is the final destination.		
Check: does the protocol monitor on Link2 show that the Echo Request has NOT been forwarded to QE2? (EUT has discarded the Echo Request)	Yes	No
Check: does the protocol monitor on Link1 show that EUT has sent an ICMP "Packet too big" error message to QE1?	Yes	No
	Test Sequence Cause QE1 to send an Echo Request with the following properties: - (PMTU of link2) < Echo Request packet size < (PMTU of link1) - EUT is the next routing hop QE2 is the final destination. Check: does the protocol monitor on Link2 show that the Echo Request has NOT been forwarded to QE2? (EUT has discarded the Echo Request) Check: does the protocol monitor on Link1 show that EUT has sent an	Test Sequence Vere Pass Cause QE1 to send an Echo Request with the following properties: - (PMTU of link2) < Echo Request packet size < (PMTU of link1) - EUT is the next routing hop QE2 is the final destination. Check: does the protocol monitor on Link2 show that the Echo Request has NOT been forwarded to QE2? (EUT has discarded the Echo Request) Check: does the protocol monitor on Link1 show that EUT has sent an

	Test Description		
Identifier:	TD_COR_1049_01		
Summary:	Routing Header NOT processed until IPv6 header Dest. Addr. reached		
Test Purpose:	TP_COR_1049_01 Reference: RQ_COR_1049 Configuration	: CF_03	31_I
with { EUT 'not	<pre>included in the Routing Header vector (hop) list' }</pre>		
ensure that {			
	requested to 'send a packet to QE3'		
WIIOII (ZLL II	containing 'QE2 as next routing hop'		
and EUT 'i	s on the path to QE2' }		
	mores 'the routing header'		
	coutes the packet to QE2' }		
}			
Pre-test	EUT is established as default router for all nodes		
conditions:	QE2 is a router		
Step	Test Sequence	Ver	dict
-	·	Pass	Fail
1	Cause QE1 to send an Echo Request with the following properties:		
	- QE2 is the next routing hop		
	- QE3 is the final destination		
2	Check: does the protocol monitor on Link2 show that EUT forwarded the	Yes	No
	Echo Request message to QE2 without changing the routing header?		
Observations			

		Test Des	cription		
Identifier:	TD_COR_1050_01				
Summary:	Routing Header IS p	rocessed when IPv6	header Dest. Addr.	reached	
Test Purpose:	TP_COR_1050_01	Reference:	RQ_COR_1050	Configuration:	CF_031_I
with { EUT 'incl	uded in the Routin	g Header vector	(hop) list' }		
ensure that {					
	requested to 'sen	d a packet to OE:	3 '		
	-	as next routing			
and QE2 'a	as subsequent routi	ng hop' }			
then { EUT 'p	processes the routi	ng header'			
and EUT 'r	coutes the packet'	to QE2 }			
}		<u> </u>			

Pre-test conditions:	EUT is established as default router for all nodesQE2 is a router		
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Cause QE1 to send an Echo Request with the following properties: - EUT is the next routing hop - QE2 is the subsequent routing hop - QE3 is the final destination		
2	Use the protocol monitor on Link1 to record the original Echo Request sent by QE1.		
3	Check: does the protocol monitor on Link2 show that EUT forwarded the Echo Request message to QE2?	Yes	No
4	Check: does the protocol monitor on Link2 show that EUT has correctly updated (*) the Headers (IPv6 header and Routing header) of the forwarded Echo Request?	Yes	No

- (*) EUT should have modified the original Echo Request packet as follow:
 - Swap the IPv6 Destination Address and the address of the next hop to be visited
 - Decrement the segment left byte by 1

		Test D	escription			
Identifier:	TD_COR_1055_01		•			
Summary:	Discard multicast pa	ackets				
Test Purpose:	TP_COR_1055_01	Reference:	RQ_COR_1055	Configuration:	CF_03	1_I
<pre>ensure that {</pre>						
a a a	and containing 'a and containing 'an and containing 'Se- in and containing 'EU' and containing 'QE scards 'the packe	uting header Typ Segments Left F: even "Hdr Ext I gments Left Fie: the Routing hea T as next routin 2 multicast add:	pe 0' ield value other tha Len" value' ld not greater than ader' ng hop' ress as subsequent :	the number of ac	ddresses	
conditions:	 QE2 is a rou 	ter				
Step		Test Se	quence		Verd	dict
					Pass	Fail
1	- EUT as next rou	uting hop ess of QE2 as sub	with the following prop	erties:		
2	Check: does the p Echo Request mess		Link2 show that EUT	forwarded the	No	Yes
Observations If th	e next routing hop to	be visited is a mul	ticast address the node	should discard the	packet	

		Test Des	cription		
Identifier:	TD_COR_1056_01				
Summary:	Discard multicast pa	ckets			
Test Purpose:	TP_COR_1056_01	Reference:	RQ_COR_1056	Configuration:	CF_022_I
,	and containing 'a S and containing 'an and containing 'Seg	ating header Type Segments Left Fiel even "Hdr Ext Ler ments Left Field the Routing heade	0' d value other th " value' not greater than er'	an zero' the number of ad	dresses
	iscards 'the packet	_		,	

Pre-test	EUT is established as default router for all nodes		
conditions:	QE2 has a routable multicast address		
Step	Test Sequence	Ver	dict
	·	Pass	Fail
1	Cause QE1 to send an Echo Request with the following properties:		
	- EUT is the next routing hop		
	- a multicast address of QE2 as final destination.		
2	Check: does the protocol monitor on Link2 show that EUT forwarded the	No	Yes
	Echo Request message to QE2?		

Observations The multicast address used to address QE2 should be a routable address (multicast scope should be site-local, organization-local, or global), not a link-local multicast address.

4.2.1.3.3 Fragment Header

4.2.1.3.3.1 Generate Fragmented Packets

	Test Description		
Identifier:	TD_COR_1064_01		
Summary:	EUT fragments a packet larger than the available PMTU before sending it		
Test Purpose:	TP_COR_1064_01 Reference: RQ_COR_1064 Configuratio	n: CF_02	23_I
<pre>with { 'the MTU</pre>	on Link1 set greater than the MTU on Link2' }		
ensure that {			
,	requested to 'send a packet of greater length than		
•	the MTU of Link2' to QE2 }		
then { QE2 inc	licates 'receipt of the same data without any		
1	<pre>modification' }</pre>		
Pre-test	MTI I on the link between OE1 and the ELIT set to a value greater the	a that an tha	link
conditions:	 MTU on the link between QE1 and the EUT set to a value greater that between QE1 and QE2 	i that on the	IIIIK
Step	Test Sequence	Vor	dict
Step	rest Sequence	Pass	Fail
1	Cause EUT to send an Echo Request to QE2 with a packet size greater	1 433	T dii
'	than the MTU between QE1 and QE2 but less than the PMTU between		
	QE1 and EUT and with each octet set to the hexadecimal value "F0"		
2	Check: Does protocol monitor show that the Echo Request was sent	Yes	No
	from EUT to QE2?		
3	Check: Does EUT receive a Packet Too Big message from QE1	Yes	No
4	Cause EUT to send an Echo Request to QE2 with a packet size greater		
	than the MTU between QE1 and QE2 but less than the PMTU between		
	QE1 and EUT and with each octet set to the hexadecimal value "F0"		
5	Check: Does protocol monitor show that the Echo Request was sent	Yes	No
	from EUT to QE2?		
6	Check: Does QE1 receive an Echo Reply from QE2 with the packet	Yes	No
	length the same as the Echo Request and with each octet		
Observations	containing the hexadecimal value "F0"?		
Observations			

4.2.1.3.3.2 Process Fragmented Packets

```
Test Description
                 TD_COR_1100_01
Identifier:
                 EUT reassembles a fragmented packet of an original length less than 1500 octets
Summary:
               TP_COR_1100_01 Reference:
                                                   RQ_COR_1100
                                                                     Configuration:
Test Purpose:
                                                                                       CF_011_I
with { 'the MTU on Link1 set to 1400 octets'
ensure that {
  when { QE is requested to 'send data requiring a packet
                              length greater than 1500 octets' }
  then { EUT indicates 'receipt of the same data without
                        modification' }
```

Pre-test conditions:	MTU set to 1400 octets on link1		
Step	Test Sequence	Ver	dict
-		Pass	Fail
1	Cause QE to send an Echo Request to EUT with a packet size of 1450 octets and with each octet set to the hexadecimal value "F0"		
2	Check: Does protocol monitor show that the Echo Request was sent from QE to EUT?	Yes	No
3	Check: Does QE receive an Echo Reply from EUT with the packet length the same as the Echo Request and with each octet containing the hexadecimal value "F0"?	Yes	No
Observations			

Identifier:	TD_COR_1100_02						
Summary:		JT reassembles a fragmented packet of an original length equal to 1500 octets					
Test Purpose:	TP_COR_1100_02 Reference: RQ_COR_1100 Configuration		1_I				
with { 'the MTU	on Link1 set to 1400 octets' }						
ensure that {	requested to 'send data requiring a packet						
when / QE is i	length equal to 1500 octets'						
then { EUT ind	licates 'receipt of the same data without						
(modification' }						
}	,						
Pre-test	PMTU set to 1400 octets on link1						
conditions:							
Step	Test Sequence	Verdict					
-	_	Pass	Fail				
1	Cause QE to send an Echo Request to EUT with a packet size of 1500						
	octets and with each octet set to the hexadecimal value "F0"						
2	Check: Does protocol monitor show that the Echo Request was sent	Yes	No				
	from QE to EUT?						
3	Check: Does QE receive an Echo Reply from EUT with a packet length	Yes	No				
	of 1500 octets with each octet containing the hexadecimal value						
	UI 1300 OCICIS WILLI CACLI OCICI COLLAITIILU LIIC HEXAUCCIILIAI VALUC I						

Test Description					
Identifier:	TD_COR_1101_01				
Summary:	EUT reassembles a f	ragmented packet	of an original length	greater than 1500 oc	tets
Test Purpose:	TP_COR_1101_01	Reference:	RQ_COR_1101	Configuration:	CF_011_I
	requested to 'send of length licates 'receipt of modification	th greater than the same data w	1500 octets' }		

Pre-test conditions:	PMTU set to 1400 octets on link1		
Step	Test Sequence	Ver	dict
-	·	Pass	Fail
1	Cause QE to send an Echo Request to EUT with a packet size greater than 1500 octets and with each octet set to the hexadecimal value "F0"		
2	Check: Does protocol monitor show that the Echo Request was sent from QE to EUT?	Yes	No
3	Check: Does QE receive an Echo Reply from EUT with a packet length the same as the Echo Request and with each octet containing the hexadecimal value "F0"?	Yes	No
Observations			

4.2.2 RFC 2461, Neighbor Discovery for IPv6

4.2.2.1 Generate Neighbor Discovery Messages

4.2.2.1.1 Generate Router Advertisement

		Test De	scription			
Identifier:	TD_COR_8295_0)1	•			
Summary:	EUT (as a router)	does not send Router	Advertisements out a	any interface that is	not an ac	lvertising
	interface					
Test Purpose:	TP_COR_8295_0	1 Reference:	RQ_COR_8295	Configuration:	CF_01	1_
	figured with a ur					
	figured with a mu					
and EUT 'not	configured to ha	eve any unicast add	lress' }			
Pre-test conditions:	• EUT is a ro	uter Advertisement outer with an advertising	ng interface	icast address		
Step		Test Seq			Ver	dict
232					Pass	Fail
1	Cause the EUT's	advertising interface t	o disable its advertisir	ng function		
2	Check: does t	the protocol monitor si	how that EUT sends a	Router	No	Yes
	Adver	tisement over this inte	rface?			
Observations						

4.2.2.1.1.1 Router Advertisement Behavior

4.2.2.1.1.1.1 Router Advertisement Behavior on Reconfiguration

Pre-test conditions:	 EUT configured as a router EUT configured not to send any router advertisement EUT power down 		
Step	Test Sequence	Ver	dict
-		Pass	Fail
1	Reconnect EUT to the network (power-up)		
2	Check: does the protocol monitor show that a router advertisement is sent from EUT?	No	Yes
3	Reconnect QE to the network (power-up)		
4	Check: does the protocol monitor show that a router solicitation is sent from QE?	Yes	No
5	Check: does the protocol monitor show that a router advertisement is sent from EUT to QE?	No	Yes
Observations			

```
Identifier: TD_COR_8297_01 --* NO TEST SPECIFIED *--

Summary: A disabled EUT advertising interface returns to being an advertising interface when re-enabled

Test Purpose: TP_COR_8297_01 Reference: RQ_COR_8297 Configuration: CF_011_I

with { EUT 'advertising interface disabled' }

-- such that its network interfaces ceases to be an advertising interface-

ensure that {
    when { EUT 'network interface is administratively re-enabled' }
    then { EUT 'network interface returns to being an advertising interface' }
}

Observations

This function is purely internal with no significant interoperability issues.
```

```
Test Description
                 TD_COR_8313_01 --* NO TEST SPECIFIED *--
Identifier:
Summary:
                 EUT transmits FINAL Router advertisement messages and departs from the all-routers IP multicast
                 group on all interfaces on which the EUT supports IP multicast
                                                    RQ_COR_8313
Test Purpose:
                TP_COR_8313_01 | Reference:
                                                                      Configuration:
with { EUT 'configured to support IP multicast on its two interfaces
   and EUT 'configured to act as the default router for QE1' }
ensure that {
   when { {
m EUT} 'network interface to QE1 is DISABLED from sending RA messages'
            -- but the interface is still up and operational-
      and EUT 'IP forwarding capability is DISABLED' }
   then { EUT sends 'a number of Router Advertisement messages onto the link to
                      which QE1 is attached'
            and EUT 'then leaves the all-routers IP multicast group on both interfaces' }
Observations
This function is purely internal with no significant interoperability issues.
```

```
Test Description

Identifier: TD_COR_8314_01 --* NO TEST SPECIFIED *--

Summary: When EUT becomes a Host, subsequent Neighbor Advertisements transmitted from a previously advertising interface indicate that EUT is no longer a Router

Test Purpose: TP_COR_8314_01 Reference: RQ_COR_8314 Configuration: CF_022_I

with { EUT 'Router Advertisements disabled on two previously advertising interfaces' and EUT 'has IP forwarding disabled' and EUT 'removed from all-routers IP multicast group on both interfaces' and EUT 'configured as a Host' }

ensure that {

when { EUT is requested to 'send a Neighbor Advetisement message(s) from any of
```

Test Description

Identifier: TD_COR_8315_01

Summary: When the IP forwarding capability of EUT (as a router) is disabled, subsequent Router Advertisements set the Router Lifetime field to zero

Test Purpose: TP_COR_8315_01 Reference: RQ_COR_8315 Configuration: CF_022_I with { QE1 'configured with a non link-local unicast address' and EUT 'configured with a unique non link-local unicast address on each link' and RUT 'configured with two advertising interfaces'

ELIT configured with two advertising interferen

conditions:	EOT configured with two advertising interfaces			
Step	Test Sequence	Verdict		
		Pass	Fail	
1	Disable EUT's IP forwarding capability in its advertising interfaces			
2	Check: does the protocol monitor on Link1 show that a router advertisement was sent from EUT with router lifetime = 0	Yes	No	
3	Check: does the protocol monitor on Link2 show that a router advertisement was sent from EUT with router lifetime = 0	Yes	No	
Observations				

Observations

Dro-tost

4.2.2.1.1.1.2 Startup Router Advertisement Behavior

Test Description					
Identifier:	TD_COR_8255_01 -	-* NO TEST SPEC	IFIED *		
Summary:	EUT is able to prohib Advertisements and			h sending periodic F	Router
Test Purpose:	TP_COR_8255_01		RQ_COR_8255	Configuration:	CF_011_I
with { EUT 'configured with its network interface multicast-capable' and EUT 'configured to prohibit the interface from both sending Router Advertisements and responding to Router Solicitations'					

```
Test Description
Identifier:
                 TD_COR_8255_02 --* NO TEST SPECIFIED *-
Summary:
                 EUT re-enables a multicast-capable interface to send periodic Router Advertisements after
                 previously being prohibited from doing so
                TP_COR_8255_02 Reference:
Test Purpose:
                                                    RQ_COR_8255
                                                                     Configuration:
with { EUT 'configured with its network interface multicast-capable'
   and EUT 'configured to prohibit the interface from both sending Router Advertisements
            and responding to Router Solicitations'
   and QE 'configured to send Router Solicitation messages during the (re-)initilisation
            of the network interface' }
ensure that {
   when { EUT is requested to 'enable the sending of periodic RAs' }
   then { EUT sends 'periodic Router Advertisement messages to the all-nodes
                     multicast address' }
Observations
This function is purely internal with no significant interoperability issues.
```

```
Test Description
Identifier:
               TD_COR_8255_03 --* NO TEST SPECIFIED *--
Summary:
               EUT re-enables a multicast-capable interface to respond to Router Solicitations after previously
               being prohibited from doing so
Test Purpose:
               TP_COR_8255_03 | Reference:
                                             RQ_COR_8255 | Configuration: | CF_011_I
with { EUT 'configured with its network interface multicast-capable'
  and EUT 'configured to prohibit the interface from both sending Router Advertisements
           and responding to Router Solicitations'
  ensure that {
  when { EUT is requested to 'respond to RSs'
           and EUT receives 'a Router Solicitation message' from QE
                containing 'the link-local address of QE as the source address' }
  then { EUT sends 'a Router Advertisement message' to QE }
Observations
This function is purely internal with no significant interoperability issues.
```

Pre-test conditions:	 EUT configured as an advertising router QE configured as a host 		
Step	Test Sequence	Verdict	
	·	Pass	Fail
1	Cause EUT to initialize (restart the adapter, or the whole equipment)		
2	Check: Does the protocol analyzer on Link1 show that EUT sends unsolicited multicast router advertisements at initialization?	Yes	No
3	Continue to monitor the traffic on Link1 (no more than 1800 seconds after the first router advertisement).		
4	Check: Does the protocol analyzer on Link1 show that EUT continuously sends regular unsolicited multicast router advertisements?	Yes	No
5	Cause QE to re-initialize (restart the adapter, or the whole equipment)		
6	Check: Does the protocol analyzer on Link1 show that EUT sends router advertisements in response to the Router Solicitations sent by QE?	Yes	No
Observations			•

4.2.2.1.1.2 Form Router Advertisement Options

	TD_COR_8305_01					
•	1D_CON_0303_01		-			
Summary:	During system initiali	ization, the first few i	nitial unsolicited adve	ertisements sent by	/ EUT (as	a router)
	includes all prefix op	tions				
	TP_COR_8305_01		RQ_COR_8305	Configuration:	CF_01	1_I
	figured as a route			1		
	igured with severa	_				
and EUT 'confi	igured with an adv	ertising interfac	e on link 1' }			
ensure that {						
	s initializing'}					
	nds 'Router Advert	isements'				
cont	aining 'EUT as so	urce address'				
and cont	caining 'all prefi	xes of EUT on lir	ık 1' }			
}						
Pre-test	 EUT configure 	ed as an advertising	router			
conditions:	 EUT powered 	down				
Step		Test Sequ	ence		Verd	dict
		_			Pass	Fail
1	Cause EUT to power	r-up				
2	Check: does the	protocol monitor sh	ow that EUT sends o	ne or more	Yes	No
	router ac	lvertisements, with a	Il prefixes of EUT on	link1		
Observations				•	•	

4.2.3 TP_COR_8141_01

4.2.3.1 Router Advertisement MTU OPtion

Pre-test conditions:	 EUT and QE are connected to a variable MTU link (eg: Ethernet) EUT is configured as an advertising router EUT if configured with a specific MTU value on link1 (greater than the QE and EUT are up and running 	IPv6 minimu	m value)
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Cause QE to send Router Solicitation messages (Reset the network interface, restart QE,)		
2	Check: does the protocol monitor on Link1 show that the MTU option <u>IS</u> included in the Router Advertisement messages sent by EUT?	Yes	No
Observations			

Test Description					
Identifier:	TD_COR_8317_01 -	-* NO TEST SPECI	FIED *		
Summary:	EUT unicasts a Rout	er Advertisement m	essage to a soliciting	g node	
Test Purpose:	TP_COR_8317_01	Reference:	RQ_COR_8317	Configuration:	CF_011_I
	igured to advertis		outer'		
and QE 'conf	igured as a host'	}			
<pre>ensure that { when { EUT receives 'a Router Solicitation message' from QE</pre>					
Observations This function is pur	rely internal with no sig	nificant interoperab	ility issues.		

4.2.3.1.1 Generate Router Solicitation

		Test D	escription			
Identifier:	TD_COR_8375_01		-			
Summary:	Routers becoming H	losts send RS me	ssages immediately			
Test Purpose:	TP_COR_8375_01	Reference:	RQ_COR_8375	Configuration	: CF_01	I1_I
with { EUT 'ope	rating as a router'	}				
	has its forwarding ends 'a Router Soli			anagement'}		
Pre-test conditions:	EUT establish	hed as a router				
Step		Test Se	quence		Ver	dict
					Pass	Fail
1			ange EUT from being a			
1 2	being a host by turni Check: does the p	ing off the IP forwa	rding capability of EUT Link1 show that EUT	Г.	Yes	No

4.2.3.1.2 Generate Neighbor Advertisement

4.2.3.1.2.1 Generate Unsolicited Neighbor Advertisements

```
Test Description
Identifier:
                TD_COR_8471_01 --* NO TEST SPECIFIED
Summary:
               EUT announces change of link-layer address associated with a single IP address
Test Purpose: | TP_COR_8471_01 | Test Purpose: | TP_COR_8471_01 | Configuration | CF_021_I
with { EUT 'configured with a single IP address assigned to its interface to
            QE1 and QE2' }
ensure that {
  when { EUT is requested to 'change link-layer address on interface to
                               QE1 and QE2' }
   then { EUT 'is able to address QE1'
      and EUT 'is able to address QE2'
      and QE1 'is able to address EUT'
      and QE2 'is able to address EUT' }
Observations
```

```
Test Description
              TD_COR_8476_01 --* NO TEST SPECIFIED *-
Identifier:
             Summary:
Test Purpose:
                                                                             CF 021 I
with { EUT 'configured with two IP addresses assigned to its interface to
          QE1 and QE2' }
ensure that {
  when { EUT is requested to 'change link-layer address on interface to
                           QE1 and QE2' }
  then { EUT 'is able to address QE1'
     and EUT 'is able to address QE2'
     and QE1 'is able to address EUT on both available IP addresses'
     and QE2 'is able to address EUT on both available IP addresses' }
Observations
```

4.2.3.1.3 Generate Redirect Message

4.2.3.1.3.1 Determine Redirect Target Address Field

```
Test Description
Identifier:
                 TD COR 8183 01
Summary:
                 Router sends a Redirect message indicating that the destination of a packet is a neighbor
                TP_COR_8183_01 Reference:
Test Purpose:
                                                   RQ_COR_8183
                                                                    Configuration:
                                                                                      CF 021 I
with { EUT 'configured as a non advertizing router
 and EUT 'configured with global addresses on PREFIX1 and PREFIX2'
 and QE2 'configured as a host'
 and QE2 'configured manually with a global address on PREFIX2'
 and QE1 'configured as a host'
 and QE1 'configured manually with a global address on PREFIX1'
 and QE1 'configured manually with EUT as default route'
 and 'EUT and QE2 have finished to perform DAD before QE1 is started' }
ensure that {
  when { EUT receives 'a packet' from QE1 containing 'QE2 as destination'}
   then { EUT sends 'a Redirect message' to QE1
         containing 'Target Address field equal to the address of QE2' }
```

Pre-test conditions:	 EUT configured as a non advertising router. EUT is configured with global addresses on Prefix1 and on Prefix2 QE2 configured as a host QE2 is configured MANUALLY with a global address on Prefix2 (no st QE2 and EUT are on the same link and have performed Duplicate Address on QE1 configured as a host QE1 is configured MANUALLY with a global address on Prefix1 (no st QE1 is configured MANUALLY with EUT as default router QE1 is not Started/Connected to link1 (adapter is either disabled or ph 	dress Detect ateless auto	config)
Step	Test Sequence Verdict		
		Pass	Fail
1	Cause QE2 to send an Echo Request to EUT (this ensures that EUT 'knows' QE2 and has its address in its cache)		
2	Check: does QE2 receive an Echo Reply from EUT?	Yes	No
3	Cause QE1 to connect to link1 (enable the adapter or connect it physically to Link1)		
4	Cause QE1 to send an Echo Request to QE2 using the QE2 address on Prefix2.		
5 Observations	Check: does the protocol analyser on Link1 show that EUT sends an ICMP Redirect Message to QE1 with QE2 address as "ICMP Target Address" and "ICMP Destination Address"?	Yes	No

4.2.4 TP_COR_8546_01

4.2.4.1 Process Neighbor Discovery Messages

4.2.4.1.1 Process Router Advertisement

	Test Description		
Identifier:	TD_COR_8348_01		
Summary:	EUT sets corresponding invalidation timer as the non-zero Router Lifetime va	alue indicated	l in a
	received Router Advertisement from a router		
Test Purpose:	TP_COR_8348_01 Reference: RQ_COR_8348 Configuration	n: CF_02	23_I
	figured as a host with a unique link-local address'		
and QE2 'con	figured as a host with a unique link-local address'}		
ensure that {			
,	eceives 'Router Advertisement' from QE1		
cont	aining 'a non-zero value in the Router Lifetime field'		
}			
,	is able to communicate with QE2' Before 'the advertized Router Li	_	
and EUT	is unable to communicate with QE2' $after$ 'the advertized Router L.	lietime nas	expirea
Pre-test	QE1 configured as a default router for EUT		
conditions:	QE1 configured with a 30s router lifetime		
	EUT configured as a host		
	QE1 powered off		
Step	Test Sequence	Ver	dict
Otop	rest ocquence	Pass	Fail
1	power on QE1	1 400	
	Cause EUT to send an echo request to QE2		
	Check: did EUT receive an Echo Reply from QE2?	Yes	No
2	Prevent QE1 from sending further router advertisements.		
	Wait at least 30 seconds		
	Cause EUT to send an echo request to QE2		
3	Check: does EUT refuse to send the Echo Request?	Yes	No
Observations		•	

4.2.4.1.1.1 Host Processing of Router Advertisement

```
Test Description
                  TD_COR_8231_01---* TESTED BY TD_COR_8232_01 *---
Identifier:
Summary:
                  EUT uses at least two of the connected routers as its default routers
Test Purpose: TP_COR_8231_01 Reference: RQ_COR_8231 with { QE1 'configured with one unique unicast address on each link'
                                                                           Configuration:
                                                                                               CF_033_I
   and QE2 'configured with one unique unicast address on each link'
   and EUT 'able to communicate with QE3'
}
ensure that {
   when { QE1 'becomes unavailable as a router'
       or QE2 'becomes unavailable as a router'
      and EUT is requested to 'send a packet to QE3' }
   then { QE3 indicates 'the receipt of the packet' }
Pre-test
conditions:
                         EUT is able to communicate with QE3
      Step
                                              Test Sequence
                                                                                                   Verdict
                                                                                              Pass
                                                                                                          Fail
Observations
```

	Test Description		
Identifier:	TD_COR_8343_01		
Summary:	EUT uses only latest advertised parameters and options from Router		
Test Purpose:	TP_COR_8343_01 Test Purpose: TP_COR_8343_01 Configuration	on CF	033_I
	figured to advertise a MTU value of 1450 on Link1'		
	figured to advertise a MTU value of 1400 on Link1'		
and EUT Con	figured as a host' }		
<pre>ensure that {</pre>			
•	eceives 'Router Advertisement'		
	taining 'different MTU parameter values' }	1	
then { EUT '	uses the value of the most recently received Router Advertisement'	}	
Pre-test	QE1 configured to advertise a MTU value of 1450 on Link1		
conditions:	QE2 configured to advertise a MTU value of 1400 on Link1		
	QE1 and QE2 disconnected of link1 and link2		
Step	Test Sequence	1	/erdict
Olop	Tool ooquonoo	Pass	Fail
1	Connect QE1 to both links	1 4.55	
2	Check: Does protocol monitor show that a Router Advertisement was	Yes	No
	sent by QE1?		
3	Cause EUT to send an echo request with a total size of 1425 to QE3		
4	Check: Does EUT receive an echo reply from QE3?	Yes	No
5	Configure QE1 to be a host		
6	Connect QE2 to both links		
7	Check: Does protocol monitor show that a Router Advertisement was	Yes	No
	sent by QE2?		
8	Cause EUT to send an echo request with a total size of 1425 to QE3		
9	Check: Does EUT receive a Packet Too Big message from QE2?	No	Yes
10	Check: Does QE3 receive an echo reply from EUT?	Yes	No
Observations			

Test Description						
Identifier:	TD_COR_8347_01					
Summary:	EUT adds newly advertised router to its default list					
Test Purpose:	TP_COR_8347_01 Test Purpose: TP_COR_8347_01 Configuration CF_041_I					
with { QE1 'est	tablished as a default router for EUT'					
and QE2 'est	tablished as a default router for EUT'					
and QE3 'not	t established as a default router for EUT'					

```
and QE4 'configured with a global unicast address' }
ensure that {
   when { EUT receives 'Router Advertisement' from 'QE3' }
-- QE3 is now taken as a default router for EUT
   then { EUT 'is able to address QE4' }
Pre-test
                         QE1 and QE2 both established as default routers for EUT
conditions:
                         QE3 not established as a default router for EUT
                                                                                                       Verdict
                                                Test Sequence
     Step
                                                                                                  Pass
                                                                                                              Fail
      P1
                  Cause EUT to send an echo request to the Global address of QE4
      P2
                     Check: Does EUT receive an echo reply from QE4?
                                                                                                   No
                                                                                                              Yes
                  Cause QE3 to send a Router Advertisement to EUT indicating that is now a
       3
                  default router for EUT
       4
                  Cause EUT to send an echo request to the Global address of QE4
                     Check: Does protocol monitor show that an echo request was sent from
       5
                                                                                                   Yes
                                                                                                               No
                              EUT to QE4?
                    Check: Does EUT receive an echo reply from QE4?
       6
                                                                                                   Yes
                                                                                                               No
Observations
```

Test Description						
Identifier:	TD_COR_8347_02					
Summary:	EUT removes router fr	om its default list a	fter Router Lifetime exp	oires		
Test Purpose:	TP_COR_8347_02		TP_COR_8347_02	Configuration	n CF_0	41_I
	ablished as a defaul					
	ablished as a defaul					
-	established as a defigured with a globa					
QE3 and con ind then { EUT ' and EUT ' }	eceives 'Router Adve is now taken as a ditaining 'Router Life icating 'a specifor s is able to address is unable to address. • QE1 and QE2 is	default router for etime parameter' short lifetime of DE4' within 'the s QE4' after 'the	or EUT f QE3' }suggest specified router 1	ifetime' lifetime' }		
conditions:	 QE3 not established 	ished as a default r	outer for EUT			
Step		Test Sequ	ience		Ver	dict
		•		-	Pass	Fail
P1	Cause EUT to send ar	n echo request to th	e Global address of Q	E4		
P2	Check: Does EUT	receive an echo re	ply from QE4?		No	Yes
3	Cause QE3 to send a	Router Advertisem	ent to EUT indicating the	nat is now a		
	default router for EUT					
4	Immediately cause EU QE4	IT to send an echo	request to the Global a	address of		
5	Check: Does proto EUT to QE		hat an echo request wa	as sent from	Yes	No
6	Check: Does EUT	receive an echo re	ply from QE4?		Yes	No
7	Wait for 2 minutes					
<i>I</i>	vvail ioi 2 minutes					
8	Cause EUT to send ar			E4		
				E4	No	Yes

Test Description							
Identifier:	TD_COR_8349_01						
Summary:	EUT removes router from	om default list whe	n zero value Router Lif	etime received			
Test Purpose:	TP_COR_8349_01	Test Purpose:	TP_COR_8349_01	Configuration	CF_023_I		
Test Purpose: TP_COR_8349_01 Test Purpose: TP_COR_8349_01 Configuration CF_023_I with { QE1 'established as the only default router for EUT' and EUT 'is able to communicate with QE2' }							

```
ensure that {
   when { EUT receives 'Router Advertisement' from QE1 containing 'Router Lifetime parameter'
             indicating 'zero lifetime of QE1' }
   then { EUT 'is unable to address QE2' }
Pre-test
                         QE1 established as the only default router for EUT
conditions:
     Step
                                                Test Sequence
                                                                                                      Verdict
                                                                                                 Pass
                                                                                                             Fail
      P1
                  Cause EUT to send an echo request to the Global address of QE2
      P2
                     Check: Does protocol monitor show that an echo request was sent from
                                                                                                              No
                                                                                                  Yes
                              EUT to QE2?
      P3
                     Check: Does EUT receive an echo reply from QE2?
                                                                                                  Yes
                                                                                                              No
                  Cause QE1 to send a Router Advertisement to EUT with a Router Lifetime of
       4
                  zero
       5
                  Cause EUT to send an echo request to the Global address of QE2
       6
                     Check: Does EUT receive an echo reply from QE2?
                                                                                                  No
                                                                                                             Yes
Observations
```

		Test Des	cription		
Identifier:	TD_COR_8360_01	No Test	specified		
Summary:	EUT treats a known ro	uter-advertised pre	fix as on-link for the sp	ecified lifetime	
Test Purpose:	TP_COR_8360_01	Test Purpose:	TP_COR_8360_01	Configuration	CF_023_I
with { QE1 'conf	igured with a speci	fic prefix (Pref	ix-1) on the link	to QE2'	
and QE1 'esta	blished as the defa	ult router for H	EUT '		
and QE1 'has	advertised Prefix-1	as on-link to H	EUT with a long lif	etime' }	
<pre>ensure that {</pre>					
when { EUT re	ceives 'Router Adve	rtisement' from	QE1		
cont	aining 'Prefix opti	ons'			
indi	.cating 'Prefix-1 is	on-link'			
and cont	aining 'prefix opti	ons'			
indi	.cating 'Prefix-1 ha	s a Lifetime les	ss than the existin	.g value' }	
	suggest 2	minutes			
then { EUT 'i	s unable to address	QE2' within 'th	ne specified prefix	: lifetime'	
and EUT 'i	s able to address Q	E2' after 'the s	specified prefix li	fetime' }	
}					
Observations: Cor	nflicts with RQ_COR_	1315 and RQ CO	R 1317		

	Test Description			
Identifier:	TD_COR_8346_01			
Summary:	Hosts accept at least 2 default routers			
Test Purpose:	TP_COR_8346_01 Reference: RQ_COR_8346 Configur	ation:	CF_02	1_l
	figured as an advertising router with a valid prefix1'			
and QE2 'conf	figured as an advertising router with a valid prefix2' }			
ensure that {				
	eceives 'Router Advertissement' from QE1			
•	eceives 'Router Advertissement' from QE2 }			
	adds QE1 and QE2 to its default router list' }			
}				
Pre-test	QE1 is a router and advertises Prefix1			
conditions:	QE2 is a router and advertises Prefix2			
	EUT is a host			
Step	Test Sequence		Verd	lict
-	·	F	Pass	Fail
1	Cause EUT to re-initialize			
2	Wait until the protocol monitor on Link1 shows that QE1 and QE2 have s	sent		
	Router Advertisements (either solicited RA to EUT or unsolicited multica			
	RA).			
3	Check: Did EUT add QE1 and QE2 in its Default Router List?		Yes	No
Observations				

4.2.4.1.1.2 Discover Neighbor by Router Advertisement

	Test Description						
Identifier:	TD_COR_8359_01						
Summary:	EUT treats a new router-advertised prefix as on-link for the specified lifetime						
Test Purpose:	TP_COR_8359_01	n CF_0	23_I				
and EUT 'cor	figured with a specific prefix (Prefix-1) on the link to EUT' nfigured with Prefix-1 as off-link' nually configured with two global unicast addresses corresponding to	Prefix-1	}				
cor inc and cor inc then { EUT	receives 'Router Advertisement' from QE1 ntaining 'Prefix options' dicating 'Prefix-1 is on-link' ntaining 'prefix options' dicating 'Prefix-1 has a Lifetime of a specifc short period' }suggest 2 minutes 'is unable to address QE2' within 'the specified prefix lifetime' 'is able to address QE2' after 'the specified prefix lifetime'						
D							
conditions:	 A valid global prefix (Prefix-1) is configured in QE1 for its link to EUT QE2 is configured with two global unicast addresses corresponding to Prefix-1 configured as off-link in EUT 		P. A				
	QE2 is configured with two global unicast addresses corresponding to Pi	Ver	dict				
Step	QE2 is configured with two global unicast addresses corresponding to Perefix-1 configured as off-link in EUT Test Sequence						
conditions:	 QE2 is configured with two global unicast addresses corresponding to P Prefix-1 configured as off-link in EUT 	Ver					
Step	QE2 is configured with two global unicast addresses corresponding to P Prefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from EUT to QE2?	Ver Pass	Fail				
Step P1 P2	QE2 is configured with two global unicast addresses corresponding to P Prefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from	Ver Pass Yes	Fail No				
Step P1 P2 P3	QE2 is configured with two global unicast addresses corresponding to P Prefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from EUT to QE2? Check: Does EUT receive an echo reply from QE2? Cause QE1 to send a Router Advertisement to EUT indicating that Prefix-1 is	Ver Pass Yes	Fail No				
Step P1 P2 P3 4	QE2 is configured with two global unicast addresses corresponding to P Prefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from EUT to QE2? Check: Does EUT receive an echo reply from QE2? Cause QE1 to send a Router Advertisement to EUT indicating that Prefix-1 is "on-link" with a lifetime of 2 minutes Immediately cause EUT to send an echo request to the second global	Ver Pass Yes	Fail No No				
Step P1 P2 P3 4 5	QE2 is configured with two global unicast addresses corresponding to P Prefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from EUT to QE2? Check: Does EUT receive an echo reply from QE2? Cause QE1 to send a Router Advertisement to EUT indicating that Prefix-1 is "on-link" with a lifetime of 2 minutes Immediately cause EUT to send an echo request to the second global address of QE2	Yes Yes	Fail No				
Step P1 P2 P3 4 5	QE2 is configured with two global unicast addresses corresponding to Perefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from EUT to QE2? Check: Does EUT receive an echo reply from QE2? Cause QE1 to send a Router Advertisement to EUT indicating that Prefix-1 is "on-link" with a lifetime of 2 minutes Immediately cause EUT to send an echo request to the second global address of QE2 Check: Does EUT receive an echo reply from QE2?	Yes Yes	Fail No No				
P1 P2 P3 4 5	QE2 is configured with two global unicast addresses corresponding to Perefix-1 configured as off-link in EUT Test Sequence Cause EUT to send an echo request to the first global address of QE2 Check: Does protocol monitor show that an echo request was sent from EUT to QE2? Check: Does EUT receive an echo reply from QE2? Cause QE1 to send a Router Advertisement to EUT indicating that Prefix-1 is "on-link" with a lifetime of 2 minutes Immediately cause EUT to send an echo request to the second global address of QE2 Check: Does EUT receive an echo reply from QE2? Wait for 2 minutes	Yes Yes	Fail No No				

Test Description						
Identifier:	TD_COR_8361_01	No Test s	pecified			
Summary:	EUT times-out an exis	ting router-advertise	ed prefix with a zero lif	etime		
Test Purpose:	TP_COR_8361_01	Test Purpose:	TP_COR_8361_01	Configuration	CF_023_I	
with { QE1 'con	figured with a speci	fic prefix (Pref	ix-1) on the link	to QE2'		
and EUT 'con	figured with Prefix-	-1 as on-link' }				
ensure that {						
	eceives 'Router Adve	rtigomont! from	OF1			
•	taining 'Prefix opti		QET.			
	icating 'Prefix-1 is					
	taining 'prefix opti					
	icating 'Prefix-1 ha		zero! }			
	is able to address (2010)			
then then	is able to address y	5EZ }				
01		4045 I BO 00	D 4047			
Observations: Co	onflicts with RQ_COR_	_1315 and RQ_CO	R_1317			

4.2.4.1.2 Process Router Solicitation

			Test De	scription			
dentifier:	TD_COR_	8299_01					
Summary:	EUT does	not send r	outer advertisemer	its out the functionin	g and enabled mu	Iticast interf	ace
Test Purpose:	TP_COR_	8299_01	Reference:	RQ_COR_8299	Configuration	: CF_0	11_l
•	-		-	ith a unicast add	dress on link 1	1	
<pre>and QE 'confi</pre>	igured with	ı a unica	st address on li	nk 1'			
then { QE inc	dicates 're	eceipt of	a Router Solici a Router Advert urce address' }	tation to all-rouisement'	uters multicast	address'}	
Pre-test	• FU	T configure	ed as an advertising	n router			
conditions:		-	d as a host	<i>y</i> . • w. • .			
		•	E from the network				
Step			Test Sequ	uence		Vei	dict
•			•			Pass	Fail
1	Connect C	E to the ne	etwork				
2	Check:		protocol monitor sh QE to all-routers r	now that a router sol multicast address?	icitation was	Yes	No
3	Check:		protocol monitor sh	now that a router adv	ertisement was	Yes	No
Observations		oon non	. 207 to Q2.		<u> </u>		

		Test Des	scription		
Identifier:	TD_COR_8328_01				
Summary:	Router Solicitation do	update Neighbor (Cache entries		
Test Purpose:	TP_COR_8328_01	Reference:	RQ_COR_8328	Configuration:	CF_023_I
with { QE1 'conf	igured as an adver	tizing router on	link1 and link2'		
and QE1 'confi	gured with a globa	l address on eacl	n link'		
and QE2 'a sta	teless autoconfigu	ration capable h	ost on link2'		
and EUT 'confi	gured as a non adv	ertizing router (on link1'		
and EUT 'confi	gured with a globa	l address on linl	<1'		
and 'all n	odes can communica	te with each othe	er' }		
•	cceives 'a valid Ro aining 'a Source L				
	.cating 'a Link-Lay address fo	er address diffe		l Link-Layer	
then { EUT 'm	makes no attempt to	verify the reach	nability of QE1 ur	ntil traffic is	
s	ent to QE1'				
and EUT 'ບ	ises the new Link-L	ayer address for	subsequent commun	nication' }	
}					

Pre-test conditions:	QE1 is configured as an advertising router on both links, and has a manually configured global address.				
	 QE2 is configured as a stateless auto configurable host. EUT is configured as a non advertising router (i.e. EUT does not send Advertisements), and has a global address configured manually. Every node can reach all other nodes 	Router			
Step	Test Sequence		dict		
		Pass	Fail		
1	Disconnect QE1 physically from Link1 (unplug/isolate QE1 from Link1).				
2	Once disconnected from Link1, re-configure QE1 as a host				
3	Change the link-layer address of the QE1 network interface that corresponds to Link1 (do not change the global address)				
4	Re-connect QE1 physically to Link1				
5	Cause the Network Interface of QE1 on Link1 to send Router Solicitations (initialize or re-enable the Network Interface).				
6	Check: does the protocol analyser on Link1 show that NO unicast Neighbor Solicitation messages have been sent by EUT to QE1 (i.e. EUT makes no attempt to verify the reachability of QE1)?	Yes	No		
7	Cause EUT to send several Echo Requests to QE1				
8	Check: does the protocol analyser on Link1 show that EUT sent unicast Neighbor Solicitation to QE1 (i.e. EUT verified the reachability of QE1) before to send the first Echo Request?	Yes	No		
9	Check: does the protocol analyser on Link1 show that EUT uses the new Link-layer address of QE1 for the subsequent Echo-Requests?	Yes	No		
Observations					

Test Description						
Identifier:	TD_COR_8328_02	 No test s 	pecified			
Summary:	Router Solicitation ar	e sent by hosts only	i .			
Test Purpose:	TP_COR_8328_02	Reference:	RQ_COR_8328	Configuration:	CF_02	23_I
	igured as an adver					
	gured with a globa					
-	teless autoconfigu:	_				
	gured as a non adv	_				
	gured with a global					
and 'all n	odes can communica	te with each othe	r'}			
cont indi then { EUT 'n }	ceives 'a valid Romaining 'a Source Locating 'a Link-Laye address for the considers	ink Layer option' er address differ c QE1'}	ent to the cached	l Link-Layer		
Pre-test	•					
conditions:						
Step		Test Sequ	ence		Ver	dict
					Pass	Fail
Observations: it is	impossible to specify	an Interoperability to	est for this Test Purp	ose.		

Pre-test conditions:	 EUT is configured as an advertising router, and has a manually config QE is a host configured to perform Stateless Autoconfiguration QE is disabled and unknown from EUT (i.e. QE has never been connected than the EUT has since performed to the connected to	ected to Link	1, or if it
Step	Test Sequence	Pass	dict Fail
1	Connect QE physically to Link1	1 433	i ali
2	Initialize QE		
3	Check: does the protocol analyser on Link1 show that QE sends Router Solicitation message(s)	Yes	No
4	Check: does the protocol analyser on Link1 show that NO unicast Neighbor Solicitation messages have been sent by EUT to QE (i.e. EUT makes no attempt to verify the reachability of QE)?	Yes	No
5	Cause EUT to send an Echo Requests to QE1		
6	Check: does the protocol analyser on Link1 show that EUT sent unicast Neighbor Solicitation to QE (i.e. EUT verified the reachability of QE1)?	Yes	No
Observations		•	•

Test Description						
Identifier: TD_COR_8330_01 No Test Specified						
Summary: A node sending a Router Solicitation can only be considered as a host						
Test Purpose:	TP_COR_8330_01	Reference:	RQ_COR_8330	Configuration	: CF_02	23_I
with { QE2 'configured with a unique global unicast address' and QE1 'configured with one unique global unicast address on each link' and QE1 'able to communicate with QE2' } ensure that { when { EUT receives 'a valid Router Solicitation' from QE1 containing 'a unicast address as source address' and not containing 'a source link-layer address option' } then { EUT 'no longer considers QE1 as a router' }						
Pre-test conditions:	QE1 is able to	ed as default route communicate with warding capability wn Test Seq	QE2 of QE1		Ver	dict
Otep		i est seq	uciio c		Pass	Fail
Observations: imp	oossible to specify an in	teroperability test	for this Test Purpose	<u> </u>	. 250	

4.2.4.1.2.1 Discover Neighbor by RS

4.2.4.1.3 Process Neighbor Advertisement

```
Test Description
Identifier:
                  TD_COR_8469_01
Summary:
                  A host receiving a Neighbor Adv. from a machine it considers as a router, with the IsRouter flag set
                  to FALSE, will revove that router from its Default Router list
Test Purpose:
                 TP_COR_8469_01 Reference:
                                                       RQ_COR_8469
                                                                         Configuration:
                                                                                            CF_023_I
with { EUT 'configured as a Host
  and QE1 'configured as a Router'
  and QE2 'configured as a Host'
and EUT 'can reach QE2' }
ensure that {
   when { QE1 'is physically disconnected from both links'
      and QE1 'is re-configured as a host'
                this is done off-line, + IPv6 @ is configured manually (no autoconfig)
      and QE1 'is re-connected to both links'
      and EUT receives 'a Neighbor Advertissement' from QE1}
   then { EUT 'removes QE1 from its Default Router list' }
```

Pre-test conditions:	 EUT and QE2 are configured as hosts QE1 is configured as a router 		
Step	EUT can reach QE2 Test Sequence	Ver	dict
0.0p	1000004.00.00	Pass	Fail
1	Cause QE1 to send an Echo Request to QE2		
1	Check: Does EUT receive an echo reply from QE2?	Yes	No
2	Cause QE1 to be physically disconnected from both links		
3	Re-configure QE1 offline as a host, ensure that the IP addresses on both interface will remain identical as they were when QE1 was a router, these addresses will have to be configured manually (no auto-configuration).		
4	Cause QE1 to be physically re-connected to both links		
5	Wait a few seconds (until Duplicate Address Detection is finished)		
6	Cause QE1 to send an Echo Request to QE2		
7	Check: Does EUT receive an echo reply from QE2?	No	Yes
Observations			

4.2.4.1.4 Process Neighbor Solicitation

4.2.4.1.4.1 Generate Solicited Neighbor Advertisement

			Test Des	scription			
Identifier:	TD_COR_81	162_01					
Summary:	In response	to a valid	Neighbor Solicitat	ion with a specified	d source addres	s, EUT tran	smits a
	Neighbor Ad	lvertisem	ent to that address	•			
Test Purpose:	TP_COR_81	62_01	Reference:	RQ_COR_8162	Configura	tion: Cl	=_011_I
			ue unicast addre			•	
and EUT 'cont	figured with	a uniqu	ue unicast addre	ss' }			
then { EUT se	t aining 'QE a ends 'a Neigl	as sourd hbor Adv	ighbor Solicitat ce address' } vertisement' to				
Pre-test	()⊢ n/	annar dan	vin				
conditions:	QL pi	ower dov	VII				
conditions:	QL P	ower dov	Test Sequ	ience			Verdict
	QL pi	ower dov		ience		Pass	
	QE power or			ience		Pass	
	QE power or	า	Test Sequ		r solicitation wa		Fail
Step 1	QE power or Check: C	n does the p sent from does the p	Test Sequ	now that a neighbo		s Yes	S Fail No

Identifier: TD_COR_8163_01	Test Description					
Neighbor Advertisement to all-node multicast address Test Purpose: TP_COR_8163_01 Reference: RQ_COR_8163 Configuration: CF_011_I with { QE 'configured with the same unicast address as EUT' = } ensure that { when { EUT receives 'a DAD Neighbor Solicitation' From QE	Identifier:	TD_COR_8163_01				
<pre>with { QE 'configured with the same unicast address as EUT'</pre>	Summary:	-	•	•	ed source address, E	UT transmits a
<pre>ensure that { when { EUT receives 'a DAD Neighbor Solicitation' From QE</pre>	Test Purpose:	TP_COR_8163_01	Reference:	RQ_COR_8163	Configuration:	CF_011_I
<pre>containing 'the unspecified address as source address' } then { EUT sends 'a Neighbor Advertisement to the all-node multicast address' }</pre>	ensure that { when { EUT recont	eceives 'a DAD Neig	hbor Solicitation	n' From QE source address'	,	

Pre-test conditions:	QE is disconnected from the network			
Step	Test Sequence	Verdict		
-	·	Pass	Fail	
1	Connect QE to link1			
2	Check: does the protocol monitor show that a neighbor solicitation was sent with unspecified address as source address?	Yes	No	
3	Check: does the protocol monitor show that a neighbor advertisement was sent from EUT to the all-node multicast address?	Yes	No	

Identifier:	TD_COR_8179_01		
Summary:	EUT responds to received Neighbor Solicitation with a multicast destination ac	ddress	
Test Purpose:	TP_COR_8179_01 Reference: RQ_COR_8179 Configuration		11_I
vith { QE 'cont	figured with a unique global unicast address'		
and EUT 'cont	figured with a unique global unicast address' }		
ensure that {	eceives 'a valid Neighbor Solicitation'		
	taining 'a multicast address as destination address' }		
	- ,		
then { EUT se	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' }		
then { EUT se	ends 'a Neighbor Advertisement'		
then { EUT se contain }	ends 'a Neighbor Advertisement'		
then { EUT se contain } Pre-test	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' }		
then { EUT se contain } Pre-test	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' }	Ver	dict
then { EUT secontain } Pre-test conditions:	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' } • QE is disconnected from the network	Ver Pass	dict Fai
then { EUT secontain } Pre-test conditions:	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' } • QE is disconnected from the network		
then { EUT secontain } Pre-test conditions: Step	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' } • QE is disconnected from the network Test Sequence		
then { EUT secontain } Pre-test conditions: Step	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' } • QE is disconnected from the network Test Sequence Connect QE to the network and send an Echo Request to EUT	Pass	Fai
then { EUT secontain } Pre-test conditions: Step	ends 'a Neighbor Advertisement' ning 'a target link-layer address option' } • QE is disconnected from the network Test Sequence Connect QE to the network and send an Echo Request to EUT Check: does the protocol monitor show that a neighbor solicitation was	Pass	Fai
then { EUT secontain } Pre-test conditions: Step 1 2	Pends 'a Neighbor Advertisement' ning 'a target link-layer address option' } QE is disconnected from the network	Pass Yes	Fai No

Pre-test conditions:	QE disconnected from the network			
Step	Test Sequence	Verdict		
-		Pass	Fail	
1	Connect QE to the network, and immediately send an echo request to EUT			
2	Check: does the protocol monitor show that a neighbor solicitation was sent by QE to EUT?	Yes	No	
3	Check: does the protocol monitor show that a neighbor advertisement was sent from EUT to QE, containing a target link-layer address option?	Yes	No	

```
4.2.4.1.4.2 Process Proxy NS
4.2.4.1.5 Process Redirect Message
4.2.4.1.5.1 Host Processing of Redirect Message
4.2.4.1.5.2 Discover Neighbor by Redirect Message
```

4.2.4.2 Next Hop Determination

		Test D	escription			
ldentifier:	TD_COR_8232_01					
Summary:	EUT uses next-hop	determination to s	elect a new default rou	ter		
Test Purpose:	TP_COR_8232_01		RQ_COR_8232	Configuration:	CF_03	33_I
			ddress on each link			
			ddress on each link	1		
and EUT abl	e to communicate wi	th QE3'				
}						
ensure that {						
, -	becomes unavailable					
~	becomes unavailable					
	s requested to 'sen	_	,			
tnen { QE3 1	ndicates 'the recei	pt of the pack	et' }			
Pre-test	OF1 establish	ned as a default ro	outer for FUT			
conditions:		ned as a default ro				
		nected from link1				
		o communicate w				
Step	LOT IS ABIC II	Test Se		<u> </u>	Vor	dict
Otep		1631 06	quence	-	Pass	Fail
1	Cause EUT to send	an echo request t	0 OE3		1 433	ı an
	Oddoo Eo i to oond			2)		
2	Determine which rou	iter the traffic flow	s through (OF1 or OF2	/)		
2			s through (QE1 or QE2	2).		
3	Reconfigure the rout	er identified in ste	p 2 to be a host.	<u>2</u>).		
	Reconfigure the rout Cause EUT to send	er identified in ste an echo request t	p 2 to be a host.	2).	Yes	No

Test Description					
Identifier:	TD_COR_8356_01	Not Testable			
Summary:	EUT knows how to tr	eat an off-link prefix			
Test Purpose:	TP_COR_8356_01	Reference:	RQ_COR_8356	Configuration:	CF_023_I
with { QE1 'conf	igured as the defa	ult Router for EU	JT '		
and QE1 'configured to advertise an off-link prefix onto the link to which EUT					
is attached'					
and QE2 'conf	igured with one un	ique non link-loc	cal address, whose	e prefix is the	
one	QE1 advertises to	EUT as an off-lir	nk prefix'		

Observations: by default all prefixes are considered off-link, hence it is not possible to specify an interoperability test for this Test Description.

4.2.5 TP_COR_8364_01

4.2.5.1 Neighbor Uneachability Detection

4.2.5.1.1 Neighbor Reachability Determination

	Test Description		
Identifier:	TD_COR_8147_01		
Summary:	EUT performs neighbor reachability test		
Test Purpose:	TP_COR_8147_01 Reference: RQ_COR_8147 Configuration	n: CF_01	1_
	figured with a unique unicast address'		
	figured with a unique unicast address'		
and EUT 'una	ware of the link layer address of QE' }		
ensure that {			
•	s requested to 'send a packet to QE' }		
then { EUT s	ends 'a Neighbor Solicitation' to QE}		
}			
Pre-test	QE is not in EUT's neighbour list		
Pre-test	,		
Pre-test conditions:	QE is not in EUT's neighbour list	Ver	dict
Pre-test	QE is not in EUT's neighbour list EUT disconnected from the network	Ver Pass	dict Fai
Pre-test conditions:	QE is not in EUT's neighbour list EUT disconnected from the network Test Sequence		
Pre-test conditions:	QE is not in EUT's neighbour list EUT disconnected from the network Test Sequence Connect EUT to the network and immediately cause it to send an echo		
Pre-test conditions: Step	QE is not in EUT's neighbour list EUT disconnected from the network Test Sequence Connect EUT to the network and immediately cause it to send an echo request to QE	Pass	Fai
Pre-test conditions:	QE is not in EUT's neighbour list EUT disconnected from the network Test Sequence Connect EUT to the network and immediately cause it to send an echo		

4.2.5.2 Address Resolution

```
Test Description
Identifier:
                 TD_COR_8415_01
Summary:
                 Address Resolution for an on-link destination addresses, the destination Link-Layer address is
                 unknown
Test Purpose:
                 TP_COR_8415_01 | Reference:
                                                    RQ_COR_8415
                                                                     Configuration:
with { EUT 'manually configured with the same global prefix as QE'
ensure that {
   when { EUT 'is initialized'-i.e.: to ensure the EUT ignores link-layer address of QE
      and EUT 'tries to contact QE for the first time via its GLOBAL ADDRESS' }
   then { EUT sends 'Neighbor Solicitation messages'
                 to 'the Solicited Node Multicast address of QE' }
```

Pre-test conditions:	 QE and EUT are configured each with one global address. Both addresses are on the same prefix. QE is up and running EUT is not started 		
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Cause EUT to initialize		
2	Cause EUT to send an Echo Request to the global address of QE		
3	Check: does the protocol monitor on Link1 show that EUT did send a Neighbor Solicitation message to the Solicited Node Multicast address of QE (i.e. EUT performed address resolution on the address of QE).	Yes	No
Observations	· · · · · · · · · · · · · · · · · · ·	•	•

Summary: No ar Test Purpose: TP_C with { QE1 'configure and QE1 'configure and QE2 'configure and EUT 'configure and EUT 'starts then { EUT 'never the So i.e.: } Pre-test conditions: 1 Caus 2 Wait Solic responsible.	COR_8416_01 ed as an adve- ed with a dif- ed to perform ed to perform nitialized' s communicati sends Neighb	on for off-link addrest Reference: rtizing router' ferent prefix on stateless autoc stateless autoc	RQ_COR_8416 each link' onfiguration' onfiguration' }	Configuration:	CF_02	23_I
Test Purpose: TP_C with { QE1 'configure and QE1 'configure and QE2 'configure and EUT 'configure and EUT 'starts then { EUT 'never the So i.e.: } Pre-test conditions:	COR_8416_01 ed as an adve- ed with a dif- ed to perform ed to perform nitialized' s communicati sends Neighb	Reference: rtizing router' ferent prefix on stateless autoc stateless autoc on with QE2'}	RQ_COR_8416 each link' onfiguration' onfiguration' }	Configuration:	CF_02	23_I
with { QE1 'configure and QE1 'configure and QE2 'configure and EUT 'configure and EUT 'configure ensure that { when { EUT 'has in and EUT 'starts then { EUT 'never the So i.e.: } } Pre-test conditions: Step 1 Caus 2 Wait Solic responses	ed as an adve ed with a dif ed to perform ed to perform nitialized' s communicati sends Neighb	rtizing router' ferent prefix on stateless autoc stateless autoc on with QE2'}	each link' onfiguration' onfiguration' }	Configuration:	CF_02	23_I
and QE1 'configure and QE2 'configure and EUT 'configure ensure that { when { EUT 'has in and EUT 'starts then { EUT 'never the So i.e.: } Pre-test conditions: Step 1 Caus 2 Wait Solic responding	ed with a dif ed to perform ed to perform nitialized' s communicati sends Neighb	<pre>ferent prefix on stateless autoc stateless autoc on with QE2'}</pre>	onfiguration' onfiguration' }			
Pre-test conditions: Step 1 Caus 2 Wait Solic responses		Multicast addre	_	of OE2		
1 Caus 2 Wait Solic respo	QE1 advertize QE2 and EU	IT configured as sta 2 are up and runnir	nk1 and PREFIX2 on teless auto configura			
2 Wait Solic respo	Test Sequence				Verdict	
2 Wait Solic respo			•		Pass	Fail
Solic respo	se EUT to initia	lize				
			shows that EUT has nas sent Router Adve			
3 Caus	se EUT to send	I an Echo Request t	to the Global Address	of QE2		
4 Ch		protocol monitor or	n Link1 show that EU o the Solicited Node I	T DID NOT	Yes	No

| Test Description | Identifier: | TD_COR_8417_01 | No Address Resolution for an on-link destination when the destination Link-Layer address is known | Test Purpose: | TP_COR_8417_01 | Reference: | RQ_COR_8417 | Configuration: | CF_011_I | With { EUT 'manually configured with the same global prefix as QE' and EUT 'has already established communitation with QE' } | ensure that { | when { EUT is requested to 'send a packet to QE' } | then { EUT 'does not send Neighbor Solicitation messages to the Solicited Node | Multicast address of QE' } | }

As EUT detects that QE2 is not 'on-link' it must not try to perform address resolution on the address of QE2. And hence

packets for QE2 are transmitted to QE1 (default router).

Pre-test conditions:	 EUT and QE have global addresses on the same prefix EUT and QE are up and running EUT and QE have already established communication (EUT has alreated before messages with QE using the global address of QE). 	dy exchange	ed ICMP
Step	Test Sequence	Verdict	
	·	Pass	Fail
1	Cause EUT to send an Echo Request to the global address of QE		
2	Check: does the protocol monitor on Link1 show that EUT DID NOT send Neighbor Solicitation messages to the Solicited Node Multicast address of QE?	Yes	No
Observations			

	Test Description				
Identifier:	TD_COR_8418_01				
Summary:	No Address Resolution for multicast destinations				
Test Purpose:	TP_COR_8418_01 Reference: RQ_COR_8418 Configuration	n: CF_01	1_I		
	nally configured with the same global prefix as QE'				
and QE 'is	subscribed to a global multicast group'}				
ensure that {					
	is initialized'—i.e.: to ensure the EUT ignores link-layer address	of OE'			
	s requested to 'send packets to a multicast address'	~			
then { EUT 'c	does not process to Address Resolution on the multicast address' $\}$				
}					
Pre-test	EUT and QE have global addresses on the same prefix				
conditions:	QE is subscribed to a global multicast group.				
Step	Test Sequence	Verdict			
		Pass	Fail		
1	Cause EUT to send an Echo Request to the All Nodes Multicast address				
2	Check: does the protocol monitor on Link1 show that EUT DID NOT send	Yes	No		
	Neighbor Solicitation messages to resolve the targeted multicast address				
	before to send out the Echo Request.				
3	Cause EUT to send an Echo Request to the All Routers Multicast address				
4	Check: does the protocol monitor on Link1 show that EUT DID NOT send	Yes	No		
	Neighbor Solicitation messages to resolve the targeted multicast address				
	before to send out the Echo Request.				
5	Cause EUT to send an Echo Request to the Solicited Node Multicast				
	address derived from the Global Address of QE.				
6	Check: does the protocol monitor on Link1 show that EUT DID NOT send	Yes	No		
	Neighbor Solicitation messages to resolve the targeted multicast address				
	before to send out the Echo Request.				
7	Cause EUT to send an Echo Request to the Solicited Node Multicast	1			
	address derived from the Link-Local Address of QE.				
8	Check: does the protocol monitor on Link1 show that EUT DID NOT send	Yes	No		
	Neighbor Solicitation messages to resolve the targeted multicast address				
0	before to send out the Echo Request.				
9	Cause EUT to send an Echo Request to the Multicast group to which QE is				
10	subscribed.	Vac	No		
10	Check: does the protocol monitor on Link1 show that EUT DID NOT send	Yes	No		
	Neighbor Solicitation messages to resolve the targeted multicast address				
Observations	before to send out the Echo Request.				
Observations					

4.2.5.2.1 Interface Initialization

Test Description						
Identifier:	TD_COR_8419_01					
Summary:	A multicast-capable	interface joins the al	l-nodes mult	icast ad	dress when initialized	d
Test Purpose:	TP_COR_8419_01	Reference:	RQ_COR_	8419	Configuration:	CF_011_I
	igured as a multic gured as a multica					
· ·	requested to 'sendends 'an echo reply	_	to the all	-nodes	multicast address	s'}

Pre-test	QE and EUT are configured as multicast capable hosts		
conditions:	QE and EUT are up and running and have link-local addresses (manu	ally or auto o	configured)
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Cause QE to send an Echo Request to the all-nodes multicast address		
2	Check: does the protocol monitor on Link1 show that EUT replied to the Echo Request?	Yes	No
Observations			

		Test Des	cription			
Identifier:	TD_COR_8419_02					
Summary:	A multicast-capable i	interface joins the so	olicited-node address	for each of its IF	o addresses	
Test Purpose:	TP_COR_8419_02		RQ_COR_8419	Configuration	: CF_01	1_I
	igured as a multic	-				
and EUT 'confi	lgured as a multica	st capable host'	}			
american that						
ensure that {	requested to 'send	on oaho womioat	to the golisited	nodo multiana	+ 2442244	ر المتنساع
	ends 'an echo reply	_	to the solicited-	-node multicas	t address	OT FOI.
chen (Eur se	an echo repry	CO OF)				
Pre-test	QE and EUT	are configured as m	ulticast capable host	 S		
conditions:		•	and have link-local a		ally or auto o	configured)
Step		Test Sequ	ence		Ver	dict
_					Pass	Fail
1	Cause QE to send a	n Echo Request to s	olicited node multica	st address of		
	EUT	·				
2	Check: does the pi	rotocol monitor on Li	nk1 show that EUT r	eplied to the	Yes	No
	Echo Request?			•		
Observations						

	Test Description		
Identifier:	TD_COR_8420_01		
Summary:	When addresses are added/removed from a multicast-capable interface, the in	iterface join	s/leave the
•	corresponding solicited-node addresses, respectively.	•	
Test Purpose:	TP_COR_8420_01 Reference: RQ_COR_8420 Configuration:	CF_0	11_I
	figured as a multicast capable host'		
	igured as a multicast capable host'		
and EUT 'respo	onds to its solicited-node address' }		
ensure that {			
	IP address is modified from "old" to "new"'		
and QE	is requested to 'send packets to the "old" IP solicited-node addres		
	is requested to 'send packets to the "new" IP solicited-node addres		}
	does not respond to packets sent to its "old" IP solicited-node add	lress'	
1		1	
and EU	f r 'responds to packets sent to its "new" IP solicited-node address'	}	
}	· · · · · · · · · · · · · · · · · · ·	}	
Pre-test	QE and EUT are configured as multicast capable hosts		oonfigured)
}	· · · · · · · · · · · · · · · · · · ·		configured)
Pre-test conditions:	 QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua 	lly or auto o	
Pre-test	QE and EUT are configured as multicast capable hosts	lly or auto o	dict
Pre-test conditions:	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua Test Sequence	lly or auto o	
Pre-test conditions: Step	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua Test Sequence Add a new link-local address to EUT	lly or auto o	dict
Pre-test conditions:	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address	lly or auto o	dict
Pre-test conditions: Step 1 2	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT.	lly or auto o	dict Fail
Pre-test conditions: Step	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua) Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT. Check: does the protocol monitor on Link1 show that EUT replied to the	lly or auto o	dict
Pre-test conditions: Step 1 2 3	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua) Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT. Check: does the protocol monitor on Link1 show that EUT replied to the Echo Request?	lly or auto o	dict Fail
Pre-test conditions: Step 1 2 3 4	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua) Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT. Check: does the protocol monitor on Link1 show that EUT replied to the Echo Request? Remove/delete the old link-local address from EUT	lly or auto o	dict Fail
Pre-test conditions: Step 1 2 3	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua) Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT. Check: does the protocol monitor on Link1 show that EUT replied to the Echo Request? Remove/delete the old link-local address from EUT Cause QE to send an Echo-Request to the solicited-node multicast address	lly or auto o	dict Fail
Pre-test conditions: Step 1 2 3 4 5	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua) Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT. Check: does the protocol monitor on Link1 show that EUT replied to the Echo Request? Remove/delete the old link-local address from EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the old link-local address of EUT.	Ver Pass Yes	dict Fail No
Pre-test conditions: Step 1 2 3 4	QE and EUT are configured as multicast capable hosts QE and EUT are up and running and have link-local addresses (manua) Test Sequence Add a new link-local address to EUT Cause QE to send an Echo-Request to the solicited-node multicast address of the new link-local address of EUT. Check: does the protocol monitor on Link1 show that EUT replied to the Echo Request? Remove/delete the old link-local address from EUT Cause QE to send an Echo-Request to the solicited-node multicast address	lly or auto o	dict Fail

dentifier:	TD_COR_8421_01		
Summary:	EUT leaves the solicited-node multicast address and the solicited-node multic	ast group	
•	corresponding to a removed unicast address	3 - 1	
Test Purpose:	TP COR 8421 01 Reference: RQ COR 8421 Configuration	: CF 01	1 I
	ork interface configured as a multicast-capable interface'	<u> </u>	
	igured with only one unicast address on the interface assigned		
to t	the solicited-node multicast address' }		
ensure that {	requested to 'remove the unicast address' }		
	eaves the solicited-node multicast address and solicited-node		
	nulticast group corresponding to the removed address' }		
}	microape group corresponding to the removed address ;		
Pre-test	EUT is configured with a unique unicast address (UADR1) on its interfa-	ace to Link1	
conditions:	EUT is configured with a second unique unicast address (UADR2) on i		o Link1
	having the same low-order 24 bits as UADR1		· · · · · · ·
	e.g. UADR1 set to 8888::0:0:0:FE:DCB:A9 <u>87:6543</u> and		
	UADR2 set to 7777::0:0:9A:BCD:EF87:6543		
	EUT is configured with a third unique unicast address (UADR3) on its i	nterface to I	ink1
	having different low-order 24 bits to UADR1 and UADR2	interface to L	-11 11X 1
Step	Test Sequence	Vor	dict
Step	rest sequence	Pass	Fai
1	Cause QE to send an Echo Request to the solicited-node multicast	1 433	ı aı
ı	address (MADR1) computed from UADR1 and UADR2 (in the example		
	address (MADA I) computed from DADA I and DADA2 (in the example		
	above MADR1 would be FF02::0:0:0:0:1:FF87:6543)	Voo	No
2	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE	Yes	No
	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address?		
3	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT?	Yes Yes	No
	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface		
3 4	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1		
3	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast		
3 4 5	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1	Yes	No
3 4	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE		No
3 4 5	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address?	Yes	No
3 4 5 6 7	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT?	Yes	No
3 4 5	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface	Yes	
3 4 5 6 7 8	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1	Yes	No
3 4 5 6 7	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast	Yes	No
3 4 5 6 7 8	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1	Yes Yes Yes	No
3 4 5 6 7 8	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE	Yes	No No
3 4 5 6 7 8	above MADR1 would be FF02::0:0:0:0:1:FF87:6543) Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1 Check: Does the monitor show that an Echo Request was sent from QE to the MADR1 multicast address? Check: Does QE report the receipt of an Echo Reply from EUT? Use the management interface on EUT to remove UADR2 from its interface to Link1 Cause QE to send an Echo Request to the solicited-node multicast address MADR1	Yes Yes Yes	No

4.2.6 RFC 2462, IPv6 Stateless Address Autoconfiguration

4.2.6.1 Initialize

4.2.6.1.1 Configure Address

4.2.6.1.1.1 Simultaneous Stateless and Stateful Autoconfiguration

Test Description					
Identifier: TD_COR_1200_01* NO TEST SPECIFIED *					
Summary:	EUT simultaneously	executes stateful an	d stateless autoconf	iguration	
Test Purpose:	TP_COR_1200_01	Reference:	RQ_COR_1200	Configuration:	CF_032_I
with { QE1 'conf	igured as a Statef	ul Autoconfigurat	cion Server'		
and QE1 'configured to provide stateful network configuration parameters other than addresses'					
and EUT 'conf	igured to support	Stateful Autoconf	figuration' }		
<pre>ensure that {</pre>					

4.2.6.1.1.2 Detect Duplicate Address (DAD)

	Test Description		
Identifier:	TD_COR_1210_01		
Summary:	EUT accepts only DAD ND packets while its address is tentative		
Test Purpose:	TP_COR_1210_01 Reference: RQ_COR_1210 Configuration		1_I
with { EUT 'conf	igured with a tentative address different from the unicast address	ss of QE' }	
ensure that {			
,	ceives 'a message that is not a DAD Neighbor Solicitation message	' from OE	}
,	s unable to communicate with QE' before 'DAD completes' }	ZZOM ZZ	J
` }	•		
Pre-test	 Configure EUT to transmit 2 Neighbor Solicitations (MAX_MULTICAS) 		: 2).
conditions:	 Configure EUT to wait 2 minutes between each sent Neighbor Solicita 	ition	
	(RETRANS_TIMER = 120000).		
	 EUT configured with a tentative address different from the unicast add 	lress of QE	
	EUT disconnected from the network (powered down)		
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Reconnect EUT to the network (power-up)	Pass	Fail
2	Reconnect EUT to the network (power-up) Cause QE to send an Echo Request to the tentative address of EUT	Pass	Fail
		Yes	Fail No
2	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent		
2 3	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT?	Yes	No
2 3	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT? Check: Does QE receive an Echo Reply from EUT?	Yes	No
2 3 4 5	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT? Check: Does QE receive an Echo Reply from EUT? Wait 3 minutes	Yes	No
2 3 4 5 6	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT? Check: Does QE receive an Echo Reply from EUT? Wait 3 minutes Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT?	Yes	No Yes
2 3 4 5 6 7	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT? Check: Does QE receive an Echo Reply from EUT? Wait 3 minutes Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent	Yes No Yes	No Yes No
2 3 4 5 6 7	Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT? Check: Does QE receive an Echo Reply from EUT? Wait 3 minutes Cause QE to send an Echo Request to the tentative address of EUT Check: Does protocol monitor show that the Echo Request was sent from QE to EUT?	Yes No Yes	No Yes No

Test Description					
Identifier:	TD_COR_1235_01				
Summary:	EUT indicates that it	already uses the ter	ntative address of an	other node	
Test Purpose:	TP_COR_1235_01	Reference:	RQ_COR_1235	Configuration:	CF_021_I
and QE1 'is	nually configured ware powered-down' nually configured ware			JT'	
cont	eceives 'a DAD Neightaining 'a target acis unable to commun.	ddress the same a	as the unicast add		

Pre-test conditions:	 QE1 manually configured with the same address as EUT QE1 is powered down 		
Step	Test Sequence	Ver	dict
•	·	Pass	Fail
1	power-up QE1		
2	Allow time for Address Autoconfiguration (DAD) to complete		
3	Cause QE1 to send an Echo Request to the address of QE2		
4	Check: Does protocol monitor show that the Echo Request was sent from QE1 to QE2?	No	Yes
5	Check: Does QE1 report that it is unable to send the Echo Request?	Yes	No
Observations			

	Test Description		
Identifier:	TD_COR_1239_01		
Summary:	EUT stops the autoconfiguration process when its tentative address is owned	by another	node
Test Purpose:	TP_COR_1239_01 Reference: RQ_COR_1239 Configuration	n: CF_02	21_I
	ually configured with a unicast address'		
	ually configured with the same unicast address as QE1'		
	powered-down'		
and QEZ man	ually configured with a unique unicast address'		
J			
ensure that {			
when {EUT	is performing a DAD test-		
	eceives 'a Neighbor Advertisement message' from QE1	1	
con	taining 'a target address the same as the tentative address of EUT	?' }	
con then { EUT '	taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages'	?' }	
con then { EUT '	taining 'a target address the same as the tentative address of EUT	?' }	
con then { EUT ' and EUT ' }	<pre>taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address'}</pre>	,	
then { EUT ' and EUT ' }	taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages'	,	
then { EUT ' and EUT ' }	 taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address' EUT configured to use QE1's unicast address as its tentative address 	during DAD	dict
then { EUT ' and EUT ' } Pre-test conditions:	 taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address' EUT configured to use QE1's unicast address as its tentative address EUT disconnected from the network (powered down) 	during DAD	dict Fail
then { EUT ' and EUT ' } Pre-test conditions:	 taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address' EUT configured to use QE1's unicast address as its tentative address EUT disconnected from the network (powered down) 	during DAD	
then { EUT ' and EUT ' } Pre-test conditions: Step	 taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address'} EUT configured to use QE1's unicast address as its tentative address EUT disconnected from the network (powered down) Test Sequence 	during DAD	
then { EUT ' and EUT ' } Pre-test conditions: Step	taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address'} • EUT configured to use QE1's unicast address as its tentative address • EUT disconnected from the network (powered down) Test Sequence Reconnect EUT to the network (power-up)	during DAD	
then { EUT and EUT } Pre-test conditions: Step 1 2	taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address' } • EUT configured to use QE1's unicast address as its tentative address • EUT disconnected from the network (powered down) Test Sequence Reconnect EUT to the network (power-up) Allow time for Address Autoconfiguration (DAD) to complete	during DAD	
then { EUT and EUT } Pre-test conditions: Step 1 2 3	taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address' } • EUT configured to use QE1's unicast address as its tentative address • EUT disconnected from the network (powered down) Test Sequence Reconnect EUT to the network (power-up) Allow time for Address Autoconfiguration (DAD) to complete Cause EUT to send an Echo Request to the address of QE2	during DAD Ver Pass	Fail
then { EUT and EUT } Pre-test conditions: Step 1 2 3	**taining 'a target address the same as the tentative address of EUT stops sending DAD Neighbor Solicitation messages' stops using its tentative address' • EUT configured to use QE1's unicast address as its tentative address • EUT disconnected from the network (powered down) Test Sequence Reconnect EUT to the network (power-up) Allow time for Address Autoconfiguration (DAD) to complete Cause EUT to send an Echo Request to the address of QE2 Check: Does protocol monitor show that the Echo Request was sent	during DAD Ver Pass	Fail

4.2.6.1.1.3 Assign Global Address

Pre-test	QE1 established as a default router for EUT		
conditions:	EUT interface disabled (powered down)		
Step	Test Sequence	Ver	dict
•	·	Pass	Fail
1	Cause QE1 to send a Router Advertisement to EUT with the global network prefix associated with the link between QE1 and EUT (power-up EUT)		
2	Cause QE2 to send Echo Request to EUT using its global unicast address		
3	Check: Does protocol monitor show that the Echo Request was sent from QE2 to EUT?	Yes	No
4	Check: Does QE2 receive Echo Reply from EUT?	Yes	No
Observations			

4.2.6.1.1.3.1 Use of O-Flag

```
Test Description
Identifier:
               TD_COR_1300_01 --* NO TEST SPECIFIED *--
               EUT invokes stateful autoconfiguration to obtain non-address information
Summary:
                                           RQ_COR_1300
Test Purpose:
              TP_COR_1300_01 | Reference:
                                                             Configuration:
with { QE1 'configured as a Stateful Autoconfiguration Server
  and QE2 'configured as the default router for EUT'
  and EUT 'configured as a host supporting Stateful autoconfiguration'
  and {\tt EUT} 'instructed by QE2 not to invoke Stateful Autoconfig for
          non-address parameters' }
ensure that {
  when { EUT receives 'a Router Advertisement message' from QE2
          containing 'instruction to invoke Stateful autoconfig for
                     non-address parameters' }
  then { EUT sends 'a REQUEST message' to QE1 }
```

Observations

Stateful autoconfiguration requires the presence of a DHCP server. DHCP is beyond the scope of ETSI's IPv6 testing project.

```
Test Description
Identifier:
                 TD_COR_1301_01 --* NO TEST SPECIFIED *--
Summary:
                 EUT invokes stateful autoconfig to obtain address and other configuration parameters
                TP_COR_1301_01 | Reference:
                                                   RQ_COR_1301 Configuration:
Test Purpose:
with { QE1 'configured as a Stateful Autoconfiguration Server
   and QE1 'configured to provide stateful n/w config parameters other than addresses'
   and QE2 'established as the default router for EUT'
   and EUT 'configured as a host that supports Stateful Autoconfiguration'
   and EUT 'instructed by QE2 not to invoke Stateful Autoconfig for any parameters' }
ensure that {
   when { EUT receives 'a Router Advertisement message' from QE2
            containing 'instruction to invoke Stateful autoconfig for address
  and non-address information' } then { EUT sends 'a REQUEST message' to QE1 }
```

Observations

Stateful autoconfiguration requires the presence of a DHCP server. DHCP is beyond the scope of ETSI's IPv6 testing project.

4.2.6.1.1.4 Stateless Autoconfiguration

```
Test Description
Identifier:
                   TD_COR_1229_01 --* NO TEST SPECIFIED *--
Summary:
                   EUT generates periodic Router Advertisements to the all-nodes multicast address
Test Purpose:
                                                         RQ COR 1229
                                                                            Configuration:
                  TP_COR_1229_01 | Reference:
                                                                                                CF 011 I
with { EUT 'configured as a default router
   and EUT 'network interface disabled' }
ensure that {
   when { EUT 'network interface is enabled' }
then { EUT sends 'periodic Router Advertisement messages'
                   to 'the all-nodes multicast address' }
Observations
This test is not interoperability and is tested in Conformance TC_COR_1229_01
```

```
Test Description
Identifier:
                 TD_COR_1246_01 --* NO TEST SPECIFIED *--
Summary:
                 EUT uses Router Advertisements to instruct hosts to use ONLY Stateless autoconfiguration
                                                                    Configuration:
Test Purpose:
                TP_COR_1246_01 | Reference:
                                                RQ_COR_1246
with { EUT 'configured to send RAs when i/f enabled indicating ONLY
            Stateless Autoconfiguration' }
ensure that {
   when { EUT 'network interface is enabled'
      and EUT 'has started transmitting the Router Advertisement messages' }
   then { QE1 'is able to address QE2' within 'a few minutes'
      and QE2 'is able to address QE1' within 'a few minutes' }
```

Observations

Without using conformance test methods, it would be very difficult to prove that the intercommunication between QE1 and QE2 is the result of stateless address autoconfiguration. Use conformance TC_1246_01

```
Test Description
Identifier:
                 TD COR 1246 02 --* NO TEST SPECIFIED *-
                 EUT uses Router Advertisements to indicate use of Stateless and Stateful autoconfig
Summary:
Test Purpose:
                 TP_COR_1246_02 | Reference:
                                                 RQ_COR_1246 | Configuration: | CF_021_I
with { QE1 'configured as a Stateful Autoconfiguration Server
   and {\tt QE1} 'configured to provide stateful n/w config parameters other
            than addresses'
   and QE2 'configured as a host that supports Stateful Autoconfiguration'
   and EUT 'configured to send RAs when i/f enabled'
   and EUT 'configured to send RAs indicating use of Stateless and Stateful
            Autoconfiguration' }
ensure that {
   when { EUT 'network interface is enabled'
     and EUT 'has started transmitting the Router Advertisement messages' }
   then { QE2 'sends a REQUEST message' to QE1 within 'a few minutes' }
```

Observations

Stateful autoconfiguration requires the presence of a DHCP server. DHCP is beyond the scope of ETSI's IPv6 testing project.

```
Test Description
Identifier:
                 TD_COR_1246_03 --* NO TEST SPECIFIED *-
Summary:
                EUT uses Router Advertisements to indicate use of Stateful Autoconfiguration ONLY
Test Purpose:
                TP_COR_1246_03 | Reference: | RQ_COR_1246 | Configuration: | CF_021_I
with { QE1 'configured as a Stateful Autoconfiguration Server
           'configured to provide stateful n/w config parameters other
   and QE1
            than addresses'
   and QE2 'configured as a host that supports Stateful Autoconfiguration'
```

```
and EUT 'configured to send RAs when the interface enabled'
and EUT 'configured to send RAs indicating use Stateful Autoconfiguration ONLY' }

ensure that {
  when { EUT 'network interface is enabled'
    and EUT 'has started transmitting the Router Advertisement messages' }
  then { QE2 sends 'a REQUEST message' to QE1 within 'a few minutes' }
}
```

Observations

Stateful autoconfiguration requires the presence of a DHCP server. DHCP is beyond the scope of ETSI's IPv6 testing project.

4.2.7 RFC 2463, ICMPv6

4.2.7.1 ICMPv6 Functions

4.2.7.1.1 Determine ICMPv6 Message Source Address

	Test Description					
dentifier:	TD_COR_1407_01					
Summary:	EUT chooses the right unicast address for the Source Address of an ICMPvi	6 Reply when				
	responding to a Multicast message TP_COR_1407_01 Reference: RQ_COR_1407 Configuration: CF_012_I					
Test Purpose:	TP_COR_1407_01 Reference: RQ_COR_1407 Configuration Reference RQ_COR_1407 Configuration Reference RQ_COR_1407 Reference RQ_COR_1407 Configuration RQ_COR_1407 Configuration RQ_COR_1407 Reference RQ_COR_1407 Configuration RQ_COR_1407 Reference RQ_COR_1407 Configuration RQ_COR_1407 Reference RQ_COR_1407 Configuration RQ_COR_1407 Reference RQ_COR_1407 Configuration RQ_COR_1407 RQ_COR_1407	on: CF_0	12_l			
and EUT 'con and QE 'conf ensure that { when { EUT ro	figured with a unique link-local unicast address on Interface-2' figured with a link-local Multicast address on Interface-1' igured with a unique link-local unicast address' } eceives 'a packet' from QE taining 'the Multicast address assigned to Interface-1 as the destaining 'data which should provoke an ICMPv6 Reply as a response' ends 'an ICMPv6 Reply message' to QE					
} Pre-test	 the link-local unicast address of Interface-1 as the source address' } EUT configured with a known Link-Local Unicast address (UADR1) a interfaces (IF1) to Link 1. EUT configured with a different Link-Local Unicast address (UADR2) interface (IF2) to Link1. EUT configured with a known Link-Local Multicast address (MADR1) to IF2. 	assigned to i	ts other			
Pre-test conditions:	 EUT configured with a known Link-Local Unicast address (UADR1) a interfaces (IF1) to Link 1. EUT configured with a different Link-Local Unicast address (UADR2) interface (IF2) to Link1. EUT configured with a known Link-Local Multicast address (MADR1) 	assigned to i	ts other			
} Pre-test conditions:	 EUT configured with a known Link-Local Unicast address (UADR1) a interfaces (IF1) to Link 1. EUT configured with a different Link-Local Unicast address (UADR2) interface (IF2) to Link1. EUT configured with a known Link-Local Multicast address (MADR1) to IF2. 	assigned to i	ts other F1 but n			
} Pre-test conditions:	EUT configured with a known Link-Local Unicast address (UADR1) a interfaces (IF1) to Link 1. EUT configured with a different Link-Local Unicast address (UADR2) interface (IF2) to Link1. EUT configured with a known Link-Local Multicast address (MADR1) to IF2. Test Sequence Cause QE to send an Echo Request the Multicast address MADR1	assigned to i	ts other F1 but no			
Pre-test conditions:	EUT configured with a known Link-Local Unicast address (UADR1) a interfaces (IF1) to Link 1. EUT configured with a different Link-Local Unicast address (UADR2) interface (IF2) to Link1. EUT configured with a known Link-Local Multicast address (MADR1) to IF2. Test Sequence	assigned to i	ts other F1 but no			

		Test Des	cription		
Identifier:	TD_COR_1407_02				
Summary:	EUT chooses the rig	ht unicast address fo	or the Source Addres	s of an ICMPv6 Rep	ly when
	responding to an Any	cast message			
Test Purpose:	TP_COR_1407_02	Reference:	RQ_COR_1407	Configuration:	CF_011_I
	igured as a router				
and EUT 'esta	ablished as a defau	lt Router for QE'			
and EUT 'conf	igured with a uniq	ue non link-local	unicast address	on Interface-1'	
and EUT 'conf	igured with a uniq	ue non link-local	unicast address	on Interface-2'	
and EUT 'conf	igured with an Any	cast address on I	Interface-1'		
and QE 'conf	igured with a uniq	ue non link-local	unicast address'		

```
and EUT 'subscribes to the same link-local unicast address subnet as QE' }
ensure that {
   when { EUT receives 'a packet' from QE
             containing 'the Anycast address assigned to Interface-One as the destination'
         and containing 'data which should provoke an ICMPv6 Reply as a response' }
   then { EUT sends 'an ICMPv6 Reply message' to QE
containing 'the non link-local unicast address of Interface-1
                       as the source address' }
Pre-test
                         EUT is configured as a router
conditions:
                         EUT is established as a default router for QE
                         EUT configured with a known global unicast address (UADR1) on its interface to QE
                         EUT configured with an Anycast address (AADR1 ≠ UADR1) on its interface to QE
     Step
                                              Test Sequence
                                                                                                   Verdict
                                                                                              Pass
                                                                                                          Fail
                  Cause QE to send an Echo Request to the Anycast address AADR1
       1
                     Check: Does protocol monitor show that the Echo Request was sent
       2
                                                                                              Yes
                                                                                                          No
                             from QE to AADR1?
       3
                     Check: Does QE receive an Echo Reply from EUT indicating UADR1
                                                                                              Yes
                                                                                                          No
                             as the source address?
Observations
```

	Test De	scription			
Identifier:	TD_COR_1408_01	-			
Summary:	EUT replies with an ICMPv6 message v				
	the ICMPv6 message's source is the un	icast address that belong	gs to the interfa	ace on whic	ch the
	packet forwarding failed	<u> </u>			
Test Purpose:	TP_COR_1408_01 Reference:	RQ_COR_1408 C	Configuration:	CF_02	22_I
	gured with a unique global unicas				
	gured with a unique global unicas. gured with two unique global unic		link connect	tina	
	and EUT, and the link connecting Q			cing	
and EUT 'Unak	e to communicate with QE2' }	·	-		
ensure that { when { EUT re	eives 'a packet' from QE1				
	ining 'QE2 as the destination add	lress' }			
	triting QEZ as the destination add				
	ads 'an ICMPv6 packet' to QE1	,			
then { EUT se		•			
then { EUT se contain }	nds 'an ICMPv6 packet' to QE1 .ng 'source address as the unicast	•			
then { EUT secontain } Pre-test	 ads 'an ICMPv6 packet' to QE1 ang 'source address as the unicast EUT established as router 	address on Link2' }			
then { EUT secontain } Pre-test conditions:	 ads 'an ICMPv6 packet' to QE1 ang 'source address as the unicast EUT established as router QE2 disconnected from the netw 	address on Link2' }		Man	-15-4
then { EUT secontain } Pre-test	 ads 'an ICMPv6 packet' to QE1 ang 'source address as the unicast EUT established as router 	address on Link2' }			dict
then { EUT secontain } Pre-test conditions:	ing 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence address as the unicast Test Sequence address as the unicast	address on Link2' } ork uence		Ver Pass	dict Fail
then { EUT secontain } Pre-test conditions: Step	ds 'an ICMPv6 packet' to QE1 Ing 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence Cause QE1 to send an echo request to	address on Link2' } ork uence QE2		Pass	Fail
then { EUT secontain } Pre-test conditions: Step	 ads 'an ICMPv6 packet' to QE1 ang 'source address as the unicast EUT established as router QE2 disconnected from the network Test Sequence Cause QE1 to send an echo request to Check: does the protocol monitor of 	ork uence QE2 n link1 show that the ech			
then { EUT secontain } Pre-test conditions: Step 1 2	ds 'an ICMPv6 packet' to QE1 de 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence Cause QE1 to send an echo request to Check: does the protocol monitor of was sent from QE1 to EUT?	address on Link2' } ork uence QE2 n link1 show that the ech	no request	Pass Yes	Fail No
then { EUT secontain } Pre-test conditions: Step	eds 'an ICMPv6 packet' to QE1 eng 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence Cause QE1 to send an echo request to Check: does the protocol monitor of was sent from QE1 to EUT? Check: does the protocol monitor of	address on Link2' } ork uence QE2 n link1 show that the ech	no request	Pass	Fail
then { EUT secontain } Pre-test conditions: Step 1 2 3	eds 'an ICMPv6 packet' to QE1 eng 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence Cause QE1 to send an echo request to Check: does the protocol monitor of was sent from QE1 to EUT? Check: does the protocol monitor of was sent from EUT to QE2?	vork uence QE2 In link1 show that the ech	no request	Yes No	No Yes
then { EUT secontain } Pre-test conditions: Step 1 2	eds 'an ICMPv6 packet' to QE1 eng 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence Cause QE1 to send an echo request to Check: does the protocol monitor of was sent from QE1 to EUT? Check: does the protocol monitor of was sent from EUT to QE2? Check: does the protocol monitor of was sent from EUT to QE2?	address on Link2' } ork uence QE2 in link1 show that the ech in link2 show that the ech in link1 show that an ICM	no request no request	Pass Yes	Fail No
then { EUT secontain } Pre-test conditions: Step 1 2 3	eds 'an ICMPv6 packet' to QE1 eng 'source address as the unicast EUT established as router QE2 disconnected from the netw Test Sequence Cause QE1 to send an echo request to Check: does the protocol monitor of was sent from QE1 to EUT? Check: does the protocol monitor of was sent from EUT to QE2?	address on Link2' } ork uence QE2 in link1 show that the ech in link2 show that the ech in link1 show that an ICM	no request no request	Yes No	No Yes

4.2.7.1.2 ICMPv6 Error Messages

4.2.7.1.2.1 Destination Unreachable Message

```
Test Description
Identifier:
                   TD_COR_1434_01
                  EUT processes a traversed packet with its size equals to its incoming link MTU TP_COR_1434_01 | Reference: RQ_COR_1097 | Configuration:
Summary:
Test Purpose:
with { QE1 'configured with a unique global unicast address
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting
             QE1 and EUT, and, the link connecting QE2 and EUT, respectively'
   and QE1 'has larger link MTU than EUT'
   and EUT 'has larger or equivelant link MTU than QE2' }
ensure that {
   when { EUT receives 'a packet with its size equals to its incoming link MTU'
             containing 'QE1 as source address and QE2 as destination address' }
   then { EUT sends 'the packet' to QE2 }
Pre-test
                         EUT established as router
conditions:
                         QE1 configured a larger link MTU than EUT
                         QE2 configured a smaller or equivalent link MTU than EUT
     Step
                                               Test Sequence
                                                                                                   Verdict
                                                                                              Pass
                                                                                                          Fail
       1
                   Cause EUT to send an echo request to QE2, of size equalling to EUT's
                   MTU on link1
       2
                    Check:
                             does the protocol monitor on link 1 show that the echo request
                                                                                                           No
                                                                                               Yes
                              was sent from QE1?
       3
                    Check:
                              does the protocol monitor on link 2 show that the echo request
                                                                                               Yes
                                                                                                           No
                              was sent to QE2?
       4
                    Check:
                             does the protocol monitor on link 1 show that an echo response
                                                                                               Yes
                                                                                                           No
                              was sent from EUT to QE1?
Observations
```

		Test Des	cription		
Identifier:	TD_COR_1436_01				
Summary:	EUT having no mate Unreachable Message		0 0	nerates an ICMPv6 D	Destination
Test Purpose:	TP_COR_1436_01	Reference:	RQ_COR_1436	Configuration:	CF_022_I
and EUT 'conf	igured with a uniq igured to have no	•			
cont	ceives 'a packet' caining 'an indicat generates an ICMPv6	ion that QE2 is		,	· }

Pre-test conditions:	EUT established as router Beggins the route entry in EUT for peckets destined to OE3.		
Step	Remove the route entry in EUT for packets destined to QE2 Test Sequence	Verdict	
	4	Pass	Fail
1	Cause QE1 to send an echo request to QE2		
2	Check: does the protocol monitor on link 1 show that an echo request was sent from QE1 to EUT?	Yes	No
3	Check: does the protocol monitor on link 2 show that the echo request was sent from EUT to QE2?	No	Yes
4	Check: does the protocol monitor on link 1 show that an ICMP destination unreachable message was sent from EUT to QE1, with code field 0?	Yes	No

	Test Description			
Identifier:	TD_COR_1441_01			
Summary:	EUT generates an ICMPv6 Destination Unreachable message w	vith code 4, if it do	oes not ha	ave UDP
	listener corresponding to a UDP packet targeting at the EUT			
Test Purpose:	TP_COR_1441_01 Reference : RQ_COR_1441 C	Configuration:	CF_01	1_l
· -	igured with a unique link-local address'			
	igured with a unique link-local address'			
and EUT 'conf	igured no supporting listening at a UDP port number XX	[]		
ensure that {				
	ceives 'a UDP packet' from QE			
•	aining 'an indication that EUT is the destination'			
			nort ni	
and cont	aining 'an indication that the UDP port number XX is t	he destination	r borr m	mber }
	aining 'an indication that the UDP port number XX is t. enerates an ICMPv6 Destination Unreachable message wit		port no	mber }
			port nu	imber }
then { EUT 'g } Pre-test			pore no	imber }
then { EUT 'g	enerates an ICMPv6 Destination Unreachable message wit		port no	mber }
then { EUT 'g } Pre-test	enerates an ICMPv6 Destination Unreachable message wit		Verd	,
then { EUT 'g } Pre-test conditions:	EUT has no program listening on a specific UDP port xx	ch code 4' }		,
then { EUT 'g } Pre-test conditions:	EUT has no program listening on a specific UDP port xx	ch code 4' }	Verd	lict
then { EUT 'g } Pre-test conditions: Step	EUT has no program listening on a specific UDP port xx Test Sequence	h code 4' }	Verd	lict
then { EUT 'g } Pre-test conditions: Step	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx	h code 4' }	Verd Pass	lict Fail
then { EUT 'g } Pre-test conditions: Step	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx Check: does the protocol monitor show that the UDP message sent from QE to EUT?	th code 4' }	Verd Pass	lict Fail
re-test conditions: Step 1 2	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx Check: does the protocol monitor show that the UDP message sent from QE to EUT? Check: does the protocol monitor show that an ICMP destination.	age was	Verd Pass Yes	lict Fail No
re-test conditions: Step 1 2	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx Check: does the protocol monitor show that the UDP message sent from QE to EUT?	age was	Verd Pass Yes	lict Fail No
then { EUT 'g } Pre-test conditions: Step 1 2	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx Check: does the protocol monitor show that the UDP message sent from QE to EUT? Check: does the protocol monitor show that an ICMP destination unreachable message was sent from EUT to QE, with	age was	Verd Pass Yes	lict Fail No
then { EUT 'g } Pre-test conditions: Step 1 2 3	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx Check: does the protocol monitor show that the UDP message sent from QE to EUT? Check: does the protocol monitor show that an ICMP destination unreachable message was sent from EUT to QE, with	age was	Verd Pass Yes	lict Fail No
re-test conditions: Step 1 2 3	EUT has no program listening on a specific UDP port xx Test Sequence Cause QE to send a UDP message to EUT with port xx Check: does the protocol monitor show that the UDP message sent from QE to EUT? Check: does the protocol monitor show that an ICMP destination unreachable message was sent from EUT to QE, with	age was	Verd Pass Yes	lict Fail No

4.2.7.1.2.2 Packet Too Big Message

```
Test Description
Identifier:
                    TD_COR_1445_01
                    EUT (as a router) generates an ICMPv6 Packet Too Big Message, if it receives a traversed
Summary:
                    packet that is larger than the outgoing link MTU
Test Purpose:
                    TP_COR_1445_01 Reference:
                                                         RQ_COR_1445
                                                                            Configuration:
                                                                                                   CF_022_I
with { QE1 'configured with a unique global unicast address'
   and {\tt QE2} 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
   connecting QE1 and EUT, and, the link connecting QE2 and EUT, respectively' and QE1 'has larger link MTU than EUT' \}
ensure that {
   when { EUT receives 'a packet with ist size larger than the MTU of the link
                          connecting EUT and QE2'
             {f containing} 'QE1 as source address and QE2 as destination address' }
   then { EUT 'generates an ICMPv6 Packet Too Big Message' }
```

Step	QE2 configured a smaller link MTU than link1 MTU Test Sequence	Verdict	
	4	Pass	Fail
1	Cause QE1 to send an echo request to QE2, of size larger than link2 MTU		
2	Check: does the protocol monitor on link 1 show that the echo request was sent from QE1 to EUT?	Yes	No
3	Check: does the protocol monitor on link 2 show that the echo request was sent from EUT to QE2?	No	Yes
4	Check: does the protocol monitor on link 1 show that an ICMP packet too big message was sent from EUT to QE1?	Yes	No

4.2.7.1.2.3 Time Exceeded Message

```
Test Description --* NO TEST SPECIFIED *--
Identifier:
                 TD_COR_1449_01
Summary:
                 EUT drops a traversed packet with a Hop Limit of zero and responds with an ICMPv6 Time
                 Exceeded message with Code 0 to the source of the packet
Test Purpose:
                TP_COR_1449_01 | Reference:
                                                   RQ_COR_1449
                                                                       Configuration:
with { QE1 'configured with a unique global unicast address
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
            connecting QE1 and EUT, and the link connecting QE2 and EUT, respectively' }
ensure that {
   when { EUT receives 'a packet'
           containing 'QE1 as source address and QE2 as destination address'
                        'Hop Limit = 0' }
        and containing
   then { EUT discards 'the packet'
        and EUT 'generates an ICMPv6 Time Exceeded message with Code 0'
            containing 'QE1 as source address' }
```

Observations

Packets with hop limit = 0 cannot be sent over a legal device, thus this TP has no corresponding TD (or remove the TP completely?)

```
Test Description
Identifier:
                 TD_COR_1450_01
Summary:
                 EUT drops a traversed packet with a Hop Limit of 1 and responds with an ICMPv6 Time Exceeded
                 message with Code 0 to the source of the packet
                TP_COR_1450_01 Reference:
                                                  RQ_COR_1450 Configuration: CF_022_I
Test Purpose:
with { QE1 'configured with a unique global unicast address
          'configured with a unique global unicast address'
   and OE2
   and EUT 'configured with two unique global unicast addresses on the link
            connecting QE1 and EUT, and the link connecting QE2 and EUT, respectively' }
ensure that {
  when { EUT receives 'a packet'
            containing 'QE1 as source address and QE2 as destination address'
                       'Hop Limit = 1' }
        and containing
   then { EUT discards 'the packet'
        and EUT 'generates an ICMPv6 Time Exceeded message with Code 0'
            containing 'QE1 as source address' }
```

Step		Test Sequence	Ver	dict
-			Pass	Fail
1	Cause QE1 to send an Ed - hop limit =1 - QE2 is the destination	cho Request with the following properties:		
2	Check: does the prote was sent from	ocol monitor on link 1 show that the echo request a QE to EUT?	Yes	No
3	,	ocol monitor on link 2 show that the echo request a EUT to QE2?	No	Yes
4		ocol monitor on link 1 show that an ICMP time ssage was sent from EUT to QE1, with code 0?	Yes	No
Observations	exceeded me	ssage was sent from EUT to QET, with code U?		

4.2.7.1.3 Information Messages

4.2.7.1.3.1 Echo Request and Echo Reply

	Test Description		
Identifier:	TD_COR_1460_01		
Summary:	EUT sends an Echo Reply in response to an Echo Request		
Test Purpose:	TP_COR_1460_01 Reference: RQ_COR_1460 Configuration:	CF	_011_I
· -	figured with a unique unicast address'		
and EUT 'con	figured with a unique unicast address' }		
ensure that {			
,	requested to 'send a Echo Request to EUT' }		
	ends 'an Echo Response' to QE }		
}	,		
Pre-test	QE connected to EUT		
conditions:			
Ctom			
Step	Test Sequence	Ver	dict
Step	Test Sequence	Ver Pass	dict Fail
1 1	Test Sequence Cause QE to send an echo request to EUT		
-	•		
1	Cause QE to send an echo request to EUT	Pass	Fail
1	Cause QE to send an echo request to EUT Check: does the protocol monitor show that the echo request was sent from	Pass	Fail
1 2	Cause QE to send an echo request to EUT Check: does the protocol monitor show that the echo request was sent from QE to EUT?	Pass Yes	Fail No
1 2	Cause QE to send an echo request to EUT Check: does the protocol monitor show that the echo request was sent from QE to EUT? Check: does the protocol monitor show that an echo response was sent from	Pass Yes	Fail No
1 2 3	Cause QE to send an echo request to EUT Check: does the protocol monitor show that the echo request was sent from QE to EUT? Check: does the protocol monitor show that an echo response was sent from	Pass Yes	Fail No
1 2 3	Cause QE to send an echo request to EUT Check: does the protocol monitor show that the echo request was sent from QE to EUT? Check: does the protocol monitor show that an echo response was sent from	Pass Yes	Fail No

Pre-test conditions:	QE is connected to EUT		
Step	Test Sequence	Ver	dict
•	·	Pass	Fail
1	Cause QE to send an echo request to EUT's unicast address		
2	Check: does the protocol monitor show that the echo request was sent from QE to EUT's unicast address?	Yes	No
3	Check: does the protocol monitor show that the echo request was sent to QE, with EUT's unicast address as source address?	Yes	No
Observations			

			Test D	escription			
Identifier:	TD_COR_	1466_01		-			
Summary:	EUT respo	nds to a n	nulticast Echo Re	quest message with a	unicast Echo Requ	uest	
Test Purpose:	TP_COR_	1466_01	Reference:	RQ_COR_1466	Configuration:	CF_01	1_I
				ticast-capable int			
	_			the interface assi	gned		
to	the multica	ast addre	ss' }				
ensure that {							
	requested	to 'send	an Echo Reques	st message'			
conta	aining 'the	e multica	st address of 1	OUT as destination	address' }		
			esponse Message				
conta	_			east address for th		which the	
1	mu]	lticast E	cho Request mes	ssage was received'	}		
Pre-test		T	م ما در الم	4 a dalua a a a a da a consta	-		
conditions:	• =0	Configur	ed with a muiticas	t address and a unicas	si address		
Step			Test Sequence Verdic			diat	
Siep			1621 26	quence	_	Pass	Fail
4	Causa OF	4		FLIT's manificant and due		rass	ган
1				EUT's multicast addre			
2	Check:		•	show that the echo red	quest was sent	Yes	No
	01 1		to EUT's multicas				
3	Check:		•	show that the echo red		Yes	No
		to QE, W	itn EUT's unicast	address as its source	adaress?		L
Observations							
1							
İ							

4.2.8 RFC 3513, Address Architecture

4.2.8.1 Address Architecture

Test Description					
Identifier:	TD_COR_1726_04				
Summary:	EUT with a single i/f	receives a packet se	ent to the LL All-Node	es M/cast address	
Test Purpose:	TP_COR_1726_04	Reference:	RQ_COR_1726	Configuration:	CF_011_I
	requested to 'send licates 'receipt of		ink-local All-Noc	des Multicast addr	ress' }

Pre-test conditions:	•			
Step	Test Sequence		Verdict	
•	·	Pass	Fail	
1	Cause QE to send an Echo Request to the Link-Local All-Nodes Multicast address (FF02:0:0:0:0:0:1)			
2	Check: Does protocol monitor show that the Echo Request was sent from QE to FF02:0:0:0:0:0:1?	Yes	No	
3	Check: Does QE receive an Echo Reply the EUT?	Yes	No	
Observations				

	Test Description		
Identifier:	TD_COR_1726_05		
Summary:	EUT with multiple i/fs receives a packet sent to the LL All-Nodes M/cast addr	ess	
Test Purpose:	TP_COR_1726_05 Reference: RQ_COR_1726 Configuration		12_I
with { EUT 'conf	igured with different link-local addresses on each of its interfa	aces' }	
,	requested to 'send a packet to the link-local All-Nodes Multicast licates 'receipt of the packet on both of its interfaces' }	address' }	
Pre-test conditions:	EUT configured with different Link-Local addresses on each of its interest.	erfaces (IF1 a	nd IF2)
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Cause QE to send an Echo Request to the Link-Local All-Nodes Multicast		
	address (FF02:0:0:0:0:0:1)		
2	Check: Does protocol monitor show that the Echo Request was sent from QE to FF02:0:0:0:0:0:1?	Yes	No
3	Check: Does protocol monitor show that the Echo Request was sent	Yes Yes	No No
_	Check: Does protocol monitor show that the Echo Request was sent from QE to FF02:0:0:0:0:0:1? Check: Does QE receive an Echo Reply from the IF1 Link-Local		

		Test Des	scription			
Identifier:	TD_COR_1726_06					
Summary:	EUT receives packe	t sent to the Solicite	d-Node M/cast addre	ss based on its ι	unicast addre	ess
Test Purpose:	TP_COR_1726_06	Reference:	RQ_COR_1726	Configuration	: CF_01	1_I
		T unicast addres		ticast addres	S	
}	licates 'receipt of	the packet' }				
Pre-test	•					
conditions:						
Step		Test Sequ	ience		Ver	dict
					Pass	Fail
1	address computed fr	om the EUT's Unica	the Solicited Node Mu ast address from EUT's unicast a			
	Ob I - D	stocal manitar show	that the Echo Reque	et was sont	Yes	No
2			olicited Node Multicas		165	NO

	Test Description		
ldentifier:	TD_COR_1726_07		
Summary:	EUT receives packet sent to the Solicited-Node M/cast address based on its	anycast addr	ress
Test Purpose:	TP_COR_1726_07 Reference: RQ_COR_1726 Configuration	n : CF_01	11_I
with { EUT 'sub	scribed to an anycast group' }		
ensure that {	requested to 'send a packet to the solicited-node multicast addre	a.a.	
when { QE is	of EUT anycast address' }	88	
then FIFT in	dicates 'receipt of the packet' }		
then { Eur In	dicates receipt of the packet }		
Pre-test	EUT is subscribed to an Anycast group		
	EOT is subscribed to an Arrycast group		
conditions:			
	Test Sequence	Ver	dict
Step	Test Sequence	Ver Pass	dict Fail
	· ·		
	Cause QE to send an Echo Request to the Solicited Node Multicast		
	· ·		
	Cause QE to send an Echo Request to the Solicited Node Multicast address computed from the EUT's subscribed Anycast address (FF02:0:0:0:0:1:FF + low order 3 octets from the Anycast address)		
Step 1	Cause QE to send an Echo Request to the Solicited Node Multicast address computed from the EUT's subscribed Anycast address (FF02:0:0:0:0:1:FF + low order 3 octets from the Anycast address) Check: Does protocol monitor show that the Echo Request was sent	Pass	Fail
1	Cause QE to send an Echo Request to the Solicited Node Multicast address computed from the EUT's subscribed Anycast address (FF02:0:0:0:0:1:FF + low order 3 octets from the Anycast address)	Pass	Fail

Identifier:	TD COR 1726 08		
Summary:	EUT receives packet sent to the M/cast address of a group to which EUT be	longs	
Test Purpose:	TP_COR_1726_08 Reference: RQ_COR_1726 Configuration		1_I
with { EUT 'sub	scribed to a multicast group' }	*	
	<pre>requested to 'send a packet to the EUT multicast address' } dicates 'receipt of the packet' }</pre>		
l			
Pre-test	FLIT is subscribed to a Multicast group		
	EUT is subscribed to a Multicast group		
	ů ·	Ver	dict
conditions:	EUT is subscribed to a Multicast group Test Sequence	Ver Pass	dict Fail
conditions:	ů ·		
conditions: Step	Test Sequence		
•	Test Sequence Cause QE to send an Echo Request to the EUT's subscribed Multicast		

```
Test Description
Identifier:
                 TD_COR_1727_01
                 EUT (as a router) recognizes the Subnet-Router Anycast Address for interfaces for which it is
Summary:
                 configured to act as a router
Test Purpose:
                TP_COR_1727_01 | Reference:
                                                    RQ_COR_1727
                                                                      Configuration:
                                                                                        CF_011_I
with { EUT 'configured as a router
   and EUT 'established as a default Router for QE'
   and EUT 'configured with a unique non link-local unicast address on Interface-1'
   and EUT 'configured with a unique non link-local unicast address on Interface-2'
   and EUT 'configured with an Subnet-Router Anycast address on Interface-1'
   and QE 'configured with a unique non link-local unicast address'
   and EUT 'subscribes to the same link-local unicast address subnet as QE' }
ensure that {
   when { EUT receives 'a packet' from QE
            containing 'the Subnet-Router Anycast address assigned to Interface-1 as
                         the destination'
        and containing 'data which should provoke an ICMPv6 Reply as a response' }
        then { {\tt EUT\ sends}} 'an ICMPv6 Reply message' to {\tt QE} }
```

Pre-test conditions:	 EUT configured as a default router for QE EUT configured with a subnet-router anycast address 		
Step	Test Sequence	Verdict	
•	·	Pass	Fail
1	Cause QE to send an echo request to the subnet-router anycast address of EUT		
2	Check: does the protocol monitor show that the echo request was sent from QE to EUT?	Yes	No
3	Check: does the protocol monitor show that an echo response was sent from EUT to QE?	Yes	No

4.2.8.2 Unicast Addresses

Identifier:	TD_COR_1726_01		
Summary:	EUT with a single i/f receives a packet sent to its unicast address		
Test Purpose:	TP_COR_1726_01 Reference: RQ_COR_1726 Configuration	n: CF_01	11_I
,	<pre>requested to 'send a packet to the unicast address of the EUT' } dicates 'receipt of the packet' }</pre>		
}			
	•		
	Test Sequence	Ver	dict
conditions:	• Test Sequence	Ver Pass	dict Fail
conditions:	Test Sequence Cause QE to send an Echo Request to the unicast address of EUT		
•	<u>'</u>		

	Test Description		
Identifier:	TD_COR_1726_02		
Summary:	EUT with multiple i/fs receives packet sent to one of its unicast addresses		
Test Purpose:	TP_COR_1726_02 Reference: RQ_COR_1726 Configuration	n: CF_01	12_I
with { EUT 'conf	figured with different link local addresses on each of its interfa	ces' }	
ensure that { when { QE is r	<pre>requested to 'send a packet to the unicast address of one of the</pre>		
` }	<pre>dicates 'receipt of the packet only on the addressed interface' }</pre>		
Pre-test	Treceipt of the packet only on the addressed interface' } EUT configured with different link local addresses on each of its interface.	aces	
Pre-test	· · · · · · · · · · · · · · · · · · ·		dict
Pre-test conditions:	EUT configured with different link local addresses on each of its interface.		dict Fail
Pre-test conditions:	EUT configured with different link local addresses on each of its interface.	Ver	
Pre-test conditions:	EUT configured with different link local addresses on each of its interfa Test Sequence	Ver	

	Test Description		
Identifier:	TD_COR_1677_01		
Summary:	EUT does not forward packets with link-local source or destination addresses	1	
Test Purpose:	TP_COR_1677_01 Reference: RQ_COR_1677 Configuration	n: CF_02	22_I
·	figured with a unique link-local unicast address'		
	figured with a unique link-local unicast address on each link'		
	figured with a unique link-local unicast address'		
and QE1 'con	figured to use EUT as the next-hop for the link-local address of ${ t Q}$)E2' }	
ensure that {	ceives 'a packet' from QE1		
	aining 'the link-local address of QE2 as the destination' }		
	does not forward the packet' to QE2 }		
}	100 101 Mara one paones of x== ;		
Pre-test	QE2 is configured with a unique link-local unicast address (UADR1) or	n its interface	to LINK2
conditions:	QE1 is configured to use EUT as the next-hop for the link-local addres	s of QE2	
Step	Test Sequence	Ver	diat
•	i cot ocquerioc		aict
	root ooquonoo	Pass	Fail
1	Cause QE1 to send an Echo Request the unicast address UADR1	Pass	
1 2	Cause QE1 to send an Echo Request the unicast address UADR1	Pass Yes	
•	·		Fail
•	Cause QE1 to send an Echo Request the unicast address UADR1 Check: Does protocol monitor show that the Echo Request was sent from QE1 to UADR1?		Fail
2	Cause QE1 to send an Echo Request the unicast address UADR1 Check: Does protocol monitor show that the Echo Request was sent	Yes	Fail No

4.2.8.3 Anycast Addresses

Identifier:	TD_COR_1726_03		
Summary:	EUT receives a packet sent to its anycast address		
Test Purpose:	TP_COR_1726_03 Reference: RQ_COR_1726 Configuration	n: CF_01	11_I
${f with} \ \{ f EUT \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	scribed to an anycast group' }		
	<pre>requested to 'send a packet to the EUT anycast address' } dicates 'receipt of the packet' }</pre>		
1			
Pre-test	FLIT is subscribed to an anycast group		
Pre-test conditions:	EUT is subscribed to an anycast group		
	EUT is subscribed to an anycast group Test Sequence	Ver	dict
conditions:	, , ,	Ver Pass	dict Fail
conditions:	, , ,		
conditions: Step	Test Sequence		

4.2.8.4 Multicast Addresses

4.2.8.4.1 Pre-defined Multicast Addresses

Pre-test conditions:	 QE configured as a Router EUT configured as a Host 		
Step	Test Sequence	Ver	dict
		Pass	Fail
1	Cause EUT to send a Router Solicitation		
2	Check: does the protocol monitor show that the echo request was sent from EUT to the All-Routers Link-Local Multicast address?	Yes	No
Observations			

4.2.8.4.2 Node

			Test De	scription			
Identifier:	TD_COR_	1608_01					
Summary:	EUT receiv	ves packet	ts sent to its multica	st address			
Test Purpose:			Reference:	RQ_COR_1608	Configuration	n: CF_01	l1_l
with { EUT 'sub	scribed to	a multic	ast group' }				
	_		l a packet to the of the packet' }	multicast addre	ss' }		
Pre-test	• EU	T subscrib	ed to a multicast gr	oup			
conditions:			· ·	•			
o o i i di ti o i i o i							
Step			Test Sequ	ience		Ver	dict
			Test Sequ	ience		Ver Pass	dict Fail
	Cause QE	to send a	Test Sequent to E		ress		
	Cause QE	Check: a	•	UT's multicast add			
Step 1		Check: o was sent Check: o	n echo request to E loes the protocol mo	UT's multicast add onitor show that the	echo request	Pass	Fail

Test Description					
Identifier:	TD_COR_1709_01				
Summary:	EUT (as a router) do	es not forward packe	ets sent to a multicas	st address beyond th	e scope (= site-
	local) indicated by the	e "scop" field in the	destination multicast	address	
Test Purpose:	TP_COR_1709_01	Reference:	RO COR 1709	Configuration:	CF 022 I
restruipose.	11 _001_1703_01	itelelelice.	1103	Comiguration.	01 _022_1
with { EUT 'conf	igured with a site	-local address or	link1 and a glob		
with { EUT 'conf		-local address or	link1 and a glob		
with { EUT 'conf and QE1 '	igured with a site	-local address or site-local addres	n link1 and a glob ss on link1'		

then { EUT in	<pre>s requested to 'send a packet to the all routers site-local multic ndicates 'receipt of the packet' 32 'does not indicate receipt of the packet' }</pre>	ast addres	5'}
Pre-test conditions:	 QE1, and EUT configured with a site local unicast address on link1 EUT and QE2 (on link2) configured with a global unicast address QE1 can communicate with QE2 global unicast address 		
Step	Test Sequence	Ver	dict
233,		Pass	Fail
1	Cause QE1 send an echo request to the all routers site-local multicast address (FF05::2)		
2	Check: does the protocol monitor on link 1 show that the echo request was sent?	Yes	No
3	Check: does QE1 receive an Echo Reply from EUT?	Yes	No
4	Check: does QE1 receive an Echo Reply from QE2?	No	Yes
Observations	· •		

	Test Description		
Identifier:	TD_COR_1709_02		
Summary:	EUT (as a router) does not forward packets sent to a multicast address beyon	nd the scope	= link-local
	indicated by the scope field in the destination multicast address	•	
Test Purpose:	TP_COR_1709_02 Reference: RQ_COR_1709 Configuration	: CF_02	22_I
	figured with global addresses on link1 and link2'		
	'configured with a global address on link1'		
	'configured with a global address on link2'		
and 'QE1	and QE2 can communicate'}		
ensure that {			1
	s requested to 'send a packet to the all nodes link-local multicas	t address'	}
,	ndicates 'receipt of the packet'		
and Q	E2 'does not indicate receipt of the packet' }		
Pre-test	OF1 and OF2 can communicate with each other		
	QE1 and QE2 can communicate with each other		
conditions:			
Step	Test Sequence		dict
		Pass	Fail
1	Cause QE1 send an echo request to the all nodes link-local multicast		
	address (FF02::1)		
2	Check: does the protocol monitor on link 1 show that the echo request	Yes	No
	was sent?		
3	Check: does QE1 receive an Echo Reply from EUT?	Yes	No
4	Check: does QE1 receive an Echo Reply from QE2?	No	Yes
Observations		140	
ODSCI VALIONS			

4.2.9 RFC 1981, Path MTU Discovery for IPv6

4.2.9.1 Discover PMTU

		Test Des	cription		
Identifier:	TD_COR_1802_01				
Summary:	The implementation i	mplements Path M7	TU discovery		
Test Purpose:	TP_COR_1802_01	Reference:	RQ_COR_1802	Configuration:	CF_023_I
}	s requested to 'sen				link MTU to QE2'

Pre-test conditions:	 QE1 established as the default router for EUT and QE2 Link2 MTU is set to a value smaller than Link1 MTU 		
Step	Test Sequence	Ver	dict
-		Pass	Fail
1	Cause EUT to send several Echo Request messages to including a data size such that the resulting packet size will be smaller or equal to the MTU of Link1 AND bigger than the MTU of Link2		
2	Check: does EUT receive Echo Replies from QE2?	Yes	No

Observations

Note that 'receipt of the same data without any modification' does not mean that packets have not been fragmented, but that the data has been correctly transmitted.

	Test Description		
Identifier:	TD_COR_1808_01		
Summary:	The implementation receives a Packet Too Big message and reduces the PM	1TU	
Test Purpose:	TP_COR_1808_01 Reference: RQ_COR_1808 Configuration	n: CF_02	23_I
with { QE1 'conf	igured such that Link2 has a smaller MTU than Link1' }		
EUT re	is attempting to communicate with QE2 using the MTU of Link1 ceives 'a Packet Too Big message' from QE1 ceduces the MTU for the path to QE2 to the PMTU of Link2' }		
Pre-test conditions:	 QE1 established as the default router for EUT and QE2 Link2 MTU is set to a value smaller than Link1 MTU 		
Step	Test Sequence	Verdict	
-		Pass	Fail
1	Cause EUT to send an Echo Request message to QE2 including a data size such that the resulting packet size will be smaller or equal to the MTU of Link1 AND bigger than the MTU of Link2		
	Check: does the protocol monitor on Link1 show that QE1 sends a	Yes	No
2	Packet Too Big message to EUT after the first Echo Request?	163	
3	·	163	

	Test Description		
Identifier:	TD_COR_1822_01		
Summary:	Handling PMTU smaller than the IPv6 minimum link MTU		
Test Purpose:	TP_COR_1822_01 Reference: RQ_COR_1822 Configuration		23_I
with { QE1 'conf	Figured such that Link2 has an MTU smaller the minimum IPv6 link $ exttt{N}$	MTU' }	
when { EUT retailed then { EUT 's	EUT is attempting to communicate with QE2 using the MTU of Linkle ceives 'a Packet Too Big message from QE1 indicating an MTU small the IPv6 minimum link MTU for Link2' } sets the PMTU for the path to the IPv6 minimum link MTU' fragments subsequent packets' }		
Pre-test	QE1 established as the default router for EUT and QE2		
conditions:	Link2 MTU is set to a value smaller than the IPv6 minimum		
Step	Test Sequence	Ver	dict
-		Pass	Fail
1	Cause EUT to send several Echo Request messages to QE2 including a data size such that the resulting packet size will be smaller or equal to the MTU of Link1 AND bigger than the MTU of Link2		
2	Check: does the protocol monitor on Link1 show that QE1 sends a Packet Too Big message to EUT after the first Echo Request?	Yes	No
3	Check: does the protocol monitor on Link1 show that subsequent Echo Request messages are fragmented to meet the IPv6 minimum link MTU?	Yes	No
Observations			

4.2.9.1.1 Multicast PMTU Discovery

		Test Des	scription			
Identifier:	TD_COR_1814_01	* NO TEST SPECIF	FIED * (see TD_CC	OR_1815_01)		
Summary:	Use of PMTU with M	ulticast				
Test Purpose:	TP_COR_1814_01	Reference:	RQ_COR_1814	Configuration:	CF_03	31_I
with { QE1 'conf	igured such that L	ink1 has a bigge:	r MTU than Link2'			
	onfigured as listen		~ . ·			
and QE2 'su	abscribed to the sa	me multicast gro	up'}			
ensure that {	3 3 3-4		etila minarturur i		1-2	. 1
,	sends multicast p	ackets to the de	fined multicast g	roup with a size	bigger	tnan
	MTU of Link2	3 3 to 3 to	a to a control of the		-l DMEET	
EUT 18	requested to 'sen	_		ize bigger than	the PMTU	
and FUT is	or . requested to 'red'	Link2 to the QE2		aakota! l		
	reduces its MTU to		_	ackets /		
then that i	educes its Mio to	che PMTO OI DINA	۷)			
Pre-test	•					
conditions:	•					
Step		Test Segu	ience		Ver	dict
•		•			Pass	Fail
1						
2	Check:				Yes	No
Observations: TD	_COR_1815_01 cover	s the same topic wi	th more accuracy.			

	Test Description		
Identifier:	TD_COR_1815_01		
Summary:	Different MTUs on Multicast destinations		
Test Purpose:	TP_COR_1815_01 Reference: RQ_COR_1815 Configuration	1: CF_03	35_I
and QE1 'config and 'QE2 ar and QE1 'su ensure that { when { EUT the	Figured such that the MTU of Link1 is greater than the MTU of Link3 greater such that the MTU of Link2 is greater than the MTU of Link3' and QE3 configured as listeners to a common multicast group' abscribed to the same multicast group' } The sends multicast packets to the defined multicast group with a size MTU of Link2 Seceives 'several Packet-Too-Big messages from QE1 indicating difference its assumed PMTU to the MTU of Link3' }	ze bigger	than
Pre-test conditions:	 QE2, and QE3 are configured as listeners to a defined common multicast group QE1 is 'subscribed' to the same defined common multicast group QE1 is established as default router for all nodes Link1 MTU greater than Link2 MTU, AND Link2 MTU greater than Link 		
Step	Test Sequence		dict
-	·	Pass	Fail
1	Cause EUT to send several Echo Request messages to the defined common multicast group, including a data size such that the resulting packet size will be smaller or equal to the MTU of Link1 AND bigger than the MTU of Link2		
2	Check: does the protocol monitor on Link1 show that QE1 sends one (or more) Packet Too Big message to EUT after the first Echo Request?	Yes	No
3	Check: does the protocol monitor on Link1 show that subsequent Echo Request messages are fragmented to meet the MTU of link3?	Yes	No
Observations			

4.2.10 RFC 2675, Jumbograms

		Test Des	cription		
Identifier:	TD_COR_8800_01				
Summary:	EUT forwards Jumbo	grams			
Test Purpose:	TP_COR_8800_01	Reference:	RQ_COR_8800	Configuration:	CF_022_I
with { QE1 'conf	igured with a uniqu	ue non link-local	unicast address'		
and EUT 'conf	igured with a uniqu	ue non link-local	unicast address	on each link'	
and EUT 'conf	igured to support t	the Jumbo Payload	Option'		

```
and QE1 'configured to support the Jumbo Payload Option'
   and QE2 'configured to support the Jumbo Payload Option'
   and EUT 'configured to support Jumbograms on both its links' }
   when { EUT receives 'a packet' from QE1
        containing 'QE2 as the destination'
and containing 'a Jumbo Payload Option' }
   then { EUT 'forwards the packet' to QE2 }
                         EUT, QE1 and QE2 are all configured to support IPv6 Jumbo Payloads (Jumbograms) on all
Pre-test
conditions:
                         links (Link1 and Link2)
      Step
                                              Test Sequence
                                                                                                  Verdict
                                                                                              Pass
                                                                                                          Fail
       1
                   Cause QE1 to send an Echo Request to QE2 with a payload size greater
                  than 65535 octets
       2
                     Check: Does the monitor show that an Echo Request was sent from
                                                                                                          No
                                                                                              Yes
                             QE1 to QE2?
                    Check:
                             Does QE1 report the receipt of an Echo Reply from QE2?
       3
                                                                                              Yes
                                                                                                          No
Observations
```

ldentifier:	TD_COR_8800_02		
Summary:	EUT sends a Jumbogram		
Test Purpose:	TP_COR_8800_02 Reference: RQ_COR_8800 Configuration	n: CF_01	1_
vith { EUT 'con:	figured with a unique unicast address'	<u> </u>	
	figured with a unique unicast address'		
	figured to support the Jumbo Payload Option'		
and QE 'con:	figured to support the Jumbo Payload Option' }		
ensure that {			
when { EUT is	s requested to 'send a packet to QE'		
•	<pre>containing 'a Jumbo Playload Option' }</pre>		
•			
then { EUT se	<pre>containing 'a Jumbo Playload Option' } ends 'the packet' to QE }</pre>	mhograms) (on Link1
then { EUT se	<pre>containing 'a Jumbo Playload Option' }</pre>	mbograms) (on Link1
then { EUT so	 containing 'a Jumbo Playload Option' } ends 'the packet' to QE } EUT and QE are both configured to support IPv6 Jumbo Payloads (Jumbo Payloads) 		
then { EUT se	<pre>containing 'a Jumbo Playload Option' } ends 'the packet' to QE }</pre>	Ver	dict
then { EUT so } Pre-test conditions:	<pre>containing 'a Jumbo Playload Option' } ends 'the packet' to QE } • EUT and QE are both configured to support IPv6 Jumbo Payloads (Ju Test Sequence</pre>		
then { EUT so	containing 'a Jumbo Playload Option' } ends 'the packet' to QE } • EUT and QE are both configured to support IPv6 Jumbo Payloads (Ju Test Sequence Cause EUT to send an Echo Request to QE with a payload size greater	Ver	dict
then { EUT so } Pre-test conditions: Step	containing 'a Jumbo Playload Option' } ends 'the packet' to QE } • EUT and QE are both configured to support IPv6 Jumbo Payloads (Ju Test Sequence Cause EUT to send an Echo Request to QE with a payload size greater than 65535 octets	Ver Pass	dict Fai
then { EUT so } Pre-test conditions:	containing 'a Jumbo Playload Option' } ends 'the packet' to QE } • EUT and QE are both configured to support IPv6 Jumbo Payloads (Ju Test Sequence Cause EUT to send an Echo Request to QE with a payload size greater than 65535 octets Check: Does the monitor show that an Echo Request was sent from	Ver	dict
then { EUT so } Pre-test conditions: Step	containing 'a Jumbo Playload Option' } ends 'the packet' to QE } • EUT and QE are both configured to support IPv6 Jumbo Payloads (Ju Test Sequence Cause EUT to send an Echo Request to QE with a payload size greater than 65535 octets	Ver Pass	dict Fai

		Test Des	scription	•	•
Identifier:	TD_COR_8800_03				
Summary:	EUT accepts a receiv	/ed Jumbogram			
Test Purpose:	TP_COR_8800_03	Reference:	RQ_COR_8800	Configuration:	CF_011_I
vith { EUT 'conf	figured with a uniq	ue unicast addres	ss'		
and QE 'conf	figured with a uniq	ue unicast addres	ss'		
and EUT 'conf	figured to support	the Jumbo Payload	d Option'		
and QE 'conf	figured to support	the Jumbo Payload	d Option' }		
cont	eceives 'a packet' taining 'a Jumbo Pa ccepts 'the packet'	yload Option' }			
}	_	,			

Pre-test conditions:	EUT and QE are both configured to support IPv6 Jumbo Payloads (June 1)	mbograms) (on Link1
Step	Test Sequence	Ver	dict
•	·	Pass	Fail
1	Cause QE to send an Echo Request to EUT with a payload size greater than 65535 octets		
2	Check: Does the monitor show that an Echo Request was sent from QE to EUT?	Yes	No
3	Check: Does QE report the receipt of an Echo Reply from EUT?	Yes	No
Observations			

		Test D	Description			
ldentifier:	TD_COR_88	13_01				
Summary:	EUT does no	t support Jumbo Payload	d Option			
Test Purpose:	TP_COR_88	13_01 Reference:	RQ_COR_8813	Configuration:	CF_01	1_I
	_	a unique unicast add				
	-	pport the Jumbo Payl	_			
	_	a unique unicast add				
and EUT 'does	s not support	the Jumbo Payload O	ption' }			
ensure that {						
	eceives 'a pa	cket' from QE				
		mbo Payload Option'	}			
then J FIIT	gonda lan TCM	Pv6 Parameter Proble	m message' to OE			
		ication that Jumbo P		t supported' }		
contain }	ining 'an ind	ication that Jumbo P	ayload Option is no			
Contain } Pre-test	ining 'an ind	ication that Jumbo P	ayload Option is no ort IPv6 Jumbo Payload			
Contain } Pre-test	ining 'an ind	ication that Jumbo P	ayload Option is no ort IPv6 Jumbo Payload			
Contain } Pre-test	ining 'an ind	ication that Jumbo P s not configured to suppo configured to support Ju	ayload Option is no ort IPv6 Jumbo Payload		Ver	dict
contain } Pre-test conditions:	ining 'an ind	ication that Jumbo P s not configured to suppo configured to support Ju	ayload Option is no ort IPv6 Jumbo Payload mbograms on Link1		Ver Pass	dict Fail
contain } Pre-test conditions:	ining 'an ind EUT is QE is	ication that Jumbo P s not configured to suppo configured to support Ju	ort IPv6 Jumbo Payload mbograms on Link1	ds (Jumbograms)		
Pre-test conditions:	ining 'an ind EUT is QE is	s not configured to support Ju Test Se send an Echo Request to	ort IPv6 Jumbo Payload mbograms on Link1	ds (Jumbograms)		
Pre-test conditions:	• EUT is • QE is Cause QE to than 65535 or	s not configured to support Ju Test Se send an Echo Request to	ort IPv6 Jumbo Payload imbograms on Link1 equence to EUT with a payload s	ds (Jumbograms)		
Pre-test conditions: Step	• EUT is • QE is Cause QE to than 65535 or Check: Do	s not configured to support Ju Test Se send an Echo Request to	ort IPv6 Jumbo Payload imbograms on Link1 equence to EUT with a payload s	ds (Jumbograms)	Pass	Fail
Pre-test conditions: Step	• EUT is • QE is Cause QE to than 65535 or to	s not configured to support Ju Test Se send an Echo Request to tets Description of the configured to support Ju Test Se send an Echo Request to tets Description of the configured to support Ju Test Se	ort IPv6 Jumbo Payload imbograms on Link1 equence to EUT with a payload s	ds (Jumbograms) size greater s sent from QE	Pass	Fail
contain step step step step step step step step	• EUT is • QE is Cause QE to than 65535 or Check: Do to Check: Do	s not configured to support Ju Test Se send an Echo Request to ctets Des the monitor show the EUT? Des QE report the receip	ort IPv6 Jumbo Payload imbograms on Link1 equence to EUT with a payload s at an Echo Request was t of an Echo Reply from	ds (Jumbograms) size greater s sent from QE n EUT?	Pass Yes	Fail No
Pre-test conditions: Step 1 2 3	• EUT is • QE is Cause QE to than 65535 or Check: Do to Check: Do	s not configured to support June Test Se send an Echo Request to see the monitor show the EUT? Des QE report the receiptes QE	ort IPv6 Jumbo Payload imbograms on Link1 equence to EUT with a payload s at an Echo Request was tof an Echo Reply from t of an ICMPv6 "Param	ds (Jumbograms) size greater s sent from QE n EUT? eter Problem"	Yes No	Fail No Yes
Pre-test conditions: Step 1 2 3	Cause QE to than 65535 or Check: Do	s not configured to support Ju Test Se send an Echo Request to ctets Des the monitor show the EUT? Des QE report the receip	ort IPv6 Jumbo Payload imbograms on Link1 equence to EUT with a payload s at an Echo Request was tof an Echo Reply from t of an ICMPv6 "Param	ds (Jumbograms) size greater s sent from QE n EUT? eter Problem"	Yes No	Fail No Yes

Annex A (informative): IPv6 Interoperability Test Purposes

The Test Suite Structure is based on the IPv6 Core RFCs and the IPv6 Requirements Catalogue nodes. It is defined by the groups within the following TPLan specification of test purposes. The numbering is not contiguous so that new TPs can be added at a later date without the need to completely renumber the TSS groups

```
: 'Interoperability Test Purposes for IPv6 Core Specifications'
Version : 1.1.0
Date
         : 27.09.2005
Author : 'ETSI TC-MTS'
--* RFC2460 IPv6 Core Specification *--
Group 1 'RFC2460'
Group 1.1 'Generate IPv6 Packet'
End Group 1.1
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 1.2 'Process IPv6 Packet'
Group 1.2.4 'Process IPv6 Header'
TP id : TP COR 1097 01
Summary: 'EUT processes a packet with its size equals to its link MTU'
RQ ref : RQ_COR_1097
Config : CF_011_I
TD ref : TD_COR_1097_01
with { QE1 'configured with a unique global unicast address '
   and EUT 'configured with a unique global unicast address
   and EUT 'has a link MTU smaller than the link MTU of QE1' }
ensure that {
   when { EUT receives 'a packet with its size equal to link MTU of EUT'
            containing 'QE1 as source address and EUT as destination address'
        and containing 'request for response' }
   then { EUT sends 'an appropriate response packet' to QE1 }
--xxxxxxxxxxxxxxxxxxxxxx
       : TP_COR_1097_02
Summary: 'EUT processes a traversed packet with its size equals to its incoming link MTU'
RQ ref : RQ_COR_1097
Config : CF_022_I
TD ref : TD_COR_1097_02
with { QE1 'configured with a unique global unicast address
   and QE2 'configured with a unique global unicast address'
   \hspace{-0.5cm} \textbf{and} \hspace{0.5cm} \textbf{EUT} \hspace{0.5cm} \textbf{'configured} \hspace{0.5cm} \textbf{with two unique global unicast addresses} \hspace{0.5cm} \textbf{on the link} \hspace{0.5cm}
             connecting QE1 and EUT, and, the link connecting QE2 and EUT, respectively'
   and QE1 'has larger link MTU than EUT'
   and EUT 'has larger or equivelant link MTU than QE2' \}
ensure that {
   when { EUT receives 'a packet with its size equals to its incoming link MTU'
            containing 'QE1 as source address and QE2 as destination address' }
   then { EUT sends 'the packet' to QE2}
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 1.2.4.4 'Process Hop Limit'
TP id : TP_COR_1002_01
Summary : 'EUT decreases the Hop Limit field of a traversed IPv6 packet and forwards it'
RQ ref : RQ_COR_1002
Config : CF_022_I
TD ref : TD_COR_1002_01
```

```
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
            connecting QE1 and EUT, and the link connecting QE2 and EUT, respectively' }
ensure that {
   when { EUT receives 'a packet'
            containing 'QE1 as source address and QE2 as destination address'
        and containing 'Hop Limit > 1' }
   then { EUT sends 'the packet with the Hop Limit decremented' to QE2 }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1002_02
Summary : 'EUT drops a traversed IPv6 packets with a zero Hop Limit and returns
           an ICMP error message to the source'
RQ ref : RQ_COR_1002
Config : CF_022_I
TD ref : TD_COR_1002_02
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
            connecting QE1 and EUT, and on the link connecting QE2 and EUT, respectively' }
ensure that {
   when { EUT receives 'a packet'
            containing 'QE1 as source address and QE2 as destination address'
        and containing 'Hop Limit = 0' }
   then { EUT discards 'the packet'
   and EUT sends 'an ICMP error message' to QE1 }
            }
--xxxxxxxxxxxxxxxxxxxxxx
      : TP_COR_1058_01
TP id
Summary : 'Discard packets if Hop Limit <= 1'</pre>
RQ ref : RQ_COR_1058
Config : CF_022_I
TD ref : TD_COR_1058_01
ensure that {
   when { QE1 is requested to 'send a packet to QE2'
              containing 'Routing header Type = 0'
and containing 'Segments Left value other than zero'
              and containing 'Segments Left value not greater than the number of addresses
                              in the Routing header'
              and containing 'an even "Hdr Ext Len" value'
          and not containing 'multicast address as next address to be visited or IPv6 Destination'
              and containing 'IPv6 hop limit <= 1'
              and containing 'EUT as next routing hop' }
   then { EUT sends 'ICMP "Time Exceeded" error message' to QE1
      and EUT discards 'the packet' }
           }
--xxxxxxxxxxxxxxxxxxxxxxx
TP id : TP COR 1059 01
Summary : 'Process packets if Hop Limit > 1'
RQ ref : RQ_COR_1059
Config : CF_022_I
TD ref : TD_COR_1059_01
ensure that
   when { QE1 is requested to 'send a packet to QE2'
                  containing 'Routing header Type = 0'
               and containing 'Segments Left value other than zero'
               and containing 'Segments Left value not greater than the number of addresses in
                               the Routing header'
               and containing 'an even "Hdr Ext Len" value'
           and not containing 'multicast address as next address to be visited or IPv6 Destination'
               and containing 'IPv6 hop limit > 1'
               and containing 'EUT as next routing hop' }
   then { EUT sends 'the packet to QE2' }
            }
```

```
End Group 1.2.4.4
End Group 1.2.4
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 1.2.6 'Process Flow Label'
TP id : TP_COR_1130_01
Summary: 'EUT detects two packets with different hop-by-hop option contents but the same source
           and destination addresses and the same flow label
RQ ref : RQ_COR_1130
Config : CF_022_I
TD ref : TD_COR_1130_01
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting QE1 and
            EUT and, the link connecting QE2 and EUT, respectively' }
ensure that {
   when { EUT receives 'two packets'
            containing 'QE1 as source address and QE2 as destination address'
        and containing 'a same flow label'
        and containing 'different hop-by-hop options' }
   then { EUT sends 'an ICMP parameter problem message' to QE1
   and EUT discards 'the packets' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1130_02
Summary: 'EUT detects two packets with different routing header contents but the same source
           and destination addresses and the same flow label'
RQ ref : RQ_COR_1130
Config : CF_022_I
TD ref : TD_COR_1130_02
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting QE1 and
            EUT and, the link connecting QE2 and EUT, respectively' }
ensure that {
   when { EUT receives 'two packets'
            containing 'QE1 as source address and QE2 as destination address'
        and containing 'a same flow label'
        and containing 'different hop-by-hop options' }
   then { EUT sends 'an ICMP parameter problem message' to QE1
and EUT discards 'the packets'}
            }
End Group 1.2.6
End Group 1.2
--xxxxxxxxxxxxxxxxxxxxxx
Group 1.4 'Extension Headers'
Group 1.4.2 'Process Extension Headers'
TP id : TP COR 1004 01
Summary: 'EUT does NOT process (modify) a Routing Header contained in
           a packet NOT destined for the EUT'
RQ ref : RQ_COR_1004
Config : CF_031_I
TD ref : TD_COR_1004_01
with { QE1 'configured with a unique non link-local unicast address'
   and QE2 'configured as a router with a unique non link-local unicast address'
   and QE3 'configured with a unique non link-local unicast address'
   and EUT 'configured with one unique non link-local unicast address on each link'
   and EUT 'established as the default Router for QE1' }
ensure that {
   when { EUT receives 'a packet' from QE1
            containing 'an indication that QE2 is the destination'
        and containing 'a Routing Header'
            indicating 'QE2 as the first node to process the Routing Header
                        and QE3 as the final destination of the packet' }
```

```
then { EUT 'forwards the packet, with the Routing Header UNMODIFIED' to QE2}
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1004_02
Summary: 'EUT does NOT process(remove) a Fragmentation Header contained
          in a packet NOT destined for the EUT'
RQ ref : RQ_COR_1004
Config : CF_022_I
TD ref : TD_COR_1004_02
with { QE1 'configured with a non link-local unicast address'
   and EUT 'configured with a unique non link-local unicast address on each link' }
ensure that {
  when { EUT receives 'a packet' from QE1
           containing 'an indication that QE2 is the destination'
        and containing 'a Fragmentation Header' }
   then { EUT 'forwards the packet with its Fragmentation Header' to QE2 }
--xxxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP COR 1004 03
Summary : 'EUT does NOT process(modify or remove) a Destination Options Header
          in a packet NOT destined for the EUT'
RQ ref : RQ_COR_1004
Config : CF_031_I
TD ref : TD_COR_1004_03
with { QE1 'configured with a unique non link-local unicast address'
  and QE2 'configured as a router with a unique non link-local unicast address'
   and QE3 'configured with a unique global unicast address'
  and EUT 'configured with a unique non link-local unicast address on each link' }
ensure that {
  when { EUT receives 'a packet' from QE1
           containing 'an indication that QE2 is the destination'
        and containing 'a Destination Options Header' }
   then { EUT 'forwards the packet, with the Destination Options Header UNMODIFIED'
            to QE2 }
           }
--xxxxxxxxxxxxxxxxxx--
TP id : TP COR 1005 01
Summary: 'EUT processes a Destination Options Header contained in a packet
          destined for the EUT'
RQ ref : RQ_COR_1005
Config : CF_011_I
TD ref : TD_COR_1005_01
with { QE 'configured with a unique link-local address'
  and EUT 'configured with a unique link-local address' }
ensure that {
  when { EUT receives 'fragment packets of a Request that requires a Reply' from QE
           containing 'a Fragmentaion Option in the Destination Options Header'
      -- A Destination Options Header can carry a Fragmentation option that
      -- achieves the same results as a Fragmentation Header.--
      -- The usage choice depends on the processing resources consumed--
   then { EUT sends 'the expected Reply' to QE }
End Group 1.4.2
--xxxxxxxxxxxxxxxxxxxxxxxx--
Group 1.4.4 'Routing Header'
Group 1.4.4.2 'Process Routing Header'
TP id : TP_COR_1042_01
Summary: 'Discard packet & generate ICMP error message if packet size larger than MTU'
RQ ref : RQ_COR_1042
Config : CF_022_I
TD ref : TD_COR_1042_01
```

```
with { 'Link2 configured with a smaller MTU than Link1' }
ensure that {
   when { \tt QE1\ is\ requested\ to\ 'send\ a\ packet\ larger\ than\ Link2\ MTU\ to\ QE2'}
                    containing 'EUT as next routing hop' }
   then { EUT discards 'the packet'
      and EUT sends 'ICMP "Packet too big" error message 'to QE1 }
 -xxxxxxxxxxxxxxxxxxxxxxxx
TP id : TP COR 1049 01
Summary: 'Routing Header NOT processed until IPv6 header Dest. Addr. reached'
RQ ref : RQ_COR_1049
Config
        : CF_031_I
TD ref : TD_COR_1049_01
with { EUT 'not included in the Routing Header vector (hop) list' }
ensure that {
   when { QE1 is requested to 'send a packet to QE3'
                    containing 'QE2 as next routing hop'
      and EUT 'is on the path to QE2' }
   then { EUT ignores 'the routing header'
      and EUT 'routes the packet to QE2' }
            }
--xxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1050_01
Summary: 'Routing Header IS processed when IPv6 header Dest. Addr. reached'
RQ ref : RQ_COR_1050
Config : CF_031_I
TD ref : TD_COR_1050_01
with { EUT 'included in the Routing Header vector (hop) list' }
ensure that {
   when { QE1 is requested to 'send a packet to QE3'
                   containing 'EUT as next routing hop'
      and QE2 'as subsequent routing hop' }
   then { EUT 'processes the routing header
      and EUT 'routes the packet' to QE2 }
--xxxxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1055_01
Summary : 'Discard multicast packets'
RQ ref : RQ_COR_1055
Config : CF_031_I
TD ref : TD_COR_1055_01
ensure that {
   when { QE1 is requested to 'send a packet to QE3'
                    containing 'Routing header Type 0'
                and containing 'a Segments Left Field value other than zero'
and containing 'an even "Hdr Ext Len" value'
                and containing 'Segments Left Field not greater than the number of addresses
                                 in the Routing header'
                and containing 'EUT as next routing hop'
and containing 'QE2 multicast address as subsequent routing hop' }
   then { EUT discards 'the packet' }
--xxxxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1056_01
Summary : 'Discard multicast packets'
RQ ref : RQ_COR_1056
Config : CF_022_I
TD ref : TD_COR_1056_01
ensure that {
   when { QE1 is requested to 'send a packet to the multicast address of QE2'
                    containing 'Routing header Type 0'
                and containing 'a Segments Left Field value other than zero'
and containing 'an even "Hdr Ext Len" value'
```

```
and containing 'Segments Left Field not greater than the number of addresses
                                in the Routing header'
               and containing 'EUT as next hop in the routing header' }
   then { EUT discards 'the packet' }
End Group 1.4.4.2
End Group 1.4.4
 -xxxxxxxxxxxxxxxxxx--
Group 1.4.5 'Fragment Header'
Group 1.4.5.1 'Generate Fragmented Packets'
TP id : TP_COR_1064_01
Summary : 'EUT fragments a packet larger than the available PMTU before sending it' RQ \ ref \ : RQ\_COR\_1064
Config : CF_023_I
TD ref : TD_COR_1064_01
with { 'the MTU on Link1 set greater than the MTU on Link2' }
ensure that {
  when { EUT is requested to 'send a packet of greater length than
                              the MTU of Link2' to QE2 }
  then { QE2 indicates 'receipt of the same data without any
                        modification' }
End Group 1.4.5.1
--xxxxxxxxxxxxxxxxxxxxxx
Group 1.4.5.2 'Process Fragmented Packets'
         : TP_COR_1100_01
Summary : 'EUT reassembles a fragmented packet of an original length less than 1500 octets' RQ ref : RQ_COR_1100
Config
        : CF_011_I
TD ref
         : TD_COR_1100_01
with { 'the MTU on Link1 set to 1400 octets' }
ensure that {
  when { QE is requested to 'send data requiring a packet
                              length lesser than 1500 octets' }
  \textbf{then} \ \{ \ \textbf{EUT indicates} \ \texttt{'receipt of the same data without}
                        modification' }
          }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id
         : TP_COR_1100_02
Summary : 'EUT reassembles a fragmented packet of an original length equal to 1500 octets'
RQ ref : RQ_COR_1100
        : CF_011_I
: TD_COR_1100_02
Config
TD ref
with { 'the MTU on Link1 set to 1400 octets' }
ensure that {
  when { QE is requested to 'send data requiring a packet
                              length equal to 1500 octets' }
  then { EUT indicates 'receipt of the same data without
                         modification' }
       }
--xxxxxxxxxxxxxxxxxxxxxx
TP id
         : TP_COR_1101_01
Summary : 'EUT reassembles a fragmented packet of an original length greater than 1500 octets'
RQ ref
         : RQ_COR_1101
         : CF_011_I
Config
        : TD_COR_1101_01
TD ref
with { 'the MTU on Link1 set to 1400 octets' }
ensure that {
```

```
when { QE is requested to 'send data requiring a packet
                             length greater than 1500 octets' }
  then { EUT indicates 'receipt of the same data without
                       modification' }
End Group 1.4.5.2
End Group 1.4.5
End Group 1.4
End Group 1
--* RFC2461 Neighbor Discovery for IPv6 *--
Group 2 'RFC2461'
Group 2.1 'Generate Neighbor Discovery Messages'
Group 2.1.5 'Generate Router Advertisement'
TP id : TP_COR_8295_01
Summary: 'EUT (as a router) does not send Router Advertisements out any interface that is not
          an advertising interface'
RQ ref : RQ_COR_8295
Config : CF_011_I
TD ref : TD_COR_8295_01
with { QE 'configured with a unicast address'
  and EUT 'configured with a multicast address'
   and EUT 'not configured to have any unicast address' }
ensure that {
   when { EUT 'is initializing' }
   then { EUT 'does not send Router Advertisement to QE' }
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.1.5.1 'Router Advertisement Behavior'
Group 2.1.5.1.1 'Router Advertisement Behavior on Reconfiguration'
TP id : TP_COR_8256_01
Summary: 'By default a router does not advertise its presence unless it has been explicitely
          configured to do so'
RQ ref : RQ_COR_8256
Config : CF_011_I
TD ref : TD_COR_8256_01
with { QE 'configured with a unique global unicast address'
   and EUT 'configured as a router with a unique global unicast address'
   and EUT 'not configured to send router advertisements' }
ensure that {
   when { EUT 'is initializing' }
   then { EUT 'does not send Router Advertisement to QE'
      and EUT discards 'Router Solicitation sent by QE' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8297_01
Summary: 'A disabled EUT advertising interface returns to being an advertising
         interface when re-enabled'
RQ ref : RQ_COR_8297
Config : CF_011_I
TD ref : TD_COR_8297_01
with { EUT 'advertising interface disabled' }
        -- such that its network interfaces ceases to be an advertising interface --
ensure that {
   when { EUT 'network interface is administratively re-enabled' }
   then { EUT 'network interface returns to being an advertising interface' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8313_01
```

```
Summary: 'EUT transmits FINAL Router advertisement messages and departs from the
           all-routers IP multicast group on all interfaces on which the EUT supports
           IP multicast
RQ ref : RQ_COR_8313
Config : CF_022_I
TD ref : TD_COR_8313_01
with { EUT 'configured to support IP multicast on its two interfaces'
   and EUT 'configured to act as the default router for QE1' }
ensure that {
   when { EUT 'network interface to QE1 is DISABLED from sending RA messages'
            -- but the interface is still up and operational --
      and EUT 'IP forwarding capability is DISABLED' }
   then { EUT sends 'a number of Router Advertisement messages onto the link to
                     which QE1 is attached'
            \hspace{0.1cm} \text{and} \hspace{0.1cm} \text{EUT} \hspace{0.1cm} \text{'then leaves the all-routers IP multicast group on both interfaces'} \hspace{0.1cm} \}
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP COR 8314 01
Summary: 'When EUT becomes a Host, subsequent Neighbor Advertisements transmitted
           from a previously advertising interface indicate that EUT is no longer a Router'
RO ref : RO COR 8314
Config : CF_022_I
TD ref : TD_COR_8314_01
with { EUT 'Router Advertisements disabled on two previously advertising interfaces'
   and EUT 'has IP forwarding disabled'
   and EUT 'removed from all-routers IP multicast group on both interfaces'
   and EUT 'configured as a Host' }
ensure that {
   when { EUT is requested to 'send a Neighbor Advetisement message(s) from any of
                               the previously advertising interfaces' }
   then { EUT sends 'Neighbor Advertisement message(s)'
         containing 'indication(s) that it is no longer a Router' }
--xxxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8315_01
Summary: 'When the IP forwarding capability of EUT (as a router) is disabled,
           subsequent Router Advertisements set the Router Lifetime field to zero'
RQ ref : RQ_COR_8315
Config : CF_022_I
TD ref : TD_COR_8315_01
with { QE1 'configured with a non link-local unicast address'
   and EUT 'configured with a unique non link-local unicast address on each link'
   and EUT 'configured with two advertising interfaces'
   and QE2 'configured with a non link-local unicast address' }
ensure that {
   when { EUT is requested to 'disable its IP forwarding capability but interfaces continue
                               advertising' }
   then { QE1 indicates 'receipt of Router Advertisements from EUT'
           containing 'Router Lifetime field as zero'
          and QE1 indicates 'receipt of Router Advertisements from EUT'
          containing 'Router Lifetime field as zero' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP COR 8337 01
Summary : 'EUT uses Router Advertisement to announce change of link-local address'
RQ ref : RQ_COR_8337
Config : CF_021_I
TD ref : TD_COR_8337_01
with { EUT 'configured as a router' }
ensure that {
   when { EUT is requested to 'change the link-local address of the interface to
                                QE1 and QE2' }
   then { EUT sends 'Router Advertisements with its old link-local address'
      and EUT sends 'Router Advertisements with its new link-local address' }
```

```
}
End Group 2.1.5.1.1
--xxxxxxxxxxxxxxxxxxxxxxxx
Group 2.1.5.1.2 'Startup Router Advertisement Behavior'
TP id : TP_COR_8255_01
Summary: 'EUT is able to prohibit a multicast-capable interface from both
           sending periodic Router Advertisements and responding to Router Solicitations'
RO ref : RO COR 8255
Config : CF_011_I
TD ref : TD_COR_8255_01
with { EUT 'configured with its network interface multicast-capable'
   and EUT 'configured to prohibit the interface from both sending Router Advertisements
            and responding to Router Solicitations'
   and QE 'configured to send Router Solicitation messages during the (re-)initilisation
           of the network interface |
ensure that {
   when { EUT receives 'a Router Solicitation message' from QE }
   then { EUT 'does not send any Router Advertisement messages onto the link' }
          }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8255_02
Summary : 'EUT re-enables a multicast-capable interface to send periodic
          Router Advertisements after previously being prohibited from doing so'
RQ ref : RQ_COR_8255
Config : CF_011_I
TD ref : TD_COR_8255_03
with { EUT 'configured with its network interface multicast-capable'
  and EUT 'configured to prohibit the interface from both sending Router Advertisements
            and responding to Router Solicitations'
   and QE 'configured to send Router Solicitation messages during the (re-)initilisation
            of the network interface' }
ensure that {
   when { \mbox{EUT} is requested to 'enable the sending of periodic RAs' }
   then { EUT sends 'periodic Router Advertisement messages to the all-nodes
                    multicast address' }
            }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8255_03
Summary: 'EUT re-enables a multicast-capable interface to respond to
          Router Solicitations after previously being prohibited from doing so'
RQ ref : RQ_COR_8255
Config : CF_011_I
TD ref : TD_COR_8255_03
with { EUT 'configured with its network interface multicast-capable'
  and EUT 'configured to prohibit the interface from both sending Router Advertisements
            and responding to Router Solicitations'
   and QE 'configured to send Router Solicitation messages during the (re-)initilisation
            of the network interface' }
ensure that {
   when { EUT is requested to 'respond to RSs'
            and EUT receives 'a Router Solicitation message' from QE
                 containing 'the link-local address of QE as the source address' }
   then { EUT sends 'a Router Advertisement message' to QE }
           }
--xxxxxxxxxxxxxxxxxxxxxx
        : TP_COR_8257_01
Summary: 'an Advertizing router generates periodic Router Advertissement'
RQ ref : RQ_COR_8257
Config
       : CF_011_I
TD ref : TD_COR_8257_01
with { EUT 'configured as an advertizing router' } -- AdvSendAdvertisements flag set to 'TRUE'
```

```
ensure that {
   when { EUT 'is initialized' }
   then { EUT sends 'periodic Router Advertisements'
      and EUT sends 'responses to Router Solicitations' }
End Group 2.1.5.1.2
End Group 2.1.5.1
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.1.5.2 'Form Router Advertisement Options'
      : TP_COR_8305_01
Summary: 'During system initialization, the first few initial unsolicited advertisements
           sent by EUT (as a router) includes all prefix options'
RQ ref : RQ_COR_8305
Config : CF_011_I
TD ref : TD_COR_8305_01
with { EUT 'configured as a router with a unicast address on link 1'
   and EUT 'configured with several network prefixes on link 1'
   and EUT 'configured with an advertising interface on link 1' }
ensure that {
   when { EUT 'is initializing'}
   then { EUT sends 'Router Advertisements'
            containing 'EUT as source address'
         and containing 'all prefixes of EUT on link 1' }
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.1.5.2.1 'RA Source Link-Layer Address Option'
TP id : TP_COR_8141_01
Summary : 'EUT enables inbound load sharing across multiple link-layer addresses' RQ ref : RQ_COR_8141
Config : CF_011_I
TD ref : TD_COR_8141_01
with { EUT 'configured as a router'
   and EUT 'configured to support inbound load sharing'
and QE 'configured as a host' }
ensure that {
   when { EUT is requested to 'enable Inbound Load balancing'
     and EUT is requested to 'establish its network interface as an advertising interface' }
   then { EUT sends 'periodic Router Advertisement messages'
         containing 'NO Source link-layer address Option' }
            }
End Group 2.1.5.2.1
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.1.5.2.2 'Router Advertisement MTU OPtion'
TP id : TP COR 8142 01
Summary : 'Router includes MTU option in Router Advertisements'
RQ ref : RQ_COR_8142
Config : CF_011_I
TD ref : TD_COR_1097_01
with { QE 'connected to the same variable MTU link as EUT'
  and EUT 'configured as an advertizing router'
  and EUT 'configured with a valid prefix'
  and {\tt EUT} 'configured with a specific MTU value' } -- greater than the IPv6 minimum MTU size
ensure that {
   when { EUT receives 'a Router Solicitation' from QE}
   then { EUT sends 'Router Advertisement'
         containing 'the MTU value' }
End Group 2.1.5.2.2
End Group 2.1.5.2
```

--xxxxxxxxxxxxxxxxx--

```
TP id
      : TP COR 8317 01
Summary: 'EUT unicasts a Router Advertisement message to a soliciting node'
RQ ref : RQ_COR_8317
Config : CF_011_I
TD ref : TD_COR_8317_01
with { EUT 'configured to advertise as a default router'
   and QE 'configured as a host' }
ensure that {
   when { EUT receives 'a Router Solicitation message' from QE
            containing 'a Source Address that is not the Unspecified Address' }
          EUT sends 'a Router Advertisement message' to QE }
End Group 2.1.5
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.1.6 'Generate Router Solicitation'
       : TP COR 8375 01
TP id
Summary: 'Routers becoming Hosts send RS messages immediately'
RQ ref : RQ_COR_8375
       : CF_011_I
Config
TD ref : TD_COR_8375_01
with { EUT 'operating as a router' }
ensure that {
   when { EUT 'has its forwarding capability turned off by system management'}
   then { EUT sends 'a Router Solicitation message immediately' }
End Group 2.1.6
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.1.7 'Generate Neighbor Advertisement'
Group 2.1.7.1 'Generate Unsolicited Neighbor Advertisements'
      : TP_COR_8471_01
Summary: 'EUT announces change of link-layer address associated with a single IP address'
RQ ref : RQ_COR_8471
Config : CF_021_I
TD ref : TD_COR_8471_01
with { EUT 'configured with a single IP address assigned to its interface to QE1 and QE2' }
ensure that {
   when { EUT is requested to 'change link-layer address on interface to QE1 and QE2' }
   then { EUT 'is able to address QE1'
      and EUT 'is able to address QE2'
      and QE1 'is able to address EUT'
      and QE2 'is able to address EUT' }
--xxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8476_01
Summary : 'EUT announces change of link-layer address associated with multiple IP addresses'
RQ ref : RQ_COR_8476
Config : CF_021_I
TD ref : TD_COR_8476_01
with { EUT 'configured with two IP addresses assigned to its interface to QE1 and QE2' }
ensure that {
   when { EUT is requested to 'change link-layer address on interface to QE1 and QE2' }
   then { EUT 'is able to address QE1'
      and EUT 'is able to address QE2'
      and QE1 'is able to address EUT on both available IP addresses'
      and QE2 'is able to address EUT on both available IP addresses' }
             }
```

```
End Group 2.1.7.1
End Group 2.1.7
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.1.8 'Generate Redirect Message'
Group 2.1.8.1 'Determine Redirect Target Address Field'
TP id : TP_COR_8183_01
Summary: 'Router sends a Redirect message indicating that the destination of a packet
          is a neighbor'
RQ ref : RQ_COR_8183
Config : CF_021_I
TD ref : TD_COR_8183_01
with { EUT 'configured as a non advertizing router'
 and EUT 'configured with global addresses on PREFIX1 and PREFIX2'
 and QE2 'configured as a host'
 and QE2 'configured manually with a global address on PREFIX2'
 and QE1 'configured as a host'
 and QE1 'configured manually with a global address on PREFIX1'
 and QE1 'configured manually with EUT as default route'
 and 'EUT and QE2 have finished to perform DAD before QE1 is started' }
ensure that {
  when { EUT receives 'a packet' from QE1 containing 'QE2 as destination'}
   then { EUT sends 'a Redirect message' to QE1
         containing 'Target Address field equal to the address of QE2' }
--xxxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8546_01
Summary: 'EUT sends a Redirect message to indicate a better first-hop node'
RQ ref : RQ_COR_8546
Config
       : CF_032_I
TD ref : TD_COR_8546_01
with { EUT 'configured as the default router for QE1'
   and EUT 'established as the only default Router available for QE1'
   and QE2 'established as the better first-hop node for traffic from EUT to QE3'
  and QE1 'configured as a host'
   and EUT 'established as the only default Router for QE1' }
ensure that {
  when { EUT receives 'a Packet' from QE1
           containing 'an indication that QE3 is the destination' }
   then { EUT sends 'a Redirect message' to QE1
         containing 'an indication that QE2 is the better first-hop' }
           }
End Group 2.1.8.1
End Group 2.1.8
End Group 2.1
--xxxxxxxxxxxxxxxxxxxxxxx
Group 2.2 'Process Neighbor Discovery Messages'
Group 2.2.5 'Process Router Advertisement
TP id : TP COR 8348 01
Summary: 'EUT sets corresponding invalidation timer as the non-zero Router Lifetime value
          indicated in a received Router Advertisement from a router'
RQ ref : RQ_COR_8348
Config : CF_023_I
TD ref : TD_COR_8348_01
with { EUT 'configured as a host with a unique link-local address'
  and QE2 'configured as a host with a unique link-local address'}
ensure that {
  when { EUT receives 'Router Advertisement' from QE1
          containing 'a non-zero value in the Router Lifetime field'
   then { EUT 'is able to communicate with QE2' Before 'the advertized Router Lifetime expires'
     and EUT 'is unable to communicate with QE2' after 'the advertized Router Lifetime has expired'
           }
```

--xxxxxxxxxxxxxxxxxxxxxxxx--

```
Group 2.2.5.3 'Host Processing of Router Advertisement'
TP id : TP_COR_8231_01
Summary : 'EUT uses at least two of the connected routers as its default routers'
RQ ref : RQ_COR_8231
Config : CF_033_I
TD ref : TD_COR_8231_01
with { QE1 'configured with one unique unicast address on each link'
and QE2 'configured with one unique unicast address on each link'
and EUT 'able to communicate with QE3'
ensure that {
when { QE1 'becomes unavailable as a router'
or QE2 'becomes unavailable as a router'
and EUT is requested to 'send a packet to QE3' }
then { QE3 indicates 'the receipt of the packet' }
           }
--• xxxxxxxxxxxxxxxxxxxxxxxxx
       : TP_COR_8343_01
Summary : 'EUT uses only latest advertised parameters and options from Router'
RQ ref : RQ_COR_8343
Config : CF_033_I
TD ref : TD_COR_8343_01
with { QE1 'configured to advertise a MTU value of 1450 on Link1'
   and QE2 'configured to advertise a MTU value of 1400 on Linkl'
   and EUT 'configured as a host' }
ensure that {
   then { EUT 'uses the value of the most recently received Router Advertisement' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8346_01
Summary: 'Hosts accept at least 2 default routers'
RQ ref : RQ_COR_8346
Config : CF_021_I
TD ref : TD_COR_8346_01
with { QE1 'configured as an advertising router with a valid prefix1'
   and QE2 'configured as an advertising router with a valid prefix2' }
ensure that {
   when { EUT receives 'Router Advertissement' from QE1
    and EUT receives 'Router Advertissement' from QE2 }
   then { EUT 'adds QE1 and QE2 to its default router list' }
            }
--xxxxxxxxxxxxxxxxxxxxx
       : TP_COR_8347_01
Summary: 'EUT adds newly advertised router to its default list'
RQ ref : RQ_COR_8347
Config : CF_041_I
TD ref : TD_COR_8347_01
with { QE1 'established as a default router for EUT'
   and QE2 'established as a default router for EUT'
   and QE3 'not established as a default router for EUT'
   and QE4 'configured with a global unicast address' }
ensure that {
   when { EUT receives 'Router Advertisement' from 'QE3' }
           - QE3 is now taken as a default router for EUT
   then { EUT 'is able to address QE4' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8347_02
```

```
Summary: 'EUT removes router from its default list after Router Lifetime expires'
RQ ref : RQ_COR_8347
Config : CF_041_I
TD ref : TD_COR_8347_02
with { QE1 'established as a default router for EUT'
   and QE2 'established as a default router for EUT
   and QE3 'not established as a default router for EUT'
   and QE4 'configured with a global unicast address' }
ensure that {
   when { EUT receives 'Router Advertisement' from QE3
         -- OE3 is now taken as a default router for EUT
        and containing 'Router Lifetime parameter'
            indicating 'a specifc short lifetime of QE3' } --suggest 2 minutes
   then { EUT 'is able to address QE4' within 'the specified router lifetime'
      and EUT 'is unable to address QE4' after 'the specified router lifetime' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8349_01
Summary: 'EUT removes router from default list when zero value Router Lifetime received'
RQ ref : RQ_COR_8349
Config : CF_023_I
TD ref : TD_COR_8349_01
with { QE1 'established as the only default router for EUT'
   and EUT 'is able to communicate with QE2' }
ensure that {
   when { EUT receives 'Router Advertisement' from QE1
            containing 'Router Lifetime parameter'
            indicating 'zero lifetime of QE1' }
   then { EUT 'is unable to address QE2' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8360_01
Summary: 'EUT treats a known router-advertised prefix as on-link for the specified lifetime'
RQ ref : RQ_COR_8360
Config : CF_023_I
TD ref : TD_COR_8360_01
with { QE1 'configured with a specific prefix (Prefix-1) on the link to QE2'
   and QE1 'established as the default router for EUT'
   and {\tt QE1} 'has advertised Prefix-1 as on-link to EUT with a long lifetime' }
ensure that {
   when { EUT receives 'Router Advertisement' from QE1
            containing 'Prefix options'
            indicating 'Prefix-1 is on-link'
        and containing 'prefix options'
           indicating 'Prefix-1 has a Lifetime less than the existing value' } --suggest 2 minutes
   then { EUT 'is unable to address QE2' within 'the specified prefix lifetime'
      and EUT 'is able to address QE2' after 'the specified prefix lifetime' }
End Group 2.2.5.3
--xxxxxxxxxxxxxxxxxx--
Group 2.2.5.4 'Discover Neighbor by Router Advertisement'
TP id
      : TP COR 8359 01
Summary: 'EUT treats a new router-advertised prefix as on-link for the specified lifetime'
RQ ref : RQ_COR_8359
Config : CF_023_I
TD ref : TD_COR_8359_01
with { QE1 'configured with a specific prefix (Prefix-1) on the link to EUT'
   and EUT 'configured with Prefix-1 as off-link'
   and {\tt QE2} 'manually configured with two global unicast addresses corresponding to Prefix-1' }
ensure that {
   when { EUT receives 'Router Advertisement' from QE1
            containing 'Prefix options'
```

```
indicating 'Prefix-1 is on-link'
        and containing 'prefix options
           indicating 'Prefix-1 has a Lifetime of a specifc short period' } --suggest 2 minutes
   then { EUT 'is unable to address QE2' within 'the specified prefix lifetime'
      and EUT 'is able to address QE2' after 'the specified prefix lifetime' }
--xxxxxxxxxxxxxxxxxxxxxxx--
      : TP_COR_8361_01
Summary: 'EUT times-out an exiting router-advertised prefix with a zero lifetime'
RQ ref : RQ_COR_8361
Config : CF_023_I
TD ref : TD_COR_8361_01
with { QE1 'configured with a specific prefix (Prefix-1) on the link to QE2'
  and EUT 'configured with Prefix-1 as on-link' }
ensure that {
  when { EUT receives 'Router Advertisement' from QE1
           containing 'Prefix options'
            indicating 'Prefix-1 is on-link'
        and containing 'prefix options'
           indicating 'Prefix-1 has a Lifetime of zero' }
   then { EUT 'is able to address QE2' }
End Group 2.2.5.4
End Group 2.2.5
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.2.6 'Process Router Solicitation'
TP id : TP COR 8299 01
Summary: 'EUT does not send router advertisements out the functioning and enabled
          multicast interface'
RQ ref : RQ_COR_8299
Config : CF_011_I
TD ref : TD_COR_8299_01
with { EUT 'configured as an advertizing router with a unicast address on link 1'
and QE 'configured with a unicast address on link 1'
ensure that {
  when { QE is requested to 'send a Router Solicitation to all-routers multicast address'}
   then { QE indicates 'receipt of a Router Advertisement'
             containing 'EUT as source address' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8328_01
Summary : 'Router Solicitation do update Neighbor Cache entries'
RQ ref : RQ_COR_8328
Config : CF_023_I
TD ref : TD_COR_8328_01
with { QE1 'configured as an advertizing router on link1 and link2'
  and QE1 'configured with a global address on each link'
  and QE2 'a stateless autoconfiguration capable host on link2'
  and EUT 'configured as a non advertizing router on link1'
  and EUT 'configured with a global address on link1'
      and 'all nodes can communicate with each other' }
ensure that {
  when { EUT receives 'a valid Router Solicitation' from QE1
            containing 'a Source Link Layer option'
            indicating 'a Link-Layer address different to the cached Link-Layer
                       address for QE1'}
   then { EUT 'makes no attempt to verify the reachability of QE1 until traffic is
              sent to OE1'
      and EUT 'uses the new Link-Layer address for subsequent communication' }
--xxxxxxxxxxxxxxxxxxxxxxx--
```

```
TP id : TP_COR_8328_02
Summary: 'Router Solicitation are sent by hosts only'
RQ ref : RQ_COR_8328
Config : CF_023_I
TD ref : TD_COR_8328_02
with { QE1 'configured as an advertizing router on link1 and link2'
  and QE1 'configured with a global address on each link'
  and QE2 'a stateless autoconfiguration capable host on link2'
  and EUT 'configured as a non advertizing router on link1'
  and EUT 'configured with a global address on link1'
      and 'all nodes can communicate with each other' }
ensure that {
   when { EUT receives 'a valid Router Solicitation' from QE1
            containing 'a Source Link Layer option'
            indicating 'a Link-Layer address different to the cached Link-Layer
                        address for OE1'}
   then { EUT 'no longer considers QE1 as a router' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8329_01
Summary : 'Router Solicitation create Neighbor Cache entries'
RQ ref : RQ_COR_8329
Config : CF_011_I
TD ref : TD_COR_8329_01
with { EUT 'configured as an advertizing router'
  and EUT 'configured with a global address'
  and QE 'a stateless autoconfiguration capable host'
  and QE 'is disabled and unknown from EUT' }
ensure that {
   when {    QE is requested to 'start'
    and    QE 'sends Router solicitation messages to EUT'}
   then { EUT 'makes no attempt to verify the reachability of QE until traffic is sent to QE'}
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8330_01
Summary : 'A node sending a Router Solicitation can be only considered as a host'
RQ ref : RQ_COR_8330
Config : CF_023_I
TD ref : TD_COR_8330_01
with { QE2 'configured with a unique global unicast address'
   and QE1 'configured with one unique global unicast address on each link'
   and QE1 'able to communicate with QE2' }
ensure that {
   when { EUT receives 'a valid Router Solicitation' from QE1
           containing 'a unicast address as source address'
    and not containing 'a source link-layer address option' }
   then { EUT 'no longer considers QE1 as a router' }
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.2.6.5 'Discover Neighbor by RS'
TP id : TP_COR_8329_01
Summary: 'EUT treats a (RS)soliciting NEW neighbor as a host and, makes no attempt to
          verify the reachability of this neighbor until traffic is sent to the neighbor'
RQ ref : RQ_COR_8329
Config : CF_011_I
TD ref : TD_COR_8329_01
with { EUT 'configured to advertise as a default router'
   and EUT 'having NO entry for the link-layer address of QE in the Neighbor Cache'
   and QE 'configured as a host' }
ensure that {
   when {EUT receives 'a Router Solicitation message' from QE
           containing 'a Source Link-layer Address Option
           indicating 'the Link-layer address of QE' }
```

```
then { EUT 'does not perform Neighbor Unreachability Detection test on QE, until
               traffic is sent to QE' }
--xxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8329_02
Summary: 'EUT uses the link-layer address conveyed by a (RS)soliciting NEW neighbor
          for subsequent IP communication'
RQ ref : RQ_COR_8329
Config : CF_011_I
TD ref : TD_COR_8329_02
with { EUT 'configured to advertise as a default router'
   and EUT 'having NO entry for the link-layer address of QE in the Neighbor Cache'
   and QE 'configured as a host' }
ensure that {
   when { EUT receives 'a Router Solicitation message' from QE
           containing 'a Source Link-layer Address Option'
           indicating 'the Link-layer address of QE'
      and EUT is requested to 'send a packet to QE' }
   then { EUT 'uses the link-layer address of QE to send the packet' }
End Group 2.2.6.5
End Group 2.2.6
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.2.7 'Process Neighbor Advertisement'
TP id : TP_COR_8469_01
Summary: 'A host receiving a Neighbor Adv. from a machine it considers as a router,
           with the IsRouter flag set to FALSE, will revove that router from its
           Default Router list'
RQ ref : RQ_COR_8469
Config : CF_023_I
TD ref : TD_COR_8469_01
with { EUT 'configured as a Host'
  and QE1 'configured as a Router'
  and QE2 'configured as a Host'
  and EUT 'can reach QE2' }
ensure that {
  when { QE1 'is physically disconnected from both links'
     and QE1 'is re-configured as a host'
               this is done off-line, + IPv6 @ is configured manually (no autoconfig)
      and QE1 'is re-connected to both links'
     and EUT receives 'a Neighbor Advertissement' from QE1}
   then { EUT 'removes QE1 from its Default Router list' }
End Group 2.2.7
--xxxxxxxxxxxxxxxxxx--
Group 2.2.8 'Process Neighbor Solicitation'
Group 2.2.8.2 'Generate Solicited Neighbor Advertisement'
      : TP_COR_8162_01
Summary: 'In response to a valid Neighbor Solicitation with a specified source address,
          EUT transmits a Neighbor Advertisement to that address'
RQ ref : RQ_COR_8162
Config : CF_011_I
TD ref : TD_COR_8162_01
with { QE 'configured with a unique unicast address'
   and EUT 'configured with a unique unicast address' }
ensure that {
  when { EUT receives 'a valid Neighbor Solicitation'
           containing 'QE as source address' }
   then { EUT sends 'a Neighbor Advertisement' to QE}
--xxxxxxxxxxxxxxxxxxxxxxx--
```

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TP id : TP_COR_8163_01
Summary: 'In response to a valid Neighbor Solicitation with an unspecified source address,
          EUT transmits a Neighbor Advertisement to all-node multicast address'
RQ ref : RQ_COR_8163
Config : CF_011_I
TD ref : TD_COR_8163_01
with { QE 'configured with the same unicast address as EUT'
ensure that {
when { EUT receives 'a DAD Neighbor Solicitation' From QE
            containing 'the unspecified address as source address' }
   then { EUT sends 'a Neighbor Advertisement to the all-node multicast address' }
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8179_01
Summary: 'EUT responds to received Neighbor Solicitation with a multicast
           destination address'
RQ ref : RQ_COR_8179
Config : CF_011_I
TD ref : TD_COR_8179_01
with {    QE 'configured with a unique global unicast address'
  and EUT 'configured with a unique global unicast address' }
ensure that {
   when { EUT receives 'a valid Neighbor Solicitation'
           containing 'a multicast address as destination address' }
   then { EUT sends 'a Neighbor Advertisement'
         containing 'a target link-layer address option' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8180_01
Summary: 'EUT processes valid unicast Neighbor Solicitations '
RQ ref : RQ_COR_8180 Config : CF_011_I
TD ref : TD_COR_8180_01
with { QE 'configured with a unique global unicast address'
   and EUT 'configured with a unique global unicast address' }
ensure that {
   when { EUT receives 'a Neighbor Solicitation' from QE
            containing 'EUT as the destination' }
   then { QE indicates 'receipt of a Neighbor Advertisement'
           containing 'EUT as source address'
           and containing 'a target link-layer address option' }
End Group 2.2.8.2
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.2.8.5 'Process Proxy NS'
TP id : TP_COR_8174_01
Summary : 'EUT acts as an address Proxy'
RQ ref : RQ_COR_8174
Config : CF_022_I
TD ref : TD_COR_8174_01
with { EUT 'configured as an address Proxy for the unicast address of QE2'
   and EUT 'configured with two unique unicast addresses on each link'
   and QE1 'configured with a unique unicast address'
   and QE2 'configured with a unique unicast address'
   and EUT 'subscribes to the same unicast address subnet as QE1 and QE2' }
ensure that {
   when \{ -- for the first time, QE1 is attempting to send packets to the unicast --
           -- address of QE2 --
          EUT receives 'a Neighbor Solicitation message' from QE1 }
   then { EUT sends 'a Neighbor Advertisement message' to QE1
```

```
containing 'the link-layer address of QE2'
            and containing 'an indication that the entry in the Neighbor Cache
                            should NOT be overridden' }
            }
End Group 2.2.8.5
End Group 2.2.8
--xxxxxxxxxxxxxxxxxx
Group 2.2.9 'Process Redirect Message'
Group 2.2.9.1 'Host Processing of Redirect Message'
TP id : TP_COR_8555_01
Summary: 'EUT updates the Neighbor Cache entry of a KNOWN neighbor, whose link-layer
           address conveyed by a Redirect message has not changed and, for packets whose
           next hop was changed by the Redirect message, EUT sends the packets to the
           specified target'
RQ ref : RQ_COR_8555
Config : CF_032_I
TD ref : TD_COR_8555_01
with { QE1 'established as the only default router for EUT'
   and EUT 'configured as a host'
   and EUT 'having the link-layer address of OE2 in the Neighbor Cache' }
ensure that {
   when {EUT is requested to 'send packets to QE3'
            and EUT receives 'a Redirect message' from QE1
              containing 'an indication that QE2 is the better first-hop'
and containing 'a Target Link-layer Address Option'
                  indicating 'the Link-layer address of QE2 interface attached to the
                             same link as EUT' }
   then { EUT 'does NOT perform address resolution of the link-local address of QE2'
      and EUT sends 'subsequent packets destined for QE3' to QE2 }
End Group 2.2.9.1
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.2.9.2 'Discover Neighbor by Redirect Message'
TP id : TP_COR_8554_01
Summary: 'EUT adds a neighbor specified by a Redirect message, to its neighbor list and,
          for packets whose next hop was changed by the Redirect message, EUT sends the
           packets to the specified target'
RQ ref : RQ_COR_8554
Config : CF_021_I
TD ref : TD_COR_8554_01
with { EUT 'configured as a host'
   and QE1 'configured to advertise a non global-scope prefix for autoconfiguration'
   and QE1 'configured with one unique global unicast address, whose prefix is not
            known to EUT as an on-link prefix'
   and QE2 'configured with one unique global unicast address, whose prefix is not
            known to EUT as an on-link prefix'
   and QE1 'subscribed to the same global unicast address subnet as EUT'
   and QE2 'subscribed to the same global unicast address subnet as EUT'
   and EUT 'configured with a unicast address using the prefix advertised by QE1'
   and QE2 'configured with a unicast address using the prefix advertised by QE1' }
ensure that {
   when { EUT is requested to 'send packets to the global unicast address of QE2
                              for the first time'
      and EUT receives 'a Redirect message' from QE1
                 containing 'the global unicast address of QE2 as the target' }
   then { EUT sends 'subsequent packets destined for the global unicast address of QE2
                    directly to QE2' }
            }
End Group 2.2.9.2
End Group 2.2.9
End Group 2.2
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.5 'Next Hop Determination'
```

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TP id : TP_COR_8232_01
Summary: 'EUT uses next-hop determination to select a new default router'
RQ ref : RQ_COR_8232
Config : CF_033_I
TD ref : TD_COR_8232_01
with { QE1 'configured with one unique unicast address on each link'
and QE2 'configured with one unique unicast address on each link'
and EUT 'able to communicate with QE3'
ensure that {
when { QE1 'becomes unavailable as a router'
or QE2 'becomes unavailable as a router'
and EUT is requested to 'send a packet to QE3' }
then { QE3 indicates 'the receipt of the packet' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8356_01
Summary: 'EUT knows how to treat an off-link prefix'
RQ ref : RQ_COR_8356
Config : CF_023_I
TD ref : TD_COR_8356_01
with { QE1 'configured as the default Router for EUT'
   and QE1 'configured to advertise an off-link prefix onto the link to which EUT
            is attached'
   and QE2 'configured with one unique non link-local address, whose prefix is the
            one QE1 advertises to EUT as an off-link prefix'
   and EUT 'configured as a host' }
ensure that {
   when { EUT receives 'a Router Advertisement message' from QE1
            containing 'the off-link prefix'
      and EUT is requested to 'send a packet to the non link-local address of QE2' }
   then \{ --EUT does not perform address resolution of the intended address of QE2--
          EUT sends 'the packet' to QE1 }
--xxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8364_01
Summary: 'EUT stops using a Router whose Router Lifetime expired and performs next-hop
           determination for all the addresses which were using the now-deleted Router's
RQ ref : RQ_COR_8364
Config : CF_033_I
TD ref : TD_COR_8364_01
with { EUT 'configured as a host'
   and QE3 'configured with a number of unique global unicast addresses'
   and QE1 'established as a default router for EUT'
   and QE2 'established as a default Router for EUT'
   and EUT 'using QE1 as the default Router when sending packets to any of the
            global unicast addresses of QE3' }
ensure that {
   when { EUT receives 'a packet'
            containing 'any of the global unicast addresses of QE3 as the destination'
                 after 'the Router Lifetime of QE1 has expired on EUT'
                before 'the Router Lifetime of QE2 has expired on EUT' }
   then { EUT sends 'the packet on to the indicated global unicast address of QE3' }
End Group 2.5
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.6 'Neighbor Uneachability Detection'
Group 2.6.6 'Neighbor Reachability Determination'
TP id : TP_COR_8147_01
Summary : 'EUT performs neighbor reachability test'
RQ ref : RQ_COR_8147
Config
       : CF_011_I
TD ref : TD_COR_8147_01
```

```
with {    QE 'configured with a unique unicast address'
  and EUT 'configured with a unique unicast address'
   and EUT 'unaware of the link layer address of QE' }
ensure that {
   when { EUT is requested to 'send a packet to QE' }
   then { EUT sends 'a Neighbor Solicitation' to QE}
End Group 2.6.6
End Group 2.6
--xxxxxxxxxxxxxxxxxxxxxx
Group 2.7 'Address Resolution'
TP id : TP_COR_8415_01
Summary: 'Address Resolution for an on-link destination addresses, the destination
          Link-Layer address is unknown'
RO ref : RO COR 8415
Config : CF_011_I
TD ref : TD_COR_8415_01
with { EUT 'manually configured with the same global prefix as OE' }
ensure that {
  when { EUT 'is initialized' -- i.e.: to ensure the EUT ignores link-layer address of QE
     and EUT 'tries to contact QE for the first time via its GLOBAL ADDRESS' }
   then { EUT sends 'Neighbor Solicitation messages'
                to 'the Solicited Node Multicast address of QE' }
--xxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8363_01
Summary: 'EUT treats a prefix as on-linkbefore its Valid Lifetime has expired'
RQ ref : RQ_COR_8363
Config : CF_021_I
TD ref : TD_COR_8363_01
with { QE1 'configured to send Router Advertisement messages with network a prefix
           for autoconfiguration'
   and QE1 'configured to continue operating as a default Router when the Valid
            Lifetime of the prefix expires'
   and QE2 'configured its non link-local unicast address using the prefix'
   and EUT 'configured its non link-local unicast address using the prefix'
   and EUT 'configured as a host'
   and QE2 'configured as a host' }
ensure that {
   when { EUT is requested to 'send a packet to the non link-local unicast address of QE2'
                      before 'the Valid Lifetime of the prefix has expired on EUT' }
   then { EUT 'sends the packet' to QE2 }
           }
--xxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8363_02
Summary: 'EUT treats as off-link, a prefix previously known to be on-link, when its
          Valid Lifetime has expired'
RQ ref : RQ_COR_8363
Config : CF_021_I
TD ref : TD_COR_8363_02
with { QE1 'configured to send Router Advertisement messages with network a prefix
            for autoconfiguration'
   and QE1 'configured to continue operating as a default Router when the Valid
           Lifetime of the prefix expires'
   and QE2 'configured its non link-local unicast address using the prefix'
   and EUT 'configured its non link-local unicast address using the prefix'
   and EUT 'configured as a host'
   and QE2 'configured as a host' }
ensure that {
   when { EUT is requested to 'send a packet to the non link-local unicast address of QE2'
                       after 'the Valid Lifetime of the prefix has expired on EUT' }
   then \{ EUT sends 'the packet' to QE1 \}
```

}

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--xxxxxxxxxxxxxxxxxxxxxxx--
      : TP_COR_8416_01
Summary : 'No address resolution for off-link addresses'
RQ ref : RQ_COR_8416
Config : CF_023_I
TD ref : TD_COR_8416_01
with { QE1 'configured as an advertizing router'
   and QE1 'configured with a different prefix on each link'
   and QE2 'configured to perform stateless autoconfiguration'
   and EUT 'configured to perform stateless autoconfiguration' }
ensure that {
   when { EUT 'has initialized'
     and EUT 'starts communication with QE2'}
   then { EUT 'never sends Neighbor Solicitation messages to
              the Solicited Node Multicast address of QE2'}
             -- i.e.: does not process Address Resolution on the @ of QE2
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8417_01
Summary: 'No Address Resolution for an on-link destination when the destination
           Link-Layer address is known'
RQ ref : RQ_COR_8417
Config : CF_011_I
TD ref : TD_COR_8417_01
with { EUT 'manually configured with the same global prefix as QE'
   and EUT 'has already established communitation with QE'}
ensure that {
   when { EUT is requested to 'send a packet to QE' }
   then { EUT 'does not send Neighbor Solicitation messages to the Solicited Node
               Multicast address of QE' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8418_01
Summary : 'No Address Resolution for multicast destinations'
RQ ref : RQ_COR_8418
Config : CF_011_I
TD ref : TD_COR_8418_01
with { EUT 'manually configured with the same global prefix as QE'
   and QE 'is subscribed to a global multicast group'}
ensure that {
   when { EUT 'is initialized' -- i.e.: to ensure the EUT ignores link-layer address of QE'
     and EUT is requested to 'send packets to the multicast group where QE is subscribed'}
   then { EUT 'does not process to Address Resolution on the multicast address'
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 2.7.1 'Interface Initialization'
TP id : TP_COR_8419_01
Summary : 'A multicast-capable interface joins the all-nodes multicast address when initialized' RQ ref : RQ_COR_8419
Config : CF_011_I
TD ref : TD_COR_8419_01
with { QE 'configured as a multicast capable host'
  and EUT 'configured as a multicast capable host' }
ensure that {
   when { QE is requested to 'send an echo request to the all-nodes multicast address'}
   then { EUT sends 'an echo reply' to QE }
--xxxxxxxxxxxxxxxxxxxxxxx--
```

```
TP id : TP_COR_8419_02
Summary: 'A multicast-capable interface joins the solicited-node address for each
           of its IP addresses'
RQ ref : RQ_COR_8419
Config : CF_011_I
TD ref : TD_COR_8419_02
with { QE 'configured as a multicast capable host'
  and EUT 'configured as a multicast capable host' }
ensure that {
   when { QE is requested to 'send an echo request to the solicited-nodes address of EUT'}
then { EUT sends 'an echo reply' to QE }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8420_01
Summary: 'When addresses are added/removed from a multicast-capable interface,
           the interface joins/leave the corresponding solicited-node addresses, respectively.'
RO ref : RO COR 8420
Config : CF_011_I
TD ref : TD_COR_8420_01
with { OE 'configured as a multicast capable host'
  and EUT 'configured as a multicast capable host'
  and EUT 'responds to its solicited-node address' }
ensure that {
   when { EUT 'IP address is modified from "old" to "new"'
    and QE is requested to 'send packets to the "old" IP solicited-node address of EUT'
       and OE is requested to 'send packets to the "new" IP solicited-node address of EUT'}
   then { EUT 'does not respond to packets sent to its "old" IP solicited-node address'
         and EUT 'responds to packets sent to its "new" IP solicited-node address'}
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_8421_01
Summary: 'EUT leaves the solicited-node multicast address and the solicited-node
           multicast group corresponding to a removed unicast address'
RQ ref : RQ_COR_8421
Config : CF_011_I
TD ref : TD_COR_8421_01
with { EUT 'network interface configured as a multicast-capable interface'
   and EUT 'configured with only one unicast address on the interface assigned
           to the solicited-node multicast address' }
ensure that {
   when { EUT is requested to 'remove the unicast address' }
   then { EUT 'leaves the solicited-node multicast address and solicited-node
               multicast group corresponding to the removed address' }
End Group 2.7.1
End Group 2.7
End Group 2
--* RFC2462 - IPv6 Stateless Address Autoconfiguration *--
Group 3 'RFC2462'
Group 3.1 'Initialize'
Group 3.1.1 'Configure Address'
Group 3.1.1.1 'Simultaneous Stateless and Stateful Autoconfiguration'
TP id : TP_COR_1200_01
Summary: 'EUT simultaneously executes stateful and stateless autoconfiguration'
RQ ref : RQ_COR_1200
Config : CF_032_I
TD ref : TD_COR_1200_01
with { QE1 'configured as a Stateful Autoconfiguration Server'
   and QE1 'configured to provide stateful network configuration parameters
            other than addresses'
```

```
and EUT 'configured to support Stateful Autoconfiguration' }
ensure that {
   when { EUT receives 'a Router Advertisement message' from QE2
            containing 'an indication that both stateful and stateless autoconfig
                        should be executed'
        and containing 'a network prefix for the link connecting QE2 and EUT' }
   then { EUT 'configures its unicast address using the network prefix'
    and EUT sends 'a REQUEST message' to QE1 }
End Group 3.1.1.1
--xxxxxxxxxxxxxxxxxxxxxx
Group 3.1.1.2 'Detect Duplicate Address (DAD)'
TP id : TP_COR_1210_01
Summary: 'EUT accepts only DAD ND packets while its address is tentative'
RQ ref : RQ_COR_1210
Config : CF_011_I
TD ref : TD_COR_1210_01
with { EUT 'configured with a tentative address different from the unicast address of QE' }
ensure that {
   when \{ EUT receives 'a message that is not a DAD Neighbor Solicitation message' from QE \}
   then { EUT 'is unable to communicate with QE' before 'DAD completes' }
--xxxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1235_01
Summary: 'EUT indicates that it already uses the tentative address of another node'
RQ ref : RQ_COR_1235
Config
       : CF_011_I
TD ref : TD_COR_1235_01
with { EUT 'manually configured with a unicast address'
   and QE1 'manually configured with the same unicast address as EUT'
   and OE1
           'is powered-down'
   and QE2 'manually configured with a unique unicast address'
   }
ensure that {
   when { EUT receives 'a DAD Neighbor Solicitation message' from QE1
            containing 'a target address the same as the unicast address of EUT' }
   then { QE1 'is unable to communicate with any node' }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1239_01
Summary: 'EUT stops the autoconfiguration process when its tentative address is
           owned by another node'
RQ ref : RQ_COR_1239
Config : CF_021_I
TD ref : TD_COR_1239_01
with { QE1 'manually configured with a unicast address'
   and {\tt EUT} 'manually configured with the same unicast address as QE1'
   and EUT 'is powered-down'
   and QE2 'manually configured with a unique unicast address'
ensure that {
   when { --EUT is performing a DAD test-
          EUT receives 'a Neighbor Advertisement message' from QE1
            containing 'a target address the same as the tentative address of EUT' }
   \textbf{then} \ \big\{ \ \textbf{EUT} \ \texttt{'stops sending DAD Neighbor Solicitation messages'}
      and EUT 'stops using its tentative address'}
End Group 3.1.1.2
--xxxxxxxxxxxxxxxxxx--
Group 3.1.1.3 'Assign Global Address'
```

```
TP id : TP_COR_1228_01
Summary: 'EUT configures its global unicast address using the global network prefix
           advertised by a Router'
RQ ref : RQ_COR_1228
Config : CF_023_I
TD ref : TD_COR_1228_01
with { QE1 'configured as the default router for EUT'
   and EUT 'configured as a host' }
ensure that {
   when { EUT receives 'a Router Advertisement message' from QE1
            containing 'an indication that stateless autoconfiguration should be executed'
        and containing 'a global network prefix usable on the link to QE1 and EUT' }
   then { EUT 'configures its global unicast address using the prefix' }
--xxxxxxxxxxxxxxxxxxxxxx
Group 3.1.1.3.1 'Use of O-Flag'
TP id : TP_COR_1300_01
Summary: 'EUT invokes stateful autoconfiguration to obtain non-address information'
RQ ref : RQ_COR_1300
Config : CF_032_I
TD ref : TD_COR_1300_01
with { QE1 'configured as a Stateful Autoconfiguration Server'
   and QE1 'configured to provide stateful n/w config parameters other than addresses'
   and QE2 'configured as the default router for EUT'
   and EUT 'configured as a host supporting Stateful autoconfiguration'
   and EUT 'instructed by QE2 not to invoke Stateful Autoconfig for
           non-address parameters' }
ensure that {
   when { EUT receives 'a Router Advertisement message' from QE2
            containing 'instruction to invoke Stateful autoconfig for
                        non-address parameters |
   then { EUT sends 'a REQUEST message' to QE1 }
            }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1301_01
Summary: 'EUT invokes stateful autoconfig to obtain address and other
          configuration parameters'
RO ref : RO COR 1301
Config : CF_032_I
TD ref : TD_COR_1301_01
with { QE1 'configured as a Stateful Autoconfiguration Server'
   and QE1 'configured to provide stateful n/w config parameters other than addresses'
   and QE2 'established as the default router for EUT'
   and EUT 'configured as a host that supports Stateful Autoconfiguration'
   and EUT 'instructed by QE2 not to invoke Stateful Autoconfig for any parameters' }
ensure that {
   when { EUT receives 'a Router Advertisement message' from QE2
            containing 'instruction to invoke Stateful autoconfig for address
                        and non-address information' }
   then { {\tt EUT\ sends}} 'a REQUEST message' to {\tt QE1} }
End Group 3.1.1.3.1
End Group 3.1.1.3
 -xxxxxxxxxxxxxxxxxx--
Group 3.1.1.4 'Stateless Autoconfiguration'
TP id : TP_COR_1229_01
Summary: 'EUT generates periodic Router Advertisements to the all-nodes
           multicast address'
RQ ref : RQ_COR_1229
Config : CF_011_I
TD ref : TD_COR_1229_01
with { EUT 'configured as a default router'
```

```
and EUT 'network interface disabled' }
ensure that {
   when { EUT 'network interface is enabled' }
   then { EUT sends 'periodic Router Advertisement messages'
                 to 'the all-nodes multicast address' }
--xxxxxxxxxxxxxxxxxxxxx
End Group 3.1.1.4
TP id : TP_COR_1246_01
Summary: 'EUT uses Router Advertisements to instruct hosts to use ONLY
           Stateless autoconfiguration'
RQ ref : RQ_COR_1246
Config : CF_022_I
TD ref : TD_COR_1246_01
with { EUT 'configured to send RAs when i/f enabled indicating ONLY
            Stateless Autoconfiguration' }
ensure that {
   when { EUT 'network interface is enabled'
     and EUT 'has started transmitting the Router Advertisement messages' }
   then { QE1 'is able to address QE2' within 'a few minutes' and QE2 'is able to address QE1' within 'a few minutes' }
            }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1246_02
Summary: 'EUT uses Router Advertisements to indicate use of Stateless
          and Stateful autoconfig'
RQ ref : RQ_COR_1246
Config : CF_021_I
TD ref : TD_COR_1246_02
with { QE1 'configured as a Stateful Autoconfiguration Server'
   and QE1 'configured to provide stateful n/w config parameters other
            than addresses'
   and QE2 'configured as a host that supports Stateful Autoconfiguration'
   and EUT 'configured to send RAs when i/f enabled'
   and EUT 'configured to send RAs indicating use of Stateless and Stateful
            Autoconfiguration' }
ensure that {
   when { EUT 'network interface is enabled'
     and EUT 'has started transmitting the Router Advertisement messages' }
   then { QE2 'sends a REQUEST message' to QE1 within 'a few minutes' }
--xxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1246_03
Summary : 'EUT uses Router Advertisements to indicate use of Stateful
           Autoconfiguration ONLY'
RQ ref : RQ_COR_1246
Config : CF_021_I
TD ref : TD_COR_1246_03
with { QE1 'configured as a Stateful Autoconfiguration Server'
   and QE1 'configured to provide stateful n/w config parameters other
            than addresses'
   and QE2 'configured as a host that supports Stateful Autoconfiguration'
   and EUT 'configured to send RAs when the interface enabled'
   and EUT 'configured to send RAs indicating use Stateful Autoconfiguration ONLY' }
ensure that {
   when { EUT 'network interface is enabled'
     and EUT 'has started transmitting the Router Advertisement messages' }
   then { QE2 sends 'a REQUEST message' to QE1 within 'a few minutes' }
--xxxxxxxxxxxxxxxxxxxxx
End Group 3.1.1
End Group 3.1
```

End Group 3

```
--* RFC2463 ICMPv6 *--
Group 4 'RFC2463'
Group 4.1 'ICMPv6 Functions'
Group 4.1.1 'Determine ICMPv6 Message Source Address'
TP id : TP_COR_1407_01
Summary: 'EUT chooses the right unicast address for the Source Address of an
           ICMPv6 Reply when responding to a Multicast message'
RQ ref : RQ_COR_1407
Config : CF_012_I
TD ref : TD_COR_1407_01
with { EUT 'configured with a unique link-local unicast address on Interface-1'
  and EUT 'configured with a unique link-local unicast address on Interface-2'
  and EUT 'configured with a link-local Multicast address on Interface-1'
  and QE 'configured with a unique link-local unicast address' }
ensure that {
  when { EUT receives 'a packet' from QE
           containing 'the Multicast address assigned to Interface-1 as the destination'
        and containing 'data which should provoke an ICMPv6 Reply as a response' }
   then { EUT sends 'an ICMPv6 Reply message' to QE
        containing 'the link-local unicast address of Interface-1
                    as the source address' }
--xxxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1407_02
Summary: 'EUT chooses the right unicast address for the Source Address of an
          ICMPv6 Reply when responding to an Anycast message'
RQ ref : RQ_COR_1407
Config : CF_012_I
TD ref : TD_COR_1407_02
with { EUT 'configured as a router'
  and EUT 'established as a default Router for QE'
   and EUT 'configured with a unique non link-local unicast address on Interface-1'
   and EUT 'configured with a unique non link-local unicast address on Interface-2'
  and EUT 'configured with an Anycast address on Interface-1'
   and QE 'configured with a unique non link-local unicast address'
   and \overline{\mathtt{EUT}} 'subscribes to the same link-local unicast address subnet as QE' \}
ensure that {
  when { EUT receives 'a packet' from QE
           containing 'the Anycast address assigned to Interface-One as the destination'
        and containing 'data which should provoke an ICMPv6 Reply as a response' }
   then { EUT sends 'an ICMPv6 Reply message' to QE
         containing 'the non link-local unicast address of Interface-1
                    as the source address' }
            }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP COR 1408 01
Summary: 'EUT replies with an ICMPv6 message when it encounters a failure to forward
          a traversing packet, the ICMPv6 message's source is the unicast address that
          belongs to the interface on which the packet forwarding failed'
RQ ref : RQ_COR_1408
Config : CF_022_I
TD ref : TD_COR_1408_01
with { QE1 'configured with a unique global unicast address'
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting
            QE1 and EUT, and the link connecting QE2 and EUT, respectively
   and EUT 'Unable to communicate with QE2' }
ensure that {
  when { EUT receives 'a packet' from QE1
           containing 'QE2 as the destination address' }
   then { EUT sends 'an ICMPv6 packet' to QE1
```

```
containing 'source address as the unicast address on Link2' }
End Group 4.1.1
--xxxxxxxxxxxxxxxxxx--
Group 4.1.2 'ICMPv6 Error Messages'
Group 4.1.2.1 'Destination Unreachable Message'
       : TP_COR_1434_01
Summary: 'EUT processes a traversed packet with its size equals to its incoming link MTU'
RQ ref : RQ_COR_1097
Config : CF_022_I
TD ref : TD_COR_1097_02
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link connecting
            QE1 and EUT, and, the link connecting QE2 and EUT, respectively'
   and QE1 'has larger link MTU than EUT'
   and EUT 'has larger or equivelant link MTU than QE2' }
ensure that {
   when { EUT receives 'a packet with its size equals to its incoming link MTU'
           containing 'QE1 as source address and QE2 as destination address' }
   then { EUT sends 'the packet' to QE2 }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1436_01
Summary: 'EUT having no matching routing entry for a message will generates an
          ICMPv6 Destination Unreachable Message with the Code field 0'
RQ ref : RQ_COR_1436
Config : CF_022_I
TD ref : TD_COR_1436_01
with { QE1 'configured with a non link-local unicast address'
   and EUT 'configured with a unique non link-local unicast address on each link'
   and EUT 'configured to have no route entry for packets destined to QE2' }
ensure that {
  when { EUT receives 'a packet' from QE1
           containing 'an indication that QE2 is the destination' }
   then { EUT 'generates an ICMPv6 Destination Unreachable Message with Code field 0' }
--xxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1441_01
Summary: 'EUT generates an ICMPv6 Destination Unreachable message with code 4, if it
          does not have UDP listener corresponding to a UDP packet targeting at the EUT'
RQ ref : RQ_COR_1441
Config : CF_011_I
TD ref : TD_COR_1441_01
with { QE 'configured with a unique link-local address'
   and EUT 'configured with a unique link-local address'
   and EUT 'configured no supporting listening at a UDP port number XX' }
ensure that {
   when { EUT receives 'a UDP packet' from QE
           containing 'an indication that EUT is the destination'
        and containing 'an indication that the UDP port number XX is the destination port number' }
   then { EUT 'generates an ICMPv6 Destination Unreachable message with code 4' }
End Group 4.1.2.1
--xxxxxxxxxxxxxxxxxxxxxx
Group 4.1.2.2 'Packet Too Big Message'
TP id : TP_COR_1445_01
Summary: 'EUT (as a router) generates an ICMPv6 Packet Too Big Message, if it receives a
          traversed packet that is larger than the outgoing link MTU
RQ ref : RQ_COR_1445
Config : CF_022_I
```

```
TD ref : TD_COR_1445_01
with { QE1 'configured with a unique global unicast address'
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
           connecting QE1 and EUT, and, the link connecting QE2 and EUT, respectively'
  and QE1 'has larger link MTU than EUT' }
ensure that {
  when { EUT receives 'a packet with ist size larger than the MTU of the link
                      connecting EUT and QE2'
           then { EUT 'generates an ICMPv6 Packet Too Big Message' }
End Group 4.1.2.2
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 4.1.2.3 'Time Exceeded Message'
TP id : TP COR_1449_01
Summary: 'EUT drops a traversed packet with a Hop Limit of zero and responds with an
          ICMPv6 Time Exceeded message with Code 0 to the source of the packet
RO ref : RO COR 1449
Config : CF_022_I
TD ref : TD_COR_1449_01
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   {\tt and}~{\tt EUT} 'configured with two unique global unicast addresses on the link
           connecting QE1 and EUT, and the link connecting QE2 and EUT, respectively' }
ensure that {
  when { EUT receives 'a packet'
           containing 'QE1 as source address and QE2 as destination address'
       and containing 'Hop Limit = 0' }
  then { EUT discards 'the packet'
       and EUT 'generates an ICMPv6 Time Exceeded message with Code 0'
           containing 'QE1 as source address' }
--xxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1450_01
Summary: 'EUT drops a traversed packet with a Hop Limit of 1 and responds with an
          ICMPv6 Time Exceeded message with Code 0 to the source of the packet'
RQ ref : RQ_COR_1450
Config : CF_022_I
TD ref : TD_COR_1450_01
with { QE1 'configured with a unique global unicast address '
   and QE2 'configured with a unique global unicast address'
   and EUT 'configured with two unique global unicast addresses on the link
           connecting QE1 and EUT, and the link connecting QE2 and EUT, respectively' }
ensure that {
  when { EUT receives 'a packet'
           containing 'QE1 as source address and QE2 as destination address'
       and containing 'Hop Limit = 1' }
   then { EUT discards 'the packet'
       and EUT 'generates an ICMPv6 Time Exceeded message with Code 0'
           containing 'QE1 as source address' }
End Group 4.1.2.3
--xxxxxxxxxxxxxxxxxxxxxxxx--
Group 4.1.2.4 'Parameter Problem Message'
End Group 4.1.2.4
End Group 4.1.2
--xxxxxxxxxxxxxxxxxxxxxx
Group 4.1.3 'Information Messages'
Group 4.1.3.1 'Echo Request and Echo Reply'
```

```
TP id : TP_COR_1460_01
Summary: 'EUT sends an Echo Reply in response to an Echo Request'
RQ ref : RQ_COR_1460
Config : CF_011_I
TD ref : TD_COR_1460_01
with { QE 'configured with a unique unicast address'
   and EUT 'configured with a unique unicast address' }
ensure that {
   when \{ QE is requested to 'send a Echo Request to EUT' \}
   then { EUT sends 'an Echo Response' to QE }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1464_01
Summary : 'EUT sends an Echo Reply in response to an Echo Request'
RQ ref : RQ_COR_1464
Config : CF_011_I
TD ref : TD_COR_1464_01
with {    QE 'configured with a unique unicast address'
   and EUT 'configured with a unique unicast address' }
ensure that {
   when { EUT receives 'an Echo Request' from QE
       containing 'the unicast address of EUT as destination' }
   then { EUT sends 'an Echo Response' to QE
      containing 'unicast address of EUT as source address' }
--xxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1466_01
Summary : 'EUT responds to a multicast Echo Request message with a unicast Echo Request'
RQ ref : RQ_COR_1466
Config : CF_011_I
TD ref : TD_COR_1466_01
with { EUT 'network interface configured as a multicast-capable interface'
   and EUT 'configured with a unicast address on the interface assigned
            to the multicast address' }
ensure that {
   when { QE is requested to 'send an Echo Request message'
           containing 'the multicast address of EUT as destination address' }
   then { EUT 'generates an Echo Response Message'
           containing 'source address as the unicast address for the interface on which the
                       multicast Echo Request message was received' }
            }
End Group 4.1.3.1
End Group 4.1.3
End Group 4.1
End Group 4
__***************
--* RFC3513 IPv6 Architecture *--
__**********
Group 5 'RFC3513'
Group 5.2 'Address Architecture'
TP id : TP_COR_1726_04
Summary: 'EUT with a single i/f receives a packet sent to the LL All-Nodes M/cast address'
RQ ref : RQ_COR_1726
Config : CF_011_I
TD ref : TD_COR_1726_04
ensure that {
   when { QE is requested to 'send a packet to the link-local All-Nodes Multicast address' }
   then { EUT indicates 'receipt of the packet' }
--xxxxxxxxxxxxxxxxxxxxxxx--
```

```
TP id : TP_COR_1726_05
Summary: 'EUT with multiple i/fs receives a packet sent to the LL All-Nodes M/cast address'
RQ ref : RQ_COR_1726
Config : CF_012_I
TD ref : TD_COR_1726_05
with { EUT 'configured with different link-local addresses on each of its interfaces' }
  when { QE is requested to 'send a packet to the link-local All-Nodes Multicast address' }
   then { EUT indicates 'receipt of the packet on both of its interfaces' }
--xxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1726_06
Summary: 'EUT receives packet sent to the Solicited-Node M/cast address based on
         its unicast address'
RQ ref : RQ_COR_1726
Config : CF_011_I
TD ref : TD_COR_1726_06
ensure that {
  when { QÈ is requested to 'send a packet to the solicited-node multicast address
                             of EUT unicast address' }
   then { EUT indicates 'receipt of the packet' }
--xxxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1726_07
Summary: 'EUT receives packet sent to the Solicited-Node M/cast address based on
          its anycast address'
RQ ref : RQ_COR_1726
Config : CF_011_I
TD ref : TD_COR_1726_07
with { EUT 'subscribed to an anycast group' }
ensure that {
  when { QE is requested to 'send a packet to the solicited-node multicast address
                              of EUT anycast address' }
   then { EUT indicates 'receipt of the packet' }
           }
--xxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1726_08
Summary: 'EUT receives packet sent to the M/cast address of a group to which EUT belongs'
RQ ref : RQ_COR_1726
Config : CF_011_I
TD ref : TD_COR_1726_08
with { EUT 'subscribed to a multicast group' }
ensure that {
   when { QE is requested to 'send a packet to the EUT multicast address' }
   then { EUT indicates 'receipt of the packet' }
           }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1727_01
Summary: 'EUT (as a router) recognizes the Subnet-Router Anycast Address for interfaces for
          which it is configured to act as a router'
RQ ref : RQ_COR_1727
Config : CF_011_I
TD ref : TD_COR_1727_01
with { EUT 'configured as a router'
  and EUT 'established as a default Router for QE'
   and EUT 'configured with a unique non link-local unicast address on Interface-1'
   and EUT 'configured with a unique non link-local unicast address on Interface-2'
   and EUT 'configured with an Subnet-Router Anycast address on Interface-1'
   and QE 'configured with a unique non link-local unicast address'
   and EUT 'subscribes to the same link-local unicast address subnet as QE' }
```

```
ensure that {
  when { EUT receives 'a packet' from QE
           containing 'the Subnet-Router Anycast address assigned to Interface-1 as
                       the destination'
        and containing 'data which should provoke an ICMPv6 Reply as a response' }
        then { EUT sends 'an ICMPv6 Reply message' to QE }
End Group 5.2
--xxxxxxxxxxxxxxxxxxxxxxx--
Group 5.5 'Unicast Addresses'
TP id
      : TP_COR_1726_01
Summary : 'EUT with a single i/f receives a packet sent to its unicast address'
RQ ref : RQ_COR_1726
Config : CF_011_I
TD ref : TD_COR_1726_01
ensure that {
   when { QE is requested to 'send a packet to the unicast address of the EUT' }
   then { EUT indicates 'receipt of the packet' }
--xxxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1726_02
RQ ref : RQ_COR_1726
Config : CF_012_I
TD ref : TD_COR_1726_02
with { EUT 'configured with different link local addresses on each of its interfaces' }
ensure that {
  when { QE is requested to 'send a packet to the unicast address of one of
                              the the EUT interfaces' }
   then { EUT indicates 'receipt of the packet only on the addressed interface' }
--xxxxxxxxxxxxxxxxxxxx
Group 5.5.6 'Link-Local Unicast Addresses'
TP id
      : TP_COR_1677_01
Summary: 'EUT does not forward packets with link-local source or destination addresses'
RQ ref : RQ_COR_1677
Config : CF_022_I
TD ref : TD_COR_1677_01
with { QE1 'configured with a unique link-local unicast address'
  and EUT 'configured with a unique link-local unicast address on each link'
   and QE2 'configured with a unique link-local unicast address'
  and QE1 'configured to use EUT as the next-hop for the link-local address of QE2' }
ensure that {
  when {EUT receives 'a packet' from QE1
          containing 'the link-local address of QE2 as the destination' }
   then { EUT 'does not forward the packet' to QE2 }
End Group 5.5.6
End Group 5.5
--xxxxxxxxxxxxxxxxxxxxxxx
Group 5.6 'Anycast Addresses'
TP id : TP_COR_1726_03
Summary: 'EUT receives a packet sent to its anycast address'
RQ ref : RQ_COR_1726
Config : CF_011_I
TD ref : TD_COR_1726_02
with { EUT 'subscribed to an anycast group' }
```

```
ensure that {
   when { QE is requested to 'send a packet to the EUT anycast address' }
   then { EUT indicates 'receipt of the packet' }
End Group 5.6
--xxxxxxxxxxxxxxxxxxxxxxx
Group 5.7 'Multicast Addresses'
Group 5.7.1 'Pre-defined Multicast Addresses'
--+++++++++++++++++++++++++++
--+ Key:
       HS
              - Host
       HS - Host
RT - Router
--+
     LL - Link Local +--
SL - Site Local +--
--+
--+
    M/cast - Multicast +--
      i/f - interface +--
TP id : TP_COR_1719_01
Summary : 'EUT sends packet to All-RT LL M/cast address : 1 RT and 1 HS in scope'
RQ ref : RQ_COR_1719
Config : CF_021_I
TD ref : TD_COR_1719_01
with { QE 'configured as a router'
   and EUT 'configured as a host' }
ensure that {
  when { EUT is requested to 'send a Router Solicitation message ' }
  \textbf{then} \ \big\{ \ \textbf{EUT} \quad \text{'uses the All-Routers Link-Local Multicast address as destination'} \ \big\}
--xxxxxxxxxxxxxxxxx--
TP id : TP_COR_1720_01
Summary : 'EUT sends packet to All-RT SL M/cast addr : 1 RT in LL scope and 1 in SL scope'
RQ ref : RQ_COR_1720
Config : CF_023_I
TD ref : TD_COR_1720_01
with { QE2 'configured as a router'
   and QE1 'configured with the EUT and QE2 in the same site-local group'}
ensure that {
   when { EUT is requested to 'send a Router Solicitation message' }
then { QE1 sends 'the appropriate Router Advertisement message' to EUT
      and QE2 sends 'the appropriate Router Advertisement message' to EUT }
End Group 5.7.1
--xxxxxxxxxxxxxxxxxxxxxx--
Group 5.7.2 'Node'
TP id : TP COR 1608 01
Summary : 'EUT receives packets sent to its multicast address'
RQ ref : RQ_COR_1608
Config : CF_011_I
TD ref : TD_COR_1608_01
with { EUT 'subscribed to a multicast group' }
ensure that {
   when { QE is requested to 'send a packet to the multicast address' }
   then { EUT indicates 'receipt of the packet' }
--xxxxxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1709_01
Summary: 'EUT (as a router) does not forward packets sent to a multicast address beyond
           the scope (= site-local) indicated by the scope field in the destination
           multicast address'
```

```
RQ ref : RQ_COR_1709
Config : CF_022_I
TD ref : TD_COR_1709_01
with { EUT 'configured with a site-local address on link1 and a global address on link2'
       and QE1 'configured with a site-local address on link1'
       and QE2 'configured with a global address on link2'
       and QE1 'can communicate with QE2s global unicast address' }
ensure that {
  when { QE1 is requested to 'send a packet to the all routers site-local multicast address' }
   then { EUT indicates 'receipt of the packet'
         and QE2 'does not indicate receipt of the packet' }
--xxxxxxxxxxxxxxxxx
TP id : TP COR 1709 02
Summary: 'EUT (as a router) does not forward packets sent to a multicast address beyond
         the scope (= link-local) indicated by the scope field in the destination
          multicast address'
RQ ref : RQ_COR_1709
Config : CF_022_I
TD ref : TD_COR_1709_02
with { EUT 'configured with global addresses on link1 and link2'
       and QE1 'configured with a global address on link1'
       and QE2 'configured with a global address on link2'
       and 'QE1 and QE2 can communicate'}
ensure that {
   when { QEI is requested to 'send a packet to the all nodes link-local multicast address' }
   then { EUT indicates 'receipt of the packet'
         and QE2 'does not indicate receipt of the packet' }
End Group 5.7.2
End Group 5.7
End Group 5
__************
--* RFC1981 - Path MTU Discovery for IPv6 *--
Group 6 'RFC1981'
Group 6.1 'Discover PMTU'
TP id : TP_COR_1802_01
Summary: 'The implementation implements Path MTU discovery'
RQ ref : RQ_COR_1802
Config : CF_023_I
TD ref : TD_COR_1802_01
ensure that {
  when { EUT is requested to 'send data requiring a packet length greater than the link MTU to QE2'
   then { QE2 indicates 'receipt of the same data without any modification' }
--xxxxxxxxxxxxxxxxxxxxxxxx--
TP id : TP COR 1808 01
Summary: 'The implementation receives a Packet Too Big message and reduces the PMTU'
RQ ref : RQ_COR_1808
Config : CF_023_I
TD ref : TD_COR_1808_01
with { QE1 'configured such that Link2 has a smaller MTU than Link1' }
ensure that {
   when \{ -- EUT is attempting to communicate with QE2 using the MTU of Link1
         EUT receives 'a Packet Too Big message' from QE1}
   then { EUT 'reduces the MTU for the path to QE2 to the PMTU of Link2' }
           }
--xxxxxxxxxxxxxxxxxxxxx
TP id : TP_COR_1822_01
Summary: 'Handling PMTU smaller than the IPv6 minimum link MTU'
```

```
RQ ref : RQ_COR_1822
Config : CF_023_I
TD ref : TD_COR_1822_01
with { QE1 'configured such that Link2 has an MTU smaller the minimum IPv6 link MTU' }
ensure that { -- EUT is attempting to communicate with QE2 using the MTU of Link1
   when { EUT receives 'a Packet Too Big message from QEl indicating an MTU smaller than
                        the IPv6 minimum link MTU for Link2' }
   then \{ EUT 'sets the PMTU for the path to the IPv6 minimum link MTU'
      and EUT 'fragments subsequent packets' }
--xxxxxxxxxxxxxxxxxxxxxx
Group 6.1.1 'Multicast PMTU Discovery'
TP id : TP_COR_1814_01
Summary : 'Use of PMTU with Multicast'
RQ ref : RQ_COR_1814
Config : CF_031_I
TD ref : TD_COR_1814_01
with { QE1 'configured such that Link1 has a bigger MTU than Link2'
     and EUT 'configured as listener to a multicast group'
     and QE2 'subscribed to the same multicast group' }
ensure that {
   when { -- EUT sends multicast packets to the defined multicast group with a size bigger than
           -- the MTU of Link2
          EUT is requested to 'send multicast packets with an MTU size bigger than the PMTU
                                of Link2 to the QE2 listener group'
      and EUT is requested to 'reduce the size of its multicasted packets' }
   then { EUT 'reduces its MTU to the PMTU of Link2' }
--xxxxxxxxxxxxxxxxxx--
TP id : TP_COR_1815_01
Summary: 'Different MTUs on Multicast destinations'
RQ ref : RQ_COR_1815
Config : CF_035_I
TD ref : TD_COR_1815_01
with { QE1 'configured such that the MTU of Link1 is greater than the MTU of Link2'
 and QE1 'configured such that the MTU of Link2 is greater than the MTU of Link3'
     and 'QE2 and QE3 configured as listeners to a common multicast group'
     and QE1 'subscribed to the same multicast group' }
ensure that {
   when { -- EUT sends multicast packets to the defined multicast group with a size bigger than
          -- the MTU of Link2
          EUT receives 'several Packet-Too-Big messages from QE1 indicating different
                        next-hop MTUs' }
   then { EUT 'reduces its assumed PMTU to the MTU of Link3' }
            }
End Group 6.1.1
End Group 6.1
End Group 6
--* RFC2675 - Jumbograms *--
Group 7 'RFC2675'
TP id : TP_COR_8800_01
Summary : 'EUT forwards Jumbograms'
RQ ref : RQ_COR_8800
Config : CF_022_I
TD ref : TD_COR_8800_01
with { QE1 'configured with a unique non link-local unicast address'
  and EUT 'configured with a unique non link-local unicast address on each link'
   and EUT 'configured to support the Jumbo Payload Option'
   and QE1 'configured to support the Jumbo Payload Option'
   and QE2 'configured to support the Jumbo Payload Option'
```

```
and EUT 'configured to support Jumbograms on both its links' }
ensure that {
   when { EUT receives 'a packet' from QE1
           containing 'QE2 as the destination'
        and containing 'a Jumbo Payload Option' }
   then { EUT 'forwards the packet' to QE2 }
--xxxxxxxxxxxxxxxxxx--
        : TP_COR_8800_02
TP id
Summary: 'EUT sends a Jumbogram'
RQ ref : RQ_COR_8800
Config : CF_011_I
TD ref : TD_COR_8800_02
with { EUT 'configured with a unique unicast address'
   and QE 'configured with a unique unicast address'
   and EUT 'configured to support the Jumbo Payload Option'
   and QE 'configured to support the Jumbo Payload Option' }
ensure that {
   when { EUT is requested to 'send a packet to QE'
                 containing 'a Jumbo Playload Option' }
   then { EUT sends 'the packet' to QE }
           }
--xxxxxxxxxxxxxxxxxx--
TP id : TP_COR_8800_03
Summary : 'EUT accepts a received Jumbogram'
RQ ref : RQ_COR_8800
Config : CF_011_I
TD ref : TD_COR_8800_03
with { EUT 'configured with a unique unicast address'
  and QE 'configured with a unique unicast address'
   and EUT 'configured to support the Jumbo Payload Option'
   and QE 'configured to support the Jumbo Payload Option' }
ensure that {
  --xxxxxxxxxxxxxxxxxxxxxx--
        : TP_COR_8813_01
Summary : 'EUT does not support Jumbo Payload Option'
RQ ref : RQ_COR_8813
Config : CF_011_I
TD ref : TD_COR_8813_01
with { QE 'configured with a unique unicast address'
         and QE 'configured to support the Jumbo Payload Option'
         and EUT 'configured with a unique unicast address'
         and EUT 'does not support the Jumbo Payload Option' }
ensure that {
  when { {\tt EUT\ receives}} 'a packet' {\tt from\ QE}
           containing 'a Jumbo Payload Option' }
          EUT sends 'an ICMPv6 Parameter Problem message' to QE
          containing 'an indication that Jumbo Payload Option is not supported' }
End Group 7
```

Annex B (informative): Interoperability Testing Configurations

The following architectural configurations are referenced in the IPv6 Core Interoperability Test Descriptions specified in the present document. They are intended to give a general rather than specific view of the possible roles of the EUT and its associated QE(s) and the relationships between them.

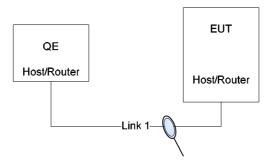


Figure B.1: CF_011_I

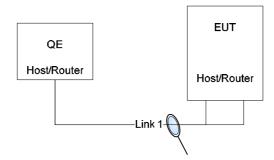


Figure B.2: CF_012_I

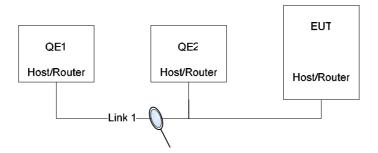


Figure B.3: CF_021_I

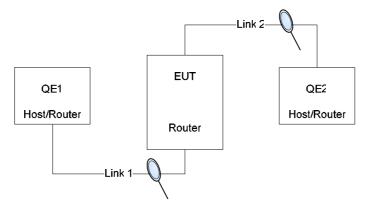


Figure B.4: CF_022_I

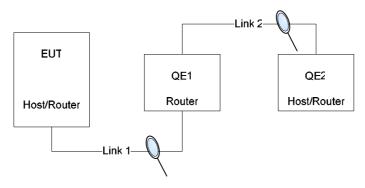


Figure B.5: CF_023_I

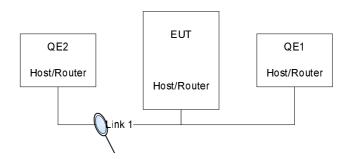


Figure B.6: CF_024_I

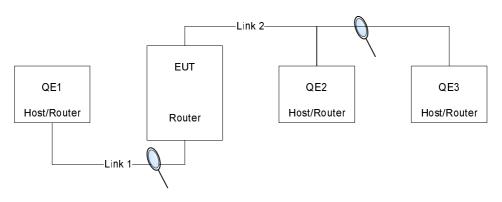


Figure B.7: CF_031_I

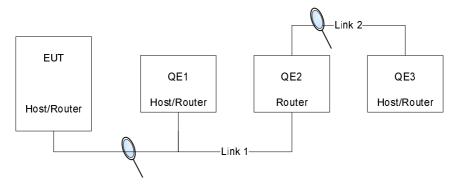


Figure B.8: CF_032_I

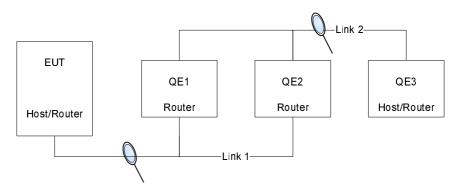


Figure B.9: CF_033_I

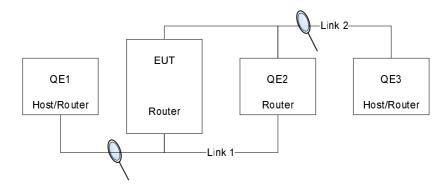


Figure B.10: CF_034_I

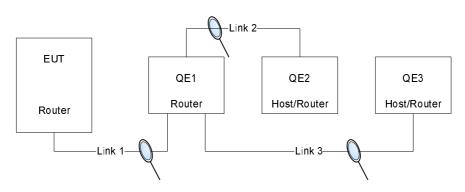


Figure B.11: CF_035_I

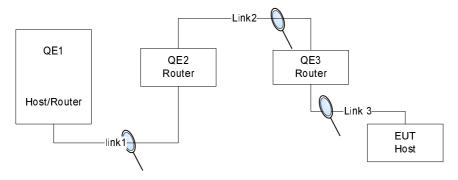


Figure B.12: CF_036_I

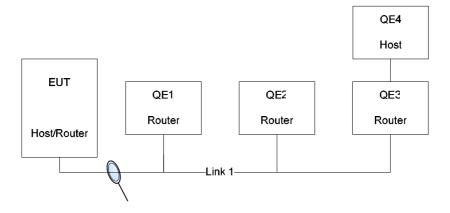


Figure B.13: CF_041_I

History

Document history		
V1.1.1	April 2006	Publication