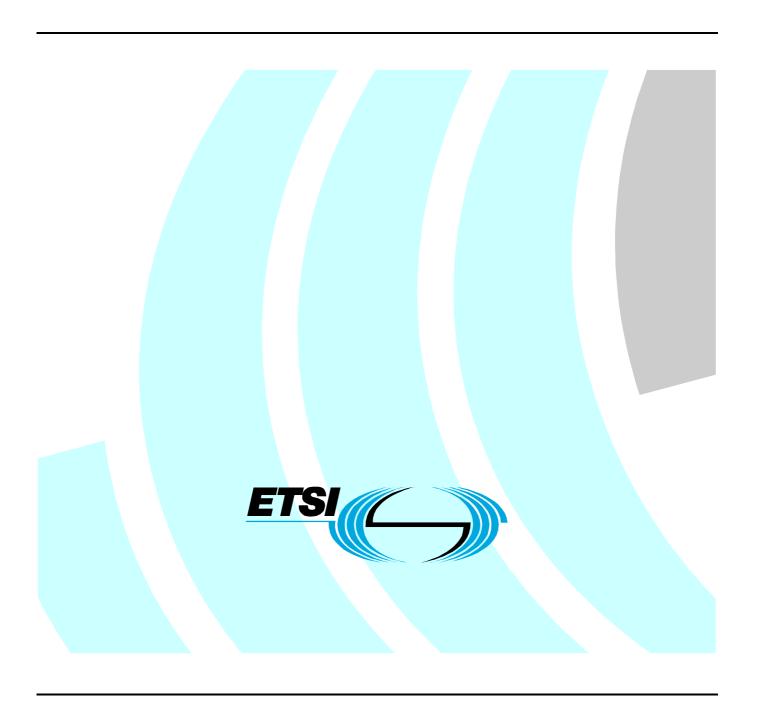# ETSI TS 102 515 V1.1.1 (2006-04)

Technical Specification

Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); IPv6 Core Protocol; Conformance Test Suite Structure and Test Purposes (TSS&TP)

Reference

DTS/MTS-IPT-005-IPv6-CoreTSS_T

Keywords

IP, IPv6, testing, TTCN

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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 purpose of the present document is to provide Test Suite Structure and Test Purposes (TSS&TP) for conformance tests of the core IPv6 protocol based on the requirements defined in the IPv6 requirements catalogue (TS 102 514 [2]) and written according to the guidelines of TS 102 351 [1], ISO/IEC 9646-2 [4] and ETS 300 406 [5].

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.

[2]   ETSI TS 102 514: "Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); IPv6 Core Protocol; Requirements Catalogue".

[3]   ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[1]   ETSI TS 102 351: "Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); IPv6 Testing: Methodology and Framework".

[4]   ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".

[5]   ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[6]   IETF RFC 1981: "Path MTU Discovery for IP version 6".

[7]   IETF RFC 2374: "An IPv6 Aggregatable Global Unicast Address Format".

[8]   IETF RFC 2460: "Internet Protocol, Version 6 (IPv6) Specification".

[9]   IETF RFC 2461: "Neighbor Discovery for IP Version 6 (IPv6)".

[10]   IETF RFC 2462: "IPv6 Stateless Address Autoconfiguration".

[11]   IETF RFC 2463: "Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification".

[12]   IETF RFC 2675: "IPv6 Jumbograms".

[13]   IETF RFC 2711: "IPv6 Router Alert Option".

[14]   IETF RFC 2894: "Router Renumbering for IPv6".

[15]   IETF RFC 3484: "Default Address Selection for Internet Protocol version 6 (IPv6)".

[16]   IETF RFC 3513: "Internet Protocol Version 6 (IPv6) Addressing Architecture".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

abstract test case: Refer to ISO/IEC 9646-1 [3].

Abstract Test Method (ATM): Refer to ISO/IEC 9646-1 [3].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [3].

Lower Tester (LT): Refer to ISO/IEC 9646-1 [3].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [3].

3.2 Abbreviations

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

ATS	Abstract Test Suite
IETF	Internet Engineering Task Force
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
IUT	Implementation Under Test
RC	Requirements Catalogue
RQ	Requirement
TP	Test Purpose
TSS	Test Suite Structure
UDP	User Datagram Protocol
UT	Upper Tester

4 Test Suite Structure (TSS)

Test Purposes have been written for IPv6 nodes, hosts and routers according to the requirements (RQ) of the requirements catalogue (RC) in TS 102 514 [2]. Test purposes have been written for behaviours requested with "MUST" or "SHOULD", optional behaviour described with "MAY" or similar wording indicating an option has not been turned into test purposes.

The test purposes have been divided into three groups:

Group 1: Node tests (all sub-groups)

Group 2: Host tests (only sub-groups that carry test purposes)

Group 3: Router tests (only sub-groups that carry test purposes)

The sub-grouping of these three group follows the structure of the RC. Some of the sub-groups of the RC contained no testable requirement. Headings for those sub-groups are in this test purpose document in the node group to give a full view on the relation between RQ and TSS&TP.

Group 1 "Node tests (NT)"

Group 1.1 "Generate IPv6 packets (GIP)"

Group 1.1.1 "Generate Extension Header (GEH)"

Group 1.1.1.1 "Generate Destination Options Header (GDOH)"

Group 1.1.1.2 "Generate Routing Header (GRH)"

Group 1.1.1.3 "Generate Hop by Hop Header(GHHH)"

Group 1.1.2 "Generate IPv6 Header(GIH)"

Group 1.1.3 "Discover PMTU(DPMTU)"

Group 1.1.3.1 "Multicast PMTU Discovery (MPMTUD)"

Group 1.2 "Process IPv6 packets (PIP)"

Group 1.2.1 "Process Extension Headers (PEH)"

Group 1.2.1.1 "Process Fragment Packets (PFP)"

Group 1.2.1.2 "Process Routing Header (PRH)"

Group 1.2.1.3 "Process Hop-By-Hop Header (PHBHH)"

Group 1.2.1.4 "Process Extension Header Options (PEHO)"

Group 1.2.2 "Process IPv6 Header (PIP6)"

Group 1.2.2.1 "Process Hop Limit (PHL)"

Group 1.2.1.4 Process Extension Header Options (PEHO)"

Group 1.2.2.2 "Process Traffic Class (PTC)"

Group 1.2.2.3 "Process Flow Label (PHL)"

Group 1.2.2.4 "Process Checksum (PSC)"

Group 1.3 "Initialize (INI)"

Group 1.3.1 "Determine Default MTU (DDMTU)"

Group 1.3.2 "Configure Address {CA)"

Group 1.3.2.1 "Manual Address Configuration (MAC)"

Group 1.3.2.2 "Stateless Autoconfiguration (SLAC)"

Group 1.3.2.2.1 "Form Link-local Address (LLA)"

Group 1.3.2.2.2 "Process Invalid SA Syntax (PISAS)"

Group 1.3.2.3 "Stateful Autoconfiguration (SFAC)"

Group 1.3.2.4 "Simultaneous Stateless and Stateful Autocinfiguratio (SSSAC)"

Group 1.3.2.5 "Detect Duplicate Address (DAD)"

Group 1.3.2.5.1 "Duplicate Address Detection Timers and Counters (DADTMR)"

Group 1.3.2.6 "Assign Global Address (GA)"

Group 1.3.2.6.1 "Use of M-Bit (UMB)"

Group 1.3.2.6.2 "Use of O-Bit (UOB)"

Group 1.3.2.6.3 "Process the Prefix Information Option (PPIO)"

Group 1.4 "Address use (AU)"

Group 1.5 "ICMPv6 Functions (ICF)"

Group 1.5.1 "Protect ICMP Messages from Attacks (PIMA)"

Group 1.5.2 "Process ICMPv6 Messages (PIM)"

Group 1.5.2.1 "Process ICMPv6 Information Messages (PIIM)"

Group 1.5.2.1.1 "Process Echo Reply Message (PERPM)"

Group 1.5.2.1.2 "Process Echo Request Message (PERQM)"

Group 1.5.2.2 "Process ICMPv6 Error Messages (PEM)"

Group 1.5.2.2.1 "Process Parameter Problem Message (PPPM)"

Group 1.5.2.2.2 "Process Time Exceeded Message (PTEM)"

Group 1.5.2.2.3 "Process Packet Too Big Message (PPTBM)"

Group 1.5.2.2.4 "Process Destination Unreachable Message (PDUM)"

Group 1.5.3 "Generate ICMPv6 Messages (GIM)"

Group 1.5.3.1 "Generate ICMPv6 Information Messages (GIIM)"

Group 1.5.3.1.1 "Generate Echo Request Message (GERQM)"

Group 1.5.3.2 "Generate ICMPv6 Error Messages (GIEM)"

Group 1.5.3.2.1 "Generate Parameter Problem Message (GPPM)"

Group 1.5.3.2.2 "Generate Time Exceeded Message (GTEM)"

Group 1.5.3.2.3 "Generate Message Too Big Message (GMTBM)"

Group 1.5.3.2.4 "Generate Destination Unreachable Message (GTEM)"

Group 1.5.3.2.4.1 "Destination Unreachable Code Field Value (DUCFV)"

Group 1.5.3.2.5 "Limit ICMP Bandwidth and Forwarding Costs (LIBFC)"

Group 1.5.3.3 "Determine ICMPv6 Message Source Address (DIMSA)"

Group 1.6 "Neighbour Discovery (ND)"

Group 1.6.1 "ND Protocol Constants and Default Values (NDPCDV)"

Group 1.6.2 "Address Resolution (AR)"

Group 1.6.2.1 "Address Resolution Behavior (ARB)"

Group 1.6.2.2 "Address Resolution Data Queue Handling (ARDQH)"

Group 1.6.3 "Neighbor Unreachability Detection (NUD)"

Group 1.6.3.1 "Neighbour Reachability Process (NRP)"

Group 1.6.3.1.1 "Start Neighbor Reachability Determination (SNRD)"

Group 1.6.3.1.2 "Determine Neighbor Reachability (DNR)"

Group 1.6.3.1.3 "Invalid Reachability Indications (IRI)"

Group 1.6.3.2 "Neighbor Reachability Probing (NRP)"

Group 1.6.4 "Next Hop Determination (NHD)"

Group 1.6.5 "Using Options in Neighbor Discovery Messages (UONDM)"

Group 1.6.6 "Process Neighbor Discovery Messages (PND)"

Group 1.6.6.1 "Process Neighbor Solicitation (PND)"

Group 1.6.6.1.1 "Discover Neighbor by NS (DNNS)"

Group 1.6.6.1.2 "Process Proxy NS (PPNS)"

Group 1.6.6.1.3 "Process Anycast NS (PANS)"

Group 1.6.6.1.4 "Process NS for Address Resolution (PNSAR)"

Group 1.6.6.1.5 "Process Field Anomalies in NS (NSFA)"

Group 1.6.6.1.6 "Process Option Anomalies in NS (NSOA)"

Group 1.6.6.2 "Process Neighbor Advertisement (PNA)"

Group 1.6.6.2.1 "Process Solicited Neighbor Advertisement (PSNA)"

Group 1.6.6.2.2 "Process Unsolicited Neighbor Advertisement (PUNA)"

Group 1.6.6.2.3 "Discover Neighbor by NA (DNNA)"

Group 1.6.6.2.4 "Process Field Anomalies in NA (PFANA)"

Group 1.6.6.2.5 "Process Option Anomalies in NA (POANA)"

Group 1.6.6.3 "Process Router Solicitation (PRA)"

Group 1.6.6.3.1 "Discover Neighbor by RS (DNRS)"

Group 1.6.6.3.2 "Router Processing of RS (RPRS)"

Group 1.6.6.3.3 "Host Processing of RS (HPRS)"

Group 1.6.6.3.4 "Process Field Anomalies in RS (PFARS)"

Group 1.6.6.3.5 "Process Option Anomalies in RS (POARS)"

Group 1.6.6.4 "Process Router Advertisement (PRA)"

Group 1.6.6.4.1 "Discover Neighbor by RA (DNRA)"

Group 1.6.6.4.2 "Router Processing of RA (RPRA)"

Group 1.6.6.4.3 "Host Processing of RA (HPRA)"

Group 1.6.6.4.4 "Process Field Anomalies in RA (PFARA)"

Group 1.6.6.4.5 "Process Option Anomalies in RA (PAORA)"

Group 1.6.6.5 "Process Redirect Message (PRM)"

Group 1.6.6.5.1 "Discover Neighbor by Redirect Message (DNRM)"

Group 1.6.6.5.2 "Router Processing of Redirect Message (RPRM)"

Group 1.6.6.5.3 "Host Processing of Redirect Message (HPRM)"

Group 1.6.6.5.4 "Process Field Anomalies in Redirect Message (PFARM)"

Group 1.6.6.5.5 "Process Option Anomalies in Redirect Message (POARM)"

Group 1.6.7 "Generate Neighbor Discovery Messages (GNDM)"

Group 1.6.7.1 "Generate Neighbor Solicitation (GNS)"

Group 1.6.7.1.1 "Generate Neighbor Solicitation Header (GNSH)"

Group 1.6.7.1.2 "Generate Neighbor Solicitation Option (GNSO)"

Group 1.6.7.1.3 "Generate NS for Address Resolution (GNSAR)"

Group 1.6.7.2 "Generate Neighbor Advertisement (GNA)"

Group 1.6.7.2.1 "Generate Unsolicited Neighbor Advertisement (GUNA)"

Group 1.6.7.2.1.1 "Form Unsolicited NA Header (FUNAH)"

Group 1.6.7.2.1.2 "Generate Unsolicited Proxy NA (GUPNA)"

Group 1.6.7.2.1.3 "Generate Unsolicited Anycast NA (GUANA)"

Group 1.6.7.2.2 "Form Neighbor Advertisement Header (FNAH)"

Group 1.6.7.3 "Generate Router Solicitation (GRA)"

Group 1.6.7.4 "Generate Router Advertisement (GRA)"

Group 1.6.7.5 "Generate Redirect Message (GRM)"

Group 1.7 "Address Architecture (AA)"

Group 1.8 "Jumbograms (JG)"

Group 1.8.1 "TCP Jumbograms (TCPJG)"

Group 1.8.2 "UDP Jumbograms (UDPJG)"

Group 1.8.3 "Process Jumbograms (PJG)"

Group 1.8.4 "Generate Jumbograms (GJG)

Group 2 "Host (HS)"

Group 2.3 "Initialize (INI)"

Group 2.3.2.2.1 "Form Link-local Address (LLA)"

Group 2.3.2.6 "Assign Global Address (GA)"

Group 2.3.2.6.1 "Use of M-bit (UMB)"

Group 2.3.2.6.2 "Use of O-Flag (UOB)"

Group 2.3.2.6.3 "Process the Prefix Information Option (PFX)"

Group 2.6 "Neighbour Discovery (ND)"

Group 2.6.1 "ND Protocol Constants and Default Values (NDPCDV)"

Group 2.6.6.1.4 "Process NS for Address Resolution (PNSAR)"

Group 2.6.6.3.3 "Host Processing of RS (HPRS)"

Group 2.6.6.4.3 "Host Processing of RA (HPRA)"

Group 2.6.6.4.5 "Process Option Anomalies in RA (POARA)"

Group 2.6.6.5.3 "Host Processing of Redirect Message (HPRM)"

Group 2.6.6.5.4 "Process Field Anomalies in Redirect Message (PFARM)"

Group 2.6.6.5.5 "Process Option Anomalies in Redirect Message (POARM)"

Group 2.6.7.3 "Generate Router Solicitation (GRS)"

Group 2.6.7.3.1 "Generate Router Solicitation Header (GRSH)"

Group 2.6.7.3.2 "Generate RS Source Link-layer Address Option (GRSSLAO)"

Group 2.6.7.3.3 "Router Solicitation Behavior (RSB)"

Group 3 "Router (RT)"

Group 3.2 "Process IPv6 packets (PIP)"

Group 3.2.1.2 "Process Routing Header (PRH)"

Group 3.3 "Initialize (INI)"

Group 3.3.2 "Configure Address {CA)"

Group 3.3.2.2 "Stateless Autoconfiguration (SAC)"

Group 3.3.2.2.1 "Form Link-local Address (LLA)"

Group 3.5 "ICMPv6 Functions (ICF)"

Group 3.5.2 "Process ICMPv6 Messages (PIM)"

Group 3.5.3.2.2 "Generate Time Exceeded Message (GTEM)"

Group 3.5.3.2.3 "Generate Message Too Big Message (GMTBM)"

Group 3.5.3.2.4 "Generate Destination Unreachable Message (GTEM)"

Group 3.5.3.2.4.1 "Destination Unreachable Code Field Value (DUCFV)"

Group 3.6 "Neighbour Discovery (ND)"

Group 3.6.1 "ND Protocol Constants and Default Values (NDPCDV)"

Group 3.6.2.1 "Address Resolution Behavior (ARB)"

Group 3.6.3.1.1 "Start Neighbor Reachability Determination (SNRD)"

Group 3.6.6.1.4 "Process NS for Address Resolution (PNSAR)"

Group 3.6.6.3 "Process Router Solicitation (PRS)"

Group 3.6.6.3.1 "Discover Neighbor by RS (DNRS)"

Group 3.6.6.3.2 "Router Processing of RS (RPRS)"

Group 3.6.6.3.4 "Process Field Anomalies in RS (PFARS)"

Group 3.6.6.3.5 "Process Option Anomalies in RS (POARS)"

Group 3.6.6.5.2 "Router Processing of Redirect Message (RPRM)"

Group 3.6.7.2 "Generate Neighbor Advertisement (GNA)"

Group 3.6.7.2.1.2 "Generate Unsolicited Proxy NA (GUPNA)"

Group 3.6.7.4 "Generate Router Advertisement (GRA)"

Group 3.6.7.4.1 "Form Router Advertisement Header (FRAH)"

Group 3.6.7.4.2 "Form Router Advertisment Options (FRAO)"

Group 3.6.7.4.2.1 "RA MTU Option (RAMTUO)"

Group 3.6.7.4.2.2 "RA Source Link-layer Address Option (RASLAO)"

Group 3.6.7.4.2.3 "RA Prefix Information Option (RAPIO)"

Group 3.6.7.4.3 "Router Advertisement Behavior (RAB)"

Group 3.6.7.4.3.1 "Startup Router Advertisement Behavior (SRAB)"

Group 3.6.7.4.3.1.1 "AdvCurHopLimit (ACHL)"

Group 3.6.7.4.3.1.2 "AdvDefaultLifetime (ADL)"

Group 3.6.7.4.3.1.3 "AdvManagedFlag (AMF)"

Group 3.6.7.4.3.1.4 "AdvOtherConfigFlag (AOCF)"

Group 3.6.7.4.3.1.5 "AdvReachableTime (ART)"

Group 3.6.7.4.3.1.6 "AdvRetransTimer (ADRT)"

Group 3.6.7.4.3.1.7 "MaxRtrAdvInterval (MAXRAI)"

Group 3.6.7.4.3.1.8 "MinRtrAdvInterval (MINRAI)"

Group 3.6.7.4.3.2 "Router Advertisement Behavior on Reconfiguration (RABR)"

Group 3.6.7.5 "Generate Redirect Message (GRM)"

Group 3.6.7.5.1 "Generate Redirect Options (GRO)"

Group 3.6.7.5.2 "Determine Redirect Target Address Field (DRTA)"

5   Test Purposes (TP)

The test purposes have been written in the formal notation TPlan as described in annex A of DTS/MTS-IPT-0001 [1]

Group 1 "Node tests (NT)"

Group 1.1 "Generate IPv6 packets (GIP)"

Group 1.1.1 "Generate Extension Header (GEH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1092_01
summary : 'Send 59 in last IPv6 header'
RQ Ref   : RQ_COR_1092
TC Ref   : TC_COR_1092_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }

ensure that
{

when     { IUT generates 'IPv6 packet'
            containing 'one or more extension headers'
            }

then     { IUT sends 'IPv6 packet'
            containing 'a Next Header field in the last extension header' indicating '59'
        }
}
```

Group 1.1.1.1 "Generate Destination Options Header(GDOH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1089_01
summary : 'Tests destination options header, includes COR_1090 and COR_1091'
RQ Ref   : RQ_COR_1089
TC Ref   : TC_COR_1089_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }
```

```
ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'a destination options header'
            }

then    { IUT sends 'IPv6 packet'
            containing 'a Next Header field in header preceeding the destination options header'
indicating '60'
            and containing 'a correctly coded destination options header'
        }
}
```

End group 1.1.1.1

Group 1.1.1.2 "Generate Routing Header(GRH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1034_01
summary : 'Tests routing header, includes COR_1035, COR_1036, COR_1037, COR_1038, COR_1043, COR_1047
and COR_1048'
RQ Ref  : RQ_COR_1034
TC Ref  : TC_COR_1034_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }

ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'a routing header'
            }

then    { IUT sends 'IPv6 packet'
            containing 'a Next Header field in header preceeding the routing header' indicating '43'
            and containing 'a correctly coded routing header'
        }
}
```

End group 1.1.1.2

Group 1.1.1.3 "Generate Hop by Hop Header(GHHH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1008_01
summary : 'Tests hop by hop header, includes COR_1009, COR_1032 and COR_1033'
RQ Ref  : RQ_COR_1008
TC Ref  : TC_COR_1008_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }

ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'a hop by hop header'
            }

then    { IUT sends 'IPv6 packet'
            containing 'a Next Header field in the IPv6 header' indicating '0'
            and containing 'a correctly coded hop by hop header'
        }
}
```

End group 1.1.1.3

End group 1.1.1

Group 1.1.2 "Generate IPv6 Header(GIH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1000_01
summary : 'Tests IPv6 header, includes COR_1001'
RQ Ref  : RQ_COR_1000
TC Ref  : TC_COR_1000_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }

ensure that
{

when    { IUT generates 'IPv6 packet'
            }

then    { IUT sends 'IPv6 packet'
            containing 'a IPv6 header' indicating 'correct length and next header values'
        }
}
```

End group 1.1.2

Group 1.1.3 "Discover PMTU(DPMTU)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1806_01
summary : 'Tests reduction of PMTU on Packet Too Big message, includes COR1808 and COR_1818'
RQ Ref  : RQ_COR_1806
TC Ref  : TC_COR_1806_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }

ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'packet of size up to the known MTU of the first hop'
            }

and when { IUT receives 'Packet Too Big message'
            containing 'an MTU field set to a value smaller than the MTU used for sending'
        }

then    { IUT sends 'IPv6 packet'
            containing 'packet of size up to the received MTU'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1821_01
summary : 'Tests reaction on Packet Too Big message with MTU less than minimum, includes COR1822'
RQ Ref  : RQ_COR_1821
TC Ref  : TC_COR_1821_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
    }

ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'packet of size up to the known MTU of the first hop'
            }

and when { IUT receives 'Packet Too Big message'
            containing 'an MTU field set to a value smaller than the IPv6 minimum link MTU'
        }
```

```
then    { IUT sends 'IPv6 packet'
            containing 'a fragment header'
        }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id     : TP_COR_1823_01
summary : 'Tests reaction on Packet Too Big message with MTU higher than used MTU'
RQ Ref  : RQ_COR_1823
TC Ref  : TC_COR_1823_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
        }

ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'packet of size up to the known MTU of the first hop'
            }

and when { IUT receives 'Packet Too Big message'
            containing 'an MTU field set to a value higher than the used MTU'
        }

then    { IUT sends 'IPv6 packet'
            containing 'packet of size up to the known MTU of the first hop'
        }
}
```

Group 1.1.3.1 "Multicast PMTU Discovery (MPMTUD)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id     : TP_COR_1814_01
summary : 'Tests reaction on several Packet Too Big messages when using multicast sending'
RQ Ref  : RQ_COR_1814
TC Ref  : TC_COR_1814_01

with    { IUT 'Node' and 'IUT ready to generate IPv6 packets'
        }

ensure that
{

when    { IUT generates 'IPv6 packet'
            containing 'packet of size up to the known MTU of the first hop'
            and containing 'destination address' indicating 'multicast address'
            }

and when { IUT receives 'multiple Packet Too Big messages'
            containing 'MTU fields set to values smaller than the used MTU'
        }

then    { IUT sends 'IPv6 packet'
            containing 'packet of size up to the smallest received MTU'
        }
}
```

End group 1.1.3.1

End group 1.1.3

End group 1.1

Group 1.2 "Process IPv6 packets (PIP)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_8814_01
summary : 'Tests reaction on unsupported jumbogram'
RQ Ref  : RQ_COR_8814
TC Ref  : TC_COR_8814_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'next header' indicating 'Hop-by-Hop Options'
            and containing 'payload length' indicating '0'
            }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '0 'erroneous header field encountered''
            and containing 'pointer' indicating 'high-order octet of the IPv6 payload length'
          and IUT ignores 'received packet'
        }
}
```

Group 1.2.1 "Process Extension Headers (PEH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1010_01
summary : 'Tests reaction on unrecognized Next Header value'
RQ Ref  : RQ_COR_1010
TC Ref  : TC_COR_1010_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'extension header with next header' indicating 'an unrecognized Next Header
value'
            }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '1 'unrecognized Next Header type encountered''
            and containing 'pointer' indicating 'offset of unrecognized value'
            and ignores 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1011_01
summary : 'Tests reaction on unrecognized Next Header value'
RQ Ref  : RQ_COR_1011
TC Ref  : TC_COR_1011_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'extension header with next header' indicating '0'
            }
```

then   { **IUT sends** 'ICMP Parameter Problem message'
           containing 'code' **indicating** '1 'unrecognized Next Header type encountered''
           and containing 'pointer' **indicating** 'offset of unrecognized value'
        and IUT discards 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_1016_01
summary : 'Tests reaction on extension headers other than the Hop-by-Hop header out of sequence'
RQ Ref : RQ_COR_1016
TC Ref : TC_COR_1016_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
        }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
           containing 'extension headers other than the Hop-by-Hop header out of sequence'
        }

then   { **IUT sends** 'no message in response'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_1093_01
summary : 'Tests reaction on extra extension header octets'
RQ Ref : RQ_COR_1093
TC Ref : TC_COR_1093_01

with   { **IUT** 'Node' **and**'IUT ready to process IPv6 packets'
        }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
           containing 'next header' **indicating** '59'
           and containing 'extra header octets'
        }

then   { **IUT sends** 'no message in response'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_9030_01
summary : 'Tests reaction on unrecognized Next Header value, includes COR_9031 and COR_1457'
RQ Ref : RQ_COR_9030
TC Ref : TC_COR_9030_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
        }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
           containing 'extension header' **indicating** 'values that stop packet processing'
        }

then   { **IUT sends** 'ICMP Parameter Problem message'
           and IUT ignores 'received packet'
        }
}

Group 1.2.1.1 "Process Fragment Packets (PFP)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1082_01
summary : 'Tests acceptance of (two) correctly fragmented packets'
RQ Ref  : RQ_COR_1082
TC Ref  : TC_COR_1082_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'first IPv6 packet'
             containing 'fragment header' indicating '1 'more fragments''
             and receives 'second IPv6 packet'
             containing 'fragment header' indicating '0 'last fragment''
             and containing 'Identification' indicating 'same value as in first IPv6 packet'
              }

then    { IUT sends 'no message in response'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1083_01
summary : 'Tests reaction on interupted receipt of fragmented packets, include COR_1084'
RQ Ref  : RQ_COR_1083
TC Ref  : TC_COR_1083_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'fragment header' indicating '1 'more fragments''
          after '60 seconds'
              }

then    { IUT sends 'ICMP Time Exceeded message'
             containing 'code' indicating '1 'fragment reassembly time exceeded''
             and IUT ignores 'received packet'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1085_01
summary : 'Tests reaction on fragmented packets of wrong size, include COR_9006'
RQ Ref  : RQ_COR_1085
TC Ref  : TC_COR_1085_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Payload Length' indicating 'not a multiple of 8'
             and containing 'fragment header' indicating '1 'more fragments''
              }

then    { IUT sends 'ICMP Parameter Problem message'
             containing 'code' indicating '0 'erroneous header field encountered''
             and containing 'pointer' indicating 'high-order octet of the IPv6 payload length'
             and IUT ignores 'received packet'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id : TP_COR_1086_01
summary : 'Tests reaction on fragmented packets indicating oerall size > 65535'
RQ Ref : RQ_COR_1086
TC Ref : TC_COR_1086_01

with { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
}

ensure that
{

when { **IUT receives** 'IPv6 packet'
containing 'fragment header' **indicating** '1 'more fragments''
and containing 'Fragment offset' **indicating** 'complete packet size > 65535 octets'
}

then { **IUT sends** 'ICMP Parameter Problem message'
containing 'code' **indicating** '0 'erroneous header field encountered''
and containing 'pointer' **indicating** 'high-order octet of the Fragment Offset'
and IUT ignores 'received packet'
}
}

End group 1.2.1.1

Group 1.2.1.2 "Process Routing Header (PRH)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id : TP_COR_1040_01
summary : 'Tests reaction on unrecognizable routing type'
RQ Ref : RQ_COR_1040
TC Ref : TC_COR_1040_01

with { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
}

ensure that
{

when { **IUT receives** 'IPv6 packet'
containing 'routing header' **indicating** 'unrecognizable routing type'
and containing 'Segments left' **indicating** '0'
}

then { **IUT ignores** 'the routing header'
}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id : TP_COR_1041_01
summary : 'Tests reaction on unrecognizable routing type'
RQ Ref : RQ_COR_1041
TC Ref : TC_COR_1041_01

with { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
}

ensure that
{

when { **IUT receives** 'IPv6 packet'
containing 'routing header' **indicating** 'unrecognizable routing type'
and containing 'Segments left' **indicating** '<> 0'
}

then { **IUT sends** 'ICMP Parameter Problem message'
containing 'code' **indicating** '0 'erroneous header field encountered''
and containing 'pointer' **indicating** 'high-order octet of the unrecognizable routing
type'
and IUT ignores 'received packet'
}
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1052_01
summary : 'Tests reaction on incorrect routing type 0 header'
RQ Ref  : RQ_COR_1052
TC Ref  : TC_COR_1052_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'routing header' indicating 'routing type 0'
            and containing 'Segments left' indicating '> 0'
            and containing 'Hdr Ext Len' indicating 'odd value'
            }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '0 'erroneous header field encountered''
            and containing 'pointer' indicating 'high-order octet of the Hdr Ext Len field'
            and IUT ignores 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1053_01
summary : 'Tests reaction on incorrect routing type 0 header'
RQ Ref  : RQ_COR_1053
TC Ref  : TC_COR_1053_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'routing header' indicating 'routing type 0'
            and containing 'Segments Left' indicating 'value > number addresses in routing header'
            and containing 'Hdr Ext Len' indicating 'even value'
            }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '0 'erroneous header field encountered''
            and containing 'pointer' indicating 'high-order octet of the Segments Left field'
            and IUT ignores 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1055_01
summary : 'Tests reaction on incorrect routing type 0 header'
RQ Ref  : RQ_COR_1055
TC Ref  : TC_COR_1055_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'routing header' indicating 'routing type 0'
            and containing 'Hdr Ext Len' indicating 'even value'
            and containing 'next Address' indicating 'multicast address'
            }

then    { IUT ignores 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id   : TP_COR_1056_01
summary : 'Tests reaction on incorrect routing type 0 header'
RQ Ref : RQ_COR_1056
TC Ref : TC_COR_1056_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
       }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
             containing 'IPv6 Destination Address' **indicating** 'multicast address'
             and containing 'routing header' **indicating** 'routing type 0'
             and containing 'Hdr Ext Len' **indicating** 'even value'
             }

then   { **IUT ignores** 'received packet'
             }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_1058_01
summary : 'Tests reaction on packet with routing header and hop limit too low'
RQ Ref : RQ_COR_1058
TC Ref : TC_COR_1058_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
       }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
             containing 'Hop Limit' **indicating** '= 1'
             and containing 'routing header' **indicating** 'routing type 0'
             and containing 'Hdr Ext Len' **indicating** 'even value'
             }

then   { **IUT sends** 'ICMPv6 Time Exceeded message'
             containing 'destination address' **indicating** 'source address of received packet'
             and containing 'code' **indicating** '0 'Hop Limit Exceeded in Transit''
             and IUT ignores 'received packet'
             }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_1058_02
summary : 'Tests reaction on packet with routing header and hop limit too low'
RQ Ref : RQ_COR_1058
TC Ref : TC_COR_1058_02

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
       }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
             containing 'Hop Limit' **indicating** '= 0'
             and containing 'routing header' **indicating** 'routing type 0'
             and containing 'Hdr Ext Len' **indicating** 'even value'
             }

then   { **IUT sends** 'ICMPv6 Time Exceeded message'
             containing 'destination address' **indicating** 'source address of received packet'
             and containing 'code' **indicating** '0 'Hop Limit Exceeded in Transit''
             and IUT ignores 'received packet'
             }
}

End group 1.2.1.2

Group 1.2.1.3 "Process Hop-By-Hop Header (PHBHH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_8813_01
summary : 'Tests reaction on unsupported jumbogram'
RQ Ref  : RQ_COR_8813
TC Ref  : TC_COR_8813_01

with    { IUT 'Node' not 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'next header' indicating 'Hop-by-Hop Options'
            and containing 'payload length' indicating '0'
            }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '0 'erroneous header field encountered''
            and containing 'pointer' indicating 'high-order octet of the IPv6 payload length'
            and IUT ignores 'received packet'
        }
}
```

End group 1.2.1.3

Group 1.2.1.4 "Process Extension Header Options (PEHO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1018_01
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_1018
TC Ref  : TC_COR_1018_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop-by-Hop Options header'
            containing 'unrecognized option' indicating '00 'skip over this option ...''
            }

then    { IUT sends 'no message in response'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1018_02
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_1018
TC Ref  : TC_COR_1018_02

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination Options header'
            containing 'unrecognized option' indicating '00 'skip over this option ...''
            }
then    { IUT sends 'no message in response'
        }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1019_01
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_1019
TC Ref  : TC_COR_1019_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop-by-Hop Options header'
            containing 'unrecognized option' indicating '01 'discard the packet''
            }

then    { IUT ignores 'received packet'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1019_02
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_1019
TC Ref  : TC_COR_1019_02

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination Options header'
            containing 'unrecognized option' indicating '01 'discard the packet''
            }

then    { IUT ignores 'received packet'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1020_01
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_1020
TC Ref  : TC_COR_1020_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination Address' indicating 'unicast address'
            and containing 'Hop-by-Hop Options header'
            containing 'unrecognized option' indicating '10 'discard the packet and ...''
            }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '2 'unrecognized IPv6 option encountered''
            and containing 'pointer' indicating 'Option Type'
        and IUT ignores 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1020_02
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_1020
TC Ref  : TC_COR_1020_02
```

```
with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Destination Address' indicating 'unicast address'
             and containing 'Destination Options header'
             containing 'unrecognized option' indicating '10 'discard the packet and ...''
             }

then    { IUT sends 'ICMP Parameter Problem message'
             containing 'code' indicating '2 'unrecognized IPv6 option encountered''
             and containing 'pointer' indicating 'Option Type'
             and IUT ignores 'received packet'
         }
}


 ' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_9002_01
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref   : RQ_COR_9002
TC Ref   : TC_COR_9002_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Destination Address' indicating 'multicast address'
             and containing 'Hop-by-Hop Options header'
             containing 'unrecognized option' indicating '10 'discard the packet and ...''
             }

then    { IUT sends 'ICMP Parameter Problem message'
             containing 'code' indicating '2 'unrecognized IPv6 option encountered''
             and containing 'pointer' indicating 'Option Type'
             and IUT ignores 'received packet'
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_9002_02
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref   : RQ_COR_9002
TC Ref   : TC_COR_9002_02

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Destination Address' indicating 'multicast address'
             and containing 'Destination Options header'
             containing 'unrecognized option' indicating '10 'discard the packet and ...''
             }

then    { IUT sends 'ICMP Parameter Problem message'
             containing 'code' indicating '2 'unrecognized IPv6 option encountered''
             and containing 'pointer' indicating 'Option Type'
             and IUT ignores 'received packet'
         }
}

 ' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id   : TP_COR_1021_01
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref : RQ_COR_1021
TC Ref : TC_COR_1021_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
      }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
            containing 'Destination Address' **indicating** 'unicast address'
            and containing 'Hop-by-Hop Options header'
            containing 'unrecognized option' **indicating** '11 'discard the packet and ...''
             }

then   { **IUT sends** 'ICMP Parameter Problem message'
            containing 'code' **indicating** '2 'unrecognized IPv6 option encountered''
            and containing 'pointer' **indicating** 'Option Type'
            and IUT ignores 'received packet'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_1021_02
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref : RQ_COR_1021
TC Ref : TC_COR_1021_02

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
      }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
            containing 'Destination Address' **indicating** 'unicast address'
            and containing 'Destination Options header'
            containing 'unrecognized option' **indicating** '11 'discard the packet and ...''
             }

then   { **IUT sends** 'ICMP Parameter Problem message'
            containing 'code' **indicating** '2 'unrecognized IPv6 option encountered''
            and containing 'pointer' **indicating** 'Option Type'
            and IUT ignores 'received packet'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_9003_01
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref : RQ_COR_9003
TC Ref : TC_COR_9003_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 packets'
      }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
            containing 'Destination Address' **indicating** 'multicast address'
            and containing 'Hop-by-Hop Options header'
            containing 'unrecognized option' **indicating** '11 'discard the packet and ...''
             }

then   { **IUT ignores** 'received packet'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_9003_02
summary : 'Tests reaction on unrecognized options in extension header'
RQ Ref  : RQ_COR_9003
TC Ref  : TC_COR_9003_02

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination Address' indicating 'multiicast address'
            and containing 'Destination Options header'
            containing 'unrecognized option' indicating '11 'discard the packet and ...''
            }

then    { IUT ignores 'received packet'
            }
}
```

End group 1.2.1.4

End group 1.2.1

Group 1.2.2 "Process IPv6 Header (PIP6)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1455_01
summary : 'Tests reaction on unprocessable IPv6 Header, includes COR_1456'
RQ Ref  : RQ_COR_1455
TC Ref  : TC_COR_1455_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'IPv6 header' indicating 'values that stop packet processing'
            }

then    { IUT sends 'ICMP Parameter Problem message'
            and IUT ignores 'received packet'
    }
}
```

Group 1.2.2.1 "Process Hop Limit (PHL)"

"Testable requirements COR_1058 and COR_1059 already covered in Group 1.2.1.4 Process Extension Header Options (PEHO)"

End group 1.2.2.1

Group 1.2.2.2 "Process Traffic Class (PTC)"

"No testable requirements in this section"

End group 1.2.2.2

Group 1.2.2.3 "Process Flow Label (PHL)"

"No testable requirements in this section"

End group 1.2.2.3

Group 1.2.2.4 "Process Checksum (PSC)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1122_01
summary : 'Tests reaction on erroneous UDP checksum'
RQ Ref  : RQ_COR_1122
TC Ref  : TC_COR_1122_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'UDP checksum' indicating '0000H'
            }

then    { IUT ignores 'received packet'
        }
}
```

End group 1.2.2.4

End group 1.2.2

End group 1.2

Group 1.3 "Initialize (INI)"

Group 1.3.1 "Determine Default MTU (DDMTU)"

"No testable requirements in this section"

End group 1.3.1

Group 1.3.2 "Configure Address {CA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9012_01
Summary: ''
RQ Ref: RQ_COR_9012
TC Ref: TC_COR_9012_01
With { IUT 'is node' and 'is capable of Stateless Autoconfiguration' }
ensure that {
    when { IUT 'is not on a multicast-capable link' }
    then { IUT 'does not use Stateless Autoconfiguration' }
}
```

Group 1.3.2.1 "Manual Address Configuration (MAC)"

" No testable requirements in this section"

End group 1.3.2.1

Group 1.3.2.2 "Stateless Autoconfiguration (SLAC)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_1231_01
Summary: ''
RQ Ref: RQ_COR_1231
TC Ref: TC_COR_1231_01
With { **IUT** 'is node' **and** 'is capable of Stateless Autoconfiguration' }
ensure that {
    when { **IUT** 'is on a multicast-capable link' }
    then { **IUT** 'starts Stateless Address Autoconfiguration when the multicast-capable interface is
enabled' }
}
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1232_01
Summary: ''
RQ Ref: RQ_COR_1232
TC Ref: TC_COR_1232_01
With { **IUT** 'is node' **and** 'implements Stateless address autoconfiguration' }
ensure that {
    when { **IUT** 'has begun the autoconfiguration process' }
    then { **IUT** 'creates a link-local address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1244_01
Summary: ''
RQ Ref: RQ_COR_1244
TC Ref: TC_COR_1244_01
With { **IUT** 'is node'
    and 'implements Stateless address autoconfiguration'
    and 'has generated a tentative link-local address' }
ensure that {
    when { **IUT** 'has determined that the tentative link-local address is unique using Duplicate
Address Detection' }
    then { **IUT** 'assigns the tentative link-local address to the interface'
        and IUT 'uses the the interface for IPv6 connectivity' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1272_01
Summary: ''
RQ Ref: RQ_COR_1272
TC Ref: TC_COR_1272_01
With { **IUT** 'is node' **and** 'is initializing' }
ensure that {
    when { **IUT** 'is using Stateless autoconfiguration for an interface' }
    then { **IUT** 'enables the interface'
        and IUT 'forms a link-local address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9016_01
Summary: ''
RQ Ref: RQ_COR_9016
TC Ref: TC_COR_9016_01
With { **IUT** 'is node' **and** 'is reinitializing after after a temporary interface failure' }
ensure that {
    when { **IUT** 'is using Stateless autoconfiguration for an interface' }
    then { **IUT** 'enables the interface'
        and IUT 'forms a link-local address' }
}
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9017_01
Summary: ''
RQ Ref: RQ_COR_9017
TC Ref: TC_COR_9017_01
With { **IUT** 'is node' **and** 'is reinitializing after being temporarily disabled by system management' }
ensure that {
    when { **IUT** 'is using Stateless autoconfiguration for an interface' }
    then { **IUT** 'enables the interface'
        and IUT 'forms a link-local address' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9018_01
Summary: ''
RQ Ref: RQ_COR_9018
TC Ref: TC_COR_9018_01
With { IUT 'is node' and 'is attaching to a link for the first time' }
ensure that {
    when { IUT 'is using Stateless autoconfiguration for an interface' }
    then { IUT 'enables the interface'
        and IUT 'forms a link-local address' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9019_01
Summary: ''
RQ Ref: RQ_COR_9019
TC Ref: TC_COR_9019_01
With { IUT 'is node' and 'system management re-enables an interface after its being administratively
disabled' }
ensure that {
    when { IUT 'is using Stateless autoconfiguration for an interface' }
    then { IUT 'enables the interface'
        and IUT 'forms a link-local address' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8009_01
Summary: ''
RQ Ref: RQ_COR_8009
TC Ref: TC_COR_8009_01
With { IUT 'is node' and 'performing Stateless autoconfiguration over an Ethernet link'
    and 'IUT has a built-in 48-bit IEEE 802 address' }
ensure that {
    when { IUT 'forms the EUI-64 IPv6 interface identifier' }
    then { IUT 'creates the identifier'
        containing 'the first three octets' set to 'the first three octets of the 48-bit IEEE 802
address except that the next-to-lowest order bit of the first octet, the U/L bit, of the EUI-64
interface identifier is complemented'
        and containing 'the fourth and fifth octets of the identifer' set to 'FFFE hexadecimal'
        and containing 'the last three octets of the identifier' set to 'the last three octets of
the 48-bit IEEE 802 address' }
}
```

Group 1.3.2.2.1 "Form Link-local Address (LLA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1225_01
Summary: ''
RQ Ref: RQ_COR_1225
TC Ref: TC_COR_1225_01
With { IUT 'is node' and IUT 'interface identifier length is less than 119 bits' }
ensure that {
    when { IUT generates 'its link-local address'}
    then { IUT 'forms link-local address' containing 'IUT interface identifier appended to the
prefix FE80::0' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1276_01
Summary: ''
RQ Ref: RQ_COR_1276
TC Ref: TC_COR_1276_01
With { IUT 'is node' and 'operating' }
ensure that {
    when { IUT 'is using its link-local address' }
    then { IUT 'treats its link-local address as having an infinite preferred and an infinite valid
lifetime' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8013_01
Summary: ''
RQ Ref: RQ_COR_8013
TC Ref: TC_COR_8013_01
With { 'is node' **and** 'initializing on an Ethernet link' }
ensure that {
    when { **IUT generates** 'its link-local address' }
    then { **IUT** 'forms its link-local address' **containing** 'its 64-bit Interface Identifier appended
to the prefix FE80 0000 0000 0000 hex' }
}

End group 1.3.2.2.1

Group 1.3.2.2.2 "Process Invalid SA Syntax (PISAS)"

" No testable requirements in this section"

End group 1.3.2.2.2

End group 1.3.2.2

Group 1.3.2.3 "Stateful Autoconfiguration (SFAC)"

" No testable requirements in this section"

End group 1.3.2.3

Group 1.3.2.4 "Simultaneous Stateless and Stateful Autocinfiguratio (SSSAC)"

" No testable requirements in this section"

End group 1.3.2.4

Group 1.3.2.5 "Detect Duplicate Address (DAD)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1210_01
Summary: ''
RQ Ref: RQ_COR_1210
TC Ref: TC_COR_1210_01
With { **IUT** 'is a Node' **and IUT** 'has formed a tentative link-local address' }
ensure that {
    when { **IUT receives** 'packets that are not for Duplicate Address Detection' **containing**
'Destination Address' **set to** 'the tentative link-local address' }
    then { **IUT discards** 'these packets'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1210_02
Summary: ''
RQ Ref: RQ_COR_1210
TC Ref: TC_COR_1210_02
With { **IUT** 'is a Node' **and IUT** 'has formed a tentative link-local address' }
ensure that {
    when { **IUT receives** 'packets for Duplicate Address Detection' **containing** 'Destination Address'
set to 'the tentative link-local address' }
    then { **IUT accepts** 'these packets'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1235_01
Summary: ''
RQ Ref: RQ_COR_1235
TC Ref: TC_COR_1235_01
With {**IUT** 'is a Node' **and IUT** 'has a unique link-local address' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'Destination Address' **set to** 'its link-local address'}
    then { **IUT sends** 'Neighbor Advertisement indicating that the IUT uses the unique link-local address'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1239_01
Summary: ''
RQ Ref: RQ_COR_1239
TC Ref: TC_COR_1239_01
With { **IUT** 'is node' **and** 'using Stateless Autoconfiguration to generate a unique link-local address'
}
ensure that {
    when { **IUT** 'sends a Neighbor Solicitation'
        containing 'Target Field' **set to** 'the tentative link-local address'
        and containing 'the Destination Address' **set to** 'the solicited-node multicast address'
        and IUT 'determines that the tentative link-local address is not unique' }
    then { **IUT** 'stops autoconfiguration' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1280_01
Summary: ''
RQ Ref: RQ_COR_1280
TC Ref: TC_COR_1280_01
With { **IUT** 'is a Node' **and** 'performs Duplicate Address Detection during Stateless Autoconfiguration'
}
ensure that {
    when { }
    then {**IUT sends** 'Neighbor Solicitations for DupAddrDetectTransmits times, each separated by RetransTimer milliseconds'
        containing 'Target Address' **set to** 'the address being checked'
        and containing 'Source Address' **set to** 'Unspecified Address (0::0)'
        and containing 'Destination Address' **set to** 'solicited-node multicast address of the target'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1282_01
Summary: ''
RQ Ref: RQ_COR_1282
TC Ref: TC_COR_1282_01
With { **IUT** 'is a Node' **and** 'performs Duplicate Address Detection during Stateless Autoconfiguration'
}
ensure that {
    when { **IUT** 'is waiting to send the first Neighbor Solicitation during the random delay period between 0 and MAX_RTR_SOLICITATION_DELAY'
        and IUT receives 'datagrams during the random delay period' **containing** 'Destination Address' **set to** 'all-nodes multicast address'}
    then { **IUT** 'processes the datagrams'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1282_02
Summary: ''
RQ Ref: RQ_COR_1282
TC Ref: TC_COR_1282_02
With { **IUT** 'is a Node' **and** 'performs Duplicate Address Detection during Stateless Autoconfiguration'
}
ensure that {
    when { **IUT** 'is waiting to send the first Neighbor Solicitation during the random delay period between 0 and MAX_RTR_SOLICITATION_DELAY'
        and IUT receives 'datagrams during the random delay period' **containing** 'Destination Address' **set to** 'its solicited-node multicast address'}
    then { **IUT** 'processes the datagrams'}
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8148_01
Summary: ''
RQ Ref: RQ_COR_8148
TC Ref: TC_COR_8148_01
With { IUT 'is a Node' and 'performs Duplicate Address Detection during Stateless Autoconfiguration'
}
ensure that {
    when { IUT generates 'Neighbor Solicitation for use in Duplicate Address Detection' }
    then { IUT sends 'Neighbor Solicitation' containing 'Source Address' set to 'Unspecified Address
(0::0)' }
}
```

Group 1.3.2.5.1 "Duplicate Address Detection Timers and Counters (DADTMR)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1256_01
Summary: ''
RQ Ref: RQ_COR_1256
TC Ref: TC_COR_1256_01
With { IUT 'is a Node'
    and 'performs Duplicate Address Detection during Stateless Autoconfiguration'
    and 'DupAddrDetectTransmits is set to a value other than its default of 1' }
ensure that {
    when { IUT generates 'unanswered Neighbor Solicitation for use in Duplicate Address Detection
for each multicast interface' }
    then { IUT sends 'consecutively the Neighbor Solicitations for DupAddrDetectTransmits times (a
system management configured variable)'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1257_01
Summary: ''
RQ Ref: RQ_COR_1257
TC Ref: TC_COR_1257_01
With { IUT 'is a Node' and 'performs Duplicate Address Detection during Stateless Autoconfiguration'
and 'DupAddrDetectTransmits is left at its default' }
ensure that {
    when { IUT generates 'unanswered Neighbor Solicitation for use in Duplicate Address Detection
for each multicast interface' }
    then {IUT sends 'only one Neighbor Solicitation (the default of DupAddrDetectTransmits being 1)'
}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1263_01
Summary: ''
RQ Ref: RQ_COR_1263
TC Ref: TC_COR_1263_01
With { IUT 'is a Node' and 'performs Duplicate Address Detection during Stateless Autoconfiguration'
and 'DupAddrDetectTransmits is set to a value greater than 1'}
ensure that {
    when { IUT generates 'the last unanswered Neighbor Solicitation for use in Duplicate Address
Detection' }
    then { IUT 'waits RetransTimer duration after the last unanswered Neighbor Solicitation'
        and IUT 'then stops Duplicate Address Detection' }
}
```

End group 1.3.2.5.1

End group 1.3.2.5

Group 1.3.2.6 "Assign Global Address (GA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1250_01
Summary: ''
RQ Ref: RQ_COR_1250
TC Ref: TC_COR_1250_01
With { IUT 'is initializing'}
ensure that {
    when { IUT 'assigns unicast addresses to an interface' }
    then { IUT 'tests all the unicast addresses for uniqueness using Duplicate Address Detection
prior to their assignment to the interface'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1292_01
Summary: ''
RQ Ref: RQ_COR_1292
TC Ref: TC_COR_1292_01
With { IUT 'is initializing'}
ensure that {
    when { IUT 'is forming a global address'}
    then { IUT 'uses by default the global address Stateless autoconfiguration mechanism'}
}
```

Group 1.3.2.6.1 "Use of M-Bit (UMB)"

" No testable requirements in this section - see host section"

End group 1.3.2.6.1

Group 1.3.2.6.2 "Use of O-Bit (UOB)"

" No testable requirements in this section - see host section"

End group 1.3.2.6.2

Group 1.3.2.6.3 "Process the Prefix Information Option (PPIO)"

" No testable requirements in this section - see host section"

End group 1.3.2.6.3

End group 1.3.2.6

End group 1.3.2

End group 1.3

Group 1.4 "Address use (AU)"

" No test purposes in this section

- All requirements concerning the correct use of addresses are tested implicitly in other test groups"

End group 1.4

Group 1.5 "ICMPv6 Functions (ICF)"

Group 1.5.1 "Protect ICMP Messages from Attacks (PIMA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1471_01
summary : 'Tests generation of ICMP message with authentication'
RQ Ref  : RQ_COR_1471
TC Ref  : TC_COR_1471_01

with    { IUT 'Node' and 'IUT ready to generate ICMPv6 messages with authentication'
     }

ensure that
{

when    { IUT generates 'authenticated ICMPv6 packet'
          }

then    { IUT sends 'ICMPv6 message'
            containing 'Authentication Header'
            and indicating '51 in the next header field preceeding the Authentication Header'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1472_01
summary : 'Tests authentication of received ICMP message, includes COR_1473'
RQ Ref  : RQ_COR_1472
TC Ref  : TC_COR_1472_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages with authentication'
     }

ensure that
{

when    { IUT receives 'ICMPv6 packet'
            containing 'incorrect authentication '
            }

then    { IUT discards  'ICMPv6 message'
        }
}
```
End group 1.5.1

Group 1.5.2 "Process ICMPv6 Messages (PIM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1412_01
summary : 'Tests reaction on unknown ICMPv6 informational message'
RQ Ref  : RQ_COR_1412
TC Ref  : TC_COR_1412_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'ICMPv6 message'
            containing 'type' indicating 'value > 129'
            }

then    { IUT discards  'ICMP message'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

```
TP Id       : TP_COR_1416_01
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'erroneous header field'
             and containing 'ICMPv6 Type' indicating '1, Destination Unreachable'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT not sends 'ICMP Parameter Problem message'
         }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1416_02
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_02

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'erroneous header field'
             and containing 'ICMPv6 Type' indicating '2, Packet Too Big'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT not sends 'ICMP Parameter Problem message'
         }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1416_03
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_03

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'erroneous header field'
             and containing 'ICMPv6 Type' indicating '31, Time Exceeded'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT not sends 'ICMP Parameter Problem message'
         }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id       : TP_COR_1416_04
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_04

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
     }
```

```
ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'erroneous header field'
             and containing 'ICMPv6 Type' indicating '4, Parameter Problem'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT not sends 'ICMP Parameter Problem message'
      }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_1417_01
summary : 'Tests non-reaction on IPv6 packet to multicast address, includes COR_1418'
RQ Ref  : RQ_COR_1417
TC Ref  : TC_COR_1417_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
      }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'erroneous header field'
             and containing 'Destination Address' indicating 'multicast address'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT not sends 'ICMP Parameter Problem message'
          }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_1419_01
summary : 'Tests non-reaction on IPv6 packet on link-layer multicast'
RQ Ref  : RQ_COR_1419
TC Ref  : TC_COR_1419_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
      }

ensure that
{

when    { IUT receives 'IPv6 packet on link-layer multicast'
             containing 'erroneous header field'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT not sends 'ICMP Parameter Problem message'
          }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_1421_01
summary : 'Tests non-reaction on IPv6 packet on link-layer broadcast'
RQ Ref  : RQ_COR_1421
TC Ref  : TC_COR_1421_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
      }

ensure that
{

when    { IUT receives 'IPv6 packet on link-layer broadicast'
             containing 'erroneous header field'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }
```

```
then    { IUT not sends 'ICMP Parameter Problem message'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1424_01
summary : 'Tests non-reaction on IPv6 packet from ambiguous source address'
RQ Ref  : RQ_COR_1424
TC Ref  : TC_COR_1424_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'erroneous header field'
            and containing 'Source Address' indicating 'IPv6 Unspecified address'
            and IUT generates 'ICMPv6 Parameter Problem messages'
            }

then    { IUT not sends 'ICMP Parameter Problem message'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1425_01
summary : 'Tests non-reaction on IPv6 packet from ambiguous source address'
RQ Ref  : RQ_COR_1425
TC Ref  : TC_COR_1425_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'erroneous header field'
            and containing 'Source Address' indicating 'IPv6 multicast address'
            and IUT generates 'ICMPv6 Parameter Problem messages'
            }

then    { IUT not sends 'ICMP Parameter Problem message'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1426_01
summary : 'Tests non-reaction on IPv6 packet from ambiguous source address'
RQ Ref  : RQ_COR_1426
TC Ref  : TC_COR_1426_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'erroneous header field'
            and containing 'Source Address' indicating 'IUT known IPv6 anycast address'
            and IUT generates 'ICMPv6 Parameter Problem messages'
            }

then    { IUT not sends 'ICMP Parameter Problem message'
        }
}
```

Group 1.5.2.1 "Process ICMPv6 Information Messages (PIIM)"

Group 1.5.2.1.1 "Process Echo Reply Message (PERPM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id     : TP_COR_1468_01
summary : 'Tests reaction on Echo Reply Message'
RQ Ref  : RQ_COR_1468
TC Ref  : TC_COR_1468_01

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
    }

ensure that
{

when    { IUT sends 'ICMPv6 Echo Request Message'
        and receives 'ICMPv6 Echo Reply Message'
        }

then    { IUT sends 'no message in response and passes message to upper-layer process'
        }
}
```

End group 1.5.2.1.1

Group 1.5.2.1.2 "Process Echo Request Message (PERQM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id     : TP_COR_1463_01
summary : 'Tests reaction on Echo Request Message, includes COR_1464 and COR_1467'
RQ Ref  : RQ_COR_1463
TC Ref  : TC_COR_1463_01

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'ICMPv6 Echo Request Message'
        }

then    { IUT sends 'ICMPv6 Echo Reply Message'
            containing 'Destination Address' indicating 'Source Address from invoking Echo
Request'
            and containing 'Type' indicating '129'
            and containing 'Code' indicating '0'
            and containing 'Identifier' indicating 'Identifier from invoking Echo Request'
            and containing 'Sequence Number' indicating 'Sequence number  from invoking Echo
Request'
            and containing 'Data' indicating 'Data  from invoking Echo Request'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id     : TP_COR_1465_01
summary : 'Tests reaction on multicast Echo Request Message, includes COR_1466 and COR_1467'
RQ Ref  : RQ_COR_1465
TC Ref  : TC_COR_1465_01

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'ICMPv6 Echo Request Message'
            containing 'Destination Address' indicating 'IPv6 multicast address'
        }
```

```
then    { IUT sends 'ICMPv6 Echo Reply Message'
                containing 'Source Address' indicating 'Unicast address of interface receiving Echo
Request'
                and containing 'Type' indicating '129'
                and containing 'Code' indicating '0'
                and containing 'Identifier' indicating 'Identifier from invoking Echo Request'
                and containing 'Sequence Number' indicating 'Sequence number  from invoking Echo
Request'
                and containing 'Data' indicating 'Data  from invoking Echo Request'
        }
}
```

End group 1.5.2.1.2

End group 1.5.2.1

Group 1.5.2.2 "Process ICMPv6 Error Messages (PEM)"

Group 1.5.2.2.1 "Process Parameter Problem Message (PPPM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id     : TP_COR_1458_01
summary : 'Tests reaction on Parameter Problem Message'
RQ Ref  : RQ_COR_1458
TC Ref  : TC_COR_1458_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'ICMPv6 Parameter Problem Message'
        }

then    { IUT sends 'no message in response and notifies the upper-layer process'
        }
}
```

End group 1.5.2.2.1

Group 1.5.2.2.2 "Process Time Exceeded Message (PTEM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1448_01
summary : 'Tests reaction on Time Exceeded Message, includes COR_1452'
RQ Ref  : RQ_COR_1448
TC Ref  : TC_COR_1448_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'ICMPv6 Time Exceeded Message'
        }

then    { IUT sends 'no message in response and notifies the upper-layer process'
        }
}
```

End group 1.5.2.2.2

Group 1.5.2.2.3 "Process Packet Too Big Message (PPTBM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1444_01
summary : 'Tests reaction on Packet Too Big Message, includes COR_1446'
RQ Ref  : RQ_COR_1444
TC Ref  : TC_COR_1444_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'ICMPv6 Packet Too Big Message'
          }

then    { IUT sends 'no message in response and passes the message to the upper-layer process'
        }
}
```

End group 1.5.2.2.3

Group 1.5.2.2.4 "Process Destination Unreachable Message (PDUM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1442_01
summary : 'Tests reaction on Destination Unreachable Message, includes COR_1433'
RQ Ref  : RQ_COR_1442
TC Ref  : TC_COR_1442_01

with    { IUT 'Node' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'ICMPv6 Destination Unreachable Message'
          }

then    { IUT sends 'no message in response and notifies the upper-layer process'
        }
}
```

End group 1.5.2.2.4

End group 1.5.2.2

End group 1.5.2

Group 1.5.3 "Generate ICMPv6 Messages (GIM)"

Group 1.5.3.1 "Generate ICMPv6 Information Messages (GIIM)"

Group 1.5.3.1.1 "Generate Echo Request Message (GERQM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1459_01
summary : 'Tests generation of Echo Request message'
RQ Ref  : RQ_COR_1459
TC Ref  : TC_COR_1459_01

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
    }

ensure that
{
```

```
when    { IUT generates 'ICMPv6 Echo Request Message'
          }

then    { IUT sends 'ICMPv6 Echo Request Message'
              containing 'Destination Address' indicating 'legal IPv6 address'
              and containing 'Type' indicating '128'
              and containing 'Code' indicating '0'
          }
}
```

End group 1.5.3.1.1

End group 1.5.3.1

Group 1.5.3.2 "Generate ICMPv6 Error Messages (GIEM)"

Group 1.5.3.2.1 "Generate Parameter Problem Message (GPPM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1453_01
summary : 'Tests generation of Parameter Problem message'
RQ Ref  : RQ_COR_1453
TC Ref  : TC_COR_1453_01

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
      }

ensure that
{

when    { IUT receives 'IPv6 packet'
              containing 'erroneous header field'
              and IUT generates 'ICMPv6 Parameter Problem messages'
              }

then    { IUT sends 'ICMP Parameter Problem message'
              containing 'Destination address' indicating ' received source address'
              and containing 'type' indicating '4'
              and containing 'code' indicating '0 'erroneous header field encountered''
              and containing 'pointer' indicating 'offset to error value'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1453_02
summary : 'Tests generation of Parameter Problem message'
RQ Ref  : RQ_COR_1453
TC Ref  : TC_COR_1453_02

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
      }

ensure that
{

when    { IUT receives 'IPv6 packet'
              containing 'extension header with next header' indicating 'Next Header value = 0'
              and IUT generates 'ICMPv6 Parameter Problem messages'
              }

then    { IUT sends 'ICMP Parameter Problem message'
              containing 'Destination address' indicating ' received source address'
              and containing 'type' indicating '4'
              and containing 'code' indicating '1 'unrecognized Next Header type encountered''
              and containing 'pointer' indicating 'offset to error value'
          }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

```
TP Id      : TP_COR_1453_03
summary : 'Tests generation of Parameter Problem message'
RQ Ref  : RQ_COR_1453
TC Ref  : TC_COR_1453_03

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'an unrecognized IPv6 option'
            and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then    { IUT sends 'ICMP Parameter Problem message'
            containing 'Destination address' indicating ' received source address'
            and containing 'type' indicating '4'
            and containing 'code' indicating '2 'unrecognized IPv6 option encountered''
            and containing 'pointer' indicating 'offset to error value'
         }
}
```

End group 1.5.3.2.1

Group 1.5.3.2.2 "Generate Time Exceeded Message (GTEM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id      : TP_COR_1447_01
summary : 'Tests generation of Time Exceeded message'
RQ Ref  : RQ_COR_1447
TC Ref  : TC_COR_1474_01

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '= 1'
            and containing 'routing header' indicating 'routing type 0'
            and containing 'Hdr Ext Len' indicating 'even value'
            and IUT generates 'ICMPv6 Time Exceeded messages'
             }

then    { IUT sends 'ICMP Time Exceeded message'
            containing 'type' indicating '3'
            and containing 'code' indicating '0 'hop limit exceeded in transit''
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id      : TP_COR_1447_02
summary : 'Tests generation of Time Exceeded message'
RQ Ref  : RQ_COR_1447
TC Ref  : TC_COR_1474_02

with    { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '= 0'
            and containing 'routing header' indicating 'routing type 0'
            and containing 'Hdr Ext Len' indicating 'even value'
            and IUT generates 'ICMPv6 Time Exceeded messages'
             }
```

```
then     { IUT sends 'ICMP Time Exceeded message'
             containing 'type' indicating '3'
             and containing 'code' indicating '0 'hop limit exceeded in transit''
         }
}
```

End group 1.5.3.2.2

Group 1.5.3.2.3 "Generate Message Too Big Message (GMTBM)"

" No testable requirements in this section - see router section"

End group 1.5.3.2.3

Group 1.5.3.2.4 "Generate Destination Unreachable Message (GTEM)"

" No testable requirements in this section - see router section"

End group 1.5.3.2.4

Group 1.5.3.2.4.1 "Destination Unreachable Code Field Value (DUCFV)"

" No testable requirements in this section - see router section"

End group 1.5.3.2.4.1

Group 1.5.3.2.5 "Limit ICMP Bandwidth and Forwarding Costs (LIBFC)"

" No testable requirements in this section"

End group 1.5.3.2.5

End group 1.5.3.2

Group 1.5.3.3 "Determine ICMPv6 Message Source Address (DIMSA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id     : TP_COR_1406_01
summary : 'Tests generation of source address in ICMPv6 message'
RQ Ref  : RQ_COR_1406
TC Ref  : TC_COR_1406_01

with     { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
         }

ensure that
{

when     { IUT 'having more than one unicast address on the same interface' receives 'IPv6 packet'
             containing 'erroneous header field'
             and containing 'Destination address' indicating 'IUTs unicast address'
             and IUT generates 'ICMPv6 Parameter Problem messages'
             }

then     { IUT sends 'ICMP Parameter Problem message'
             containing 'Source address' indicating 'received destination address'
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id     : TP_COR_1407_01
summary : 'Tests generation of source address in ICMPv6 message'
RQ Ref  : RQ_COR_1407
TC Ref  : TC_COR_1407_01

with     { IUT 'Node' and 'IUT ready to send ICMPv6 messages'
         }
```

ensure that
{

when   { **IUT** 'having more than one unicast address on the same interface' **receives** 'IPv6 packet'
            containing 'erroneous header field'
            and containing 'Destination address' **indicating** 'multicast group in which the node is a
member'
            and IUT generates 'ICMPv6 Parameter Problem messages'
            }

then   { **IUT sends** 'ICMP Parameter Problem message'
            containing 'Source address' **indicating** 'address belonging to the interface on which the
multicast packet was received'
            }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id   : TP_COR_1407_02
summary : 'Tests generation of source address in ICMPv6 message'
RQ Ref : RQ_COR_1407
TC Ref : TC_COR_1407_02

with   { **IUT** 'Node' **and** 'IUT ready to send ICMPv6 messages'
    }

ensure that
{

when   { **IUT** 'having more than one unicast address on the same interface' **receives** 'IPv6 packet'
            containing 'erroneous header field'
            and containing 'Destination address' **indicating** 'anycast group in which the node is a
member'
            and IUT generates 'ICMPv6 Parameter Problem messages'
            }

then   { **IUT sends** 'ICMP Parameter Problem message'
            containing 'Source address' **indicating** 'address belonging to the interface on which the
anycast packet was received'
            }
}

TP Id   : TP_COR_1409_01
summary : 'Tests generation of source address in ICMPv6 message'
RQ Ref : RQ_COR_1409
TC Ref : TC_COR_1409_01

with   { **IUT** 'Node' **and** 'IUT ready to send ICMPv6 messages'
    }

ensure that
{

when   { **IUT** 'having more than one unicast address on the same interface' **receives** 'IPv6 packet'
            containing 'erroneous header field'
            and containing 'Destination address' **indicating** ''other' address'
            and IUT generates 'ICMPv6 Parameter Problem messages'
            }

then   { **IUT sends** 'ICMP Parameter Problem message' **indicating** 'unicast address of interface to be
used'
            }
}

End group 1.5.3.3

End group 1.5.3

End group 1.5

Group 1.6 "Neighbour Discovery (ND)"

Group 1.6.1 "ND Protocol Constants and Default Values (NDPCDV)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8579_01
Summary: ''
RQ Ref: RQ_COR_8579
TC Ref: TC_COR_8579_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT 'performs Neighbor Discovery' }
    then { IUT 'implements the following protocol constants and default values:
        MAX_MULTICAST_SOLICIT - 3 transmissions,
        MAX_UNICAST_SOLICIT - 3 transmissions,
        MAX_ANYCAST_DELAY_TIME - 1 second,
        MAX_NEIGHBOR_ADVERTISEMENT - 3 transmissions,
        MAX_REACHABLE_TIME - 30,000 milliseconds,
        RETRANS_TIMER - 1,000 milliseconds,
        DELAY_FIRST_PROBE_TIME - 5 seconds,
        MIN_RANDOM_FACTOR - 0.5,
        MAX_RANDOM_FACTOR - 1.5' }
}
```

End group 1.6.1

Group 1.6.2 "Address Resolution (AR)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8146_01
Summary: ''
RQ Ref: RQ_COR_8146
TC Ref: TC_COR_8146_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT 'resolves an IP address with a corresponding link-layer address' }
    then { IUT sends 'a Neighbor Solicitation' containing 'Destination Address' set to 'the
solicited-node multicast address corresponding to the target' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8415_01
Summary: ''
RQ Ref: RQ_COR_8415
TC Ref: TC_COR_8415_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT generates 'IPv6 packet' containing 'Destination Address' set to 'a unicast address
without an associated on-link link-layer address' }
    then { IUT 'performs Address Resolution on the Destination Address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8416_01
Summary: ''
RQ Ref: RQ_COR_8416
TC Ref: TC_COR_8416_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT generates 'IPv6 packet' containing 'Destination Address without an associated off-
link link-layer address' }
    then { IUT 'does not perform Address Resolution on the Destination Address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8417_01
Summary: ''
RQ Ref: RQ_COR_8417
TC Ref: TC_COR_8417_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT generates** 'IPv6 packet' **containing** 'Destination Address with an associated on-link link-layer address' }
    then { **IUT** 'does not perform Address Resolution on the Destination Address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8418_01
Summary: ''
RQ Ref: RQ_COR_8418
TC Ref: TC_COR_8418_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT generates** 'IPv6 packet' **containing** 'Destination Address' **set to** 'a multicast address'
}
    then { **IUT** 'does not perform Address Resolution on the Destination Address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8482_01
Summary: ''
RQ Ref: RQ_COR_8482
TC Ref: TC_COR_8482_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT generates** 'IPv6 packet' **containing** 'Destination Address' **set to** 'an anycast address without an associated on-link link-layer address' }
    then { **IUT** 'performs Address Resolution on the Destination Address in the same manner as a unicast address' }
}

Group 1.6.2.1 "Address Resolution Behavior (ARB)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8434_01
Summary: ''
RQ Ref: RQ_COR_8434
TC Ref: TC_COR_8434_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'no Neighbor Advertisement after sending a Neighbor Solicitation' }
    then { **IUT sends** 'an identical Neighbor Solicitation at maximum rate of one solicitation every RetransTimer milliseconds ' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8457_01
Summary: 'includes RQ_COR_8432'
RQ Ref: RQ_COR_8457
TC Ref: TC_COR_8457_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor Solicitation' **containing** 'Target Link-layer Address option'
        containing 'Solicited Flag' **set to** '1'
        and containing 'Router Flag' **set to** '1' }
    then { **IUT** 'associates the link-layer with the Advertisement Target Address'
        and IUT 'considers the neighbor to be a router and reachable'
        and IUT sends 'queued packets awaiting address resolution to the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8458_01
Summary: 'includes RQ_COR_8432'
RQ Ref: RQ_COR_8458
TC Ref: TC_COR_8458_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor
Solicitation' **containing** 'Target Link-layer Address option'
        containing 'Solicited Flag' **set to** 'zero'
        and containing 'Router Flag' **set to** '1' }
    then { **IUT** 'associates the link-layer with the Advertisement Target Address'
        and IUT 'considers the neighbor to be a router and stale'
        and IUT 'ignores the Override Flag'
        and IUT sends 'queued packets awaiting address resolution to the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8459_01
Summary: 'includes RQ_COR_8432'
RQ Ref: RQ_COR_8459
TC Ref: TC_COR_8459_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor
Solicitation' **containing** 'Target Link-layer Address option'
        containing 'Solicited Flag' **set to** '1'
        and containing 'Router Flag' **set to** 'zero' }
    then { **IUT** 'associates the link-layer with the Advertisement Target Address'
        and IUT 'considers the neighbor to be a host and reachable'
        and IUT 'ignores the Override Flag'
        and IUT sends 'queued packets awaiting address resolution to the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8460_01
Summary: ''
RQ Ref: RQ_COR_8460
TC Ref: TC_COR_8460_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor
Solicitation' **containing** 'Target Link-layer Address option'
        containing 'Solicited Flag' **set to** 'zero'
        and containing 'Router Flag' **set to** 'zero' }
    then { **IUT** 'associates the link-layer with the Advertisement Target Address'
        and IUT 'considers the neighbor to be a host and stale'
        and IUT 'ignores the Override Flag'
        and IUT sends 'queued packets awaiting address resolution to the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8462_01
Summary: ''
RQ Ref: RQ_COR_8462
TC Ref: TC_COR_8462_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor
Solicitation for an unreachable neighbor with a known link-layer address' **containing** 'Target Link-
layer Address option'
        containing 'a link-layer address different that the one assigned'
        and containing 'Override flag' **set to** 'zero' }
    then { **IUT ignores** 'the advertisement'
        and IUT 'does not change any information concerning the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8463_01
Summary: ''
RQ Ref: RQ_COR_8463
TC Ref: TC_COR_8463_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor
Solicitation for an unreachable neighbor with a known link-layer address' **containing** 'Target Link-
layer Address option'
        containing 'a link-layer address different that the one assigned'
        and containing 'Override flag' **set to** '1' }
    then { **IUT** 'updates the association between the neighbor and the new link-layer address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8594_01
Summary: ''
RQ Ref: RQ_COR_8594
TC Ref: TC_COR_8594_01
With { **IUT** 'is Node' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'a Neighbor Advertisement in response to the address resolution Neighbor
Solicitation for an unreachable neighbor with a known link-layer address' **containing** 'Target Link-
layer Address option'
        containing 'a link-layer address the same as the one currently assigned'
        and containing 'Override flag' **set to** '1'
        and containing 'Solicited flag' **set to** '1' }
    then { **IUT** 'does not change its information concerning this neighbor' }
}

End group 1.6.2.1

Group 1.6.2.2 "Address Resolution Data Queue Handling (ARDQH)"

'' No testable requirements in this section"

End group 1.6.2.2

End group 1.6.2

Group 1.6.3 "Neighbor Unreachability Detection (NUD)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8363_01
Summary: ''
RQ Ref: RQ_COR_8363
TC Ref: TC_COR_8363_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** 'starts an invalidation timer for a known prefix that is on-link and the timer then
expires' }
    then { **IUT** 'treats the prefix as off-link' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8492_01
Summary: ''
RQ Ref: RQ_COR_8492
TC Ref: TC_COR_8492_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** 'determines that the path between it and a unicast neighbor appears to be failing' }
    then { **IUT** 'performs Neighbor Unreachability Detection' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8493_01
Summary: ''
RQ Ref: RQ_COR_8493
TC Ref: TC_COR_8493_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** 'determines that the path between it and a multicast neighbor appears to be failing'
}
    then { **IUT** 'does not perform Neighbor Unreachability Detection' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8470_01
Summary: ''
RQ Ref: RQ_COR_8470
TC Ref: TC_COR_8470_01
With { **IUT** 'is Node' **and** 'operating' **and** 'Neighbor Unreachability Detection is not in progress' }
ensure that {
    when { **IUT receives** 'a valid Neighbor Advertisement'
        containing 'an unknown link-layer address'
        and containing 'Override flag' **set to** 'one' }
    then { **IUT** 'begins Neighbor Unreachability Detection' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8483_01
Summary: ''
RQ Ref: RQ_COR_8483
TC Ref: TC_COR_8483_01
With { **IUT** 'is Node' **and** 'performing Neighbor Unreachability Detection on an anycast address' }
ensure that {
    when { }
    then { **IUT** 'treats the anycast address as if it were a unicast address during Neighbor
Unreachability Detection' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8491_01
Summary: ''
RQ Ref: RQ_COR_8491
TC Ref: TC_COR_8491_01
With { **IUT** 'is Node' **and** 'performing Neighbor Unreachability Detection' }
ensure that {
    when { **IUT** 'determines that a neighbor is unreachable' }
    then { **IUT** 'next-hop determination for the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8461_01
Summary: ''
RQ Ref: RQ_COR_8461
TC Ref: TC_COR_8461_01
With { **IUT** 'is Node' **and** 'considers a neighbor having a known link-layer address and reachable' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'Target Link-layer Address option'
        containing 'a link-layer different from the known address'
        and containing 'Override flag' **set to** 'zero' }
    then { **IUT** 'considers the neighbor stale'
        and IUT 'verifies reachability when there is traffic to that neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8465_01
Summary: ''
RQ Ref: RQ_COR_8465
TC Ref: TC_COR_8465_01
With { **IUT** 'is Node' **and** 'considers a neighbor having a known link-layer address and unreachable' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'Target Link-layer Address option'
        containing 'a link-layer different from the known address'
        and containing 'Override flag' **set to** '1'
        and containing 'Solicited flag' **set to** 'zero' }
    then { **IUT** 'considers the neighbor unreachable'
        and IUT 'updates the association between the neighbor and the new link-layer address' }
}

Group 1.6.3.1 "Neighbour Reachability Process (NRP)"

Group 1.6.3.1.1 "Start Neighbor Reachability Determination (SNRD)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8475_01
Summary: ''
RQ Ref: RQ_COR_8475
TC Ref: TC_COR_8475_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'unsolicited Neighbor Advertisement' **containing** 'a new link-layer address
for a neighbor' }
    then { **IUT** 'verifies reachability of the path associated with the new link-layer address' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8513_01
Summary: ''
RQ Ref: RQ_COR_8513
TC Ref: TC_COR_8513_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement indicating a new neighbor on the link' }
    then { **IUT** 'recognizes the new neighbor'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the new
neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8514_01
Summary: ''
RQ Ref: RQ_COR_8514
TC Ref: TC_COR_8514_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Redirect indicating a new neighbor on the link' }
    then { **IUT** 'recognizes the new neighbor'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the new
neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8515_01
Summary: ''
RQ Ref: RQ_COR_8515
TC Ref: TC_COR_8515_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Neighbor Solicitation indicating a new neighbor on the link' }
    then { **IUT** 'recognizes the new neighbor'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the new
neighbor' }
}

End group 1.6.3.1.1

Group 1.6.3.1.2 "Determine Neighbor Reachability (DNR)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8147_01
Summary: ''
RQ Ref: RQ_COR_8147
TC Ref: TC_COR_8147_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT 'verifies the reachability of neighbor on the link' }
    then { IUT sends 'a Neighbor Solicitation' containing 'Destination Address' set to 'the neighbor
address' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8464_01
Summary: ''
RQ Ref: RQ_COR_8464
TC Ref: TC_COR_8464_01
With { IUT 'is Node' and 'operating' and 'neighbor link-layer address is known' and 'neighbor is
unreachable' }
ensure that {
    when { IUT receives 'a valid Neighbor Advertisement for Address Resolution'
        containing 'Override Flag' set to '1'
        and containing 'Solicited Flag' set to '1' }
    then { IUT 'considers the neighbor as reachable' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8494_01
Summary: ''
RQ Ref: RQ_COR_8494
TC Ref: TC_COR_8494_01
With { IUT 'is Node' and 'operating'  }
ensure that {
    when { IUT 'has sent a Neighbor Solicitation'
        and IUT receives 'a Neighbor Advertisement in response to the solicitation' }
    then { IUT 'considers the neighbor reachable' }
}
```

End group 1.6.3.1.2

Group 1.6.3.1.3 "Invalid Reachability Indications (IRI)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8501_01
Summary: ''
RQ Ref: RQ_COR_8501
TC Ref: TC_COR_8501_01
With { IUT 'is Node' and 'is performing Neighbor Discovery for a given path' }
ensure that {
    when { IUT receives 'Neighbor Advertisement for the path' containing 'Solicited flag' set to
'zero' }
    then { IUT 'does not use the Advertisement to confirm reachability for the path' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8500_01
Summary: ''
RQ Ref: RQ_COR_8500
TC Ref: TC_COR_8500_01
With { IUT 'is Node' and 'is performing Neighbor Discovery for a given path' }
ensure that {
    when { IUT receives 'Router Advertisement for the path' containing 'Solicited flag' set to
'zero' }
    then { IUT 'does not use the advertisement to confirm reachability for the path' }
}
```

End group 1.6.3.1.3

End group 1.6.3.1

Group 1.6.3.2 "Neighbor Reachability Probing (NRP)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8499_01
Summary: ''
RQ Ref: RQ_COR_8499
TC Ref: TC_COR_8499_01
With { IUT 'is Node' and 'is sending packets to a neighbor' }
ensure that {
    when { IUT 'has no IUT upper layer hints are available to determine path reachability' }
    then { IUT 'unicast Neighbor Solicitation packets to the neighbor to verify path reachability' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8503_01
Summary: ''
RQ Ref: RQ_COR_8503
TC Ref: TC_COR_8503_01
With { IUT 'is Node'
    and 'has sent a packet to a neighbor within the last DELAY_FIRST_PROBE_TIME seconds'
    and 'more than ReachableTime milliseconds have elapsed since the last positive confirmation was
received that the implementations forward path was functioning properly'
    and 'DELAY_FIRST_PROBE_TIME timer has started after ReachableTime expiry' }
ensure that {
    when { IUT 'timer DELAY_FIRST_PROBE_TIME expires without path reachability confirmation' }
    then { IUT sends 'a Neighbor Solicitation to confirm the forward path reachability' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8504_01
Summary: ''
RQ Ref: RQ_COR_8504
TC Ref: TC_COR_8504_01
With { IUT 'is Node'
    and 'is performing Neighbor Unreachability Detection for a given path' }
ensure that {
    when { }
    then { IUT sends 'Neighbor Solicitation every RetransTimer milliseconds until a reachability
confirmation is received' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8509_01
Summary: ''
RQ Ref: RQ_COR_8509
TC Ref: TC_COR_8509_01
With { IUT 'is Node'
    and 'has waited ReachableTime milliseconds since receipt of the last reachability confirmation
for a neighbor'
    and 'then sends a packet to the neighbor'
    and 'starts the DELAY_FIRST_PROBE_TIME timer' }
ensure that {
    when { IUT 'DELAY_FIRST_PROBE_TIME timer expires'
        and IUT receives 'no reachability confirmation ever' }
    then { IUT 'retransmits MAX_UNICAST_SOLICIT Neighbor Solicitation messages every RetransTimer
milliseconds' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8511_01
Summary: ''
RQ Ref: RQ_COR_8511
TC Ref: TC_COR_8511_01
With { IUT 'is Node' }
ensure that {
    when { IUT 'performs Neighbor Unreachability Detection' }
    then { IUT 'does not send the Neighbor Solicitations to the same neighbor more frequently than
once every RetransTimer milliseconds' }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8510_01
Summary: ''
RQ Ref: RQ_COR_8510
TC Ref: TC_COR_8510_01
With { **IUT** 'is Node'
    and 'has waited ReachableTime milliseconds since receipt of the last reachability confirmation
for a neighbor'
    and IUT 'then sends a packet to the neighbor'
    and IUT 'starts the DELAY_FIRST_PROBE_TIME timer'
    and 'DELAY_FIRST_PROBE_TIME timer expires'
    and IUT 'retransmits MAX_UNICAST_SOLICIT Neighbor Solicitation messages every RetransTimer
milliseconds' }
ensure that {
    when { **IUT receives** 'no reachability confirmation after the last Neighbor Solicitation
retransmission' }
    then { **IUT** 'stops transmitting Neighbor Solicitations to verify reachability'
        and IUT 'considers neighbor to be unknown and no longer reachable' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8510_02
Summary: ''
RQ Ref: RQ_COR_8510
TC Ref: TC_COR_8510_02
With { **IUT** 'is Node'
    and 'has waited ReachableTime milliseconds since receipt of the last reachability confirmation
for a neighbor'
    and IUT 'then sends a packet to the neighbor'
    and IUT 'then starts the DELAY_FIRST_PROBE_TIME timer'
    and 'DELAY_FIRST_PROBE_TIME timer expires'
    and IUT 'then retransmits MAX_UNICAST_SOLICIT Neighbor Solicitation messages every RetransTimer
milliseconds'
    and IUT 'then receives no reachability confirmation after the last Neighbor Solicitation
retransmission'
    and IUT 'then stops transmitting Neighbor Solicitations to verify reachability'
    and IUT 'then considers neighbor to be unknown and no longer reachable' }
ensure that {
    when { **IUT** 'has subsequent traffic to this neighbor' }
    then { **IUT** 'considers neighbor to be known' }
}

End group 1.6.3.2

End group 1.6.3

Group 1.6.4 "Next Hop Determination (NHD)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8507_01
Summary: ''
RQ Ref: RQ_COR_8507
TC Ref: TC_COR_8507_01
With { **IUT** 'is Node'
    and 'is performing Address Resolution on a neighboring address' }
ensure that {
    when { **IUT** 'determines that the Address Resolution has failed' }
    then { **IUT** 'performs next-hop determination to try alternate default routers on the forward
path' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8232_01
Summary: ''
RQ Ref: RQ_COR_8232
TC Ref: TC_COR_8232_01
With { **IUT** 'is Node' **and** 'is sending packets to a destination through a default router' }
ensure that {
    when { **IUT** 'detects that packets are no longer arriving at the destination'}
    then { **IUT** 'performs next-hop determination to select a new default router' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8364_01
Summary: ''
RQ Ref: RQ_COR_8364
TC Ref: TC_COR_8364_01
With {**IUT** 'is Node' **and** 'has started the Lifetime timer for one of its default routers' }
ensure that {
    when { **IUT** 'Lifetime timer for the default router expires' }
    then { **IUT** 'stops using the default router'
        and IUT 'performs next-hop determination for all addresses using the former default router'
}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8365_01
Summary: ''
RQ Ref: RQ_COR_8365
TC Ref: TC_COR_8365_01
With { **IUT** 'is Node'
    and 'is performing next-hop determination for a packet to be sent off-link' }
ensure that {
    when { **IUT** 'has no router identified to forward the packet' }
    then { **IUT** 'selects a default router to forward the packet' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8366_01
Summary: ''
RQ Ref: RQ_COR_8366
TC Ref: TC_COR_8366_01
With { **IUT** 'is Node'
    and 'is performing next-hop determination for a packet to be sent off-link' }
ensure that {
    when { **IUT** 'no longer communicates with the default router forwarding the packet' }
    then { **IUT** 'selects another default router to forward the packet' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8367_01
Summary: ''
RQ Ref: RQ_COR_8367
TC Ref: TC_COR_8367_01
With { **IUT** 'is Node'
    and IUT 'has performed next-hop determination for the default router so that a packet can be sent off-link'
    and IUT 'is sending packets to the off-link destination' }
ensure that {
    when { **IUT** 'has not received any Redirect messages pertaining to the off-link destination' }
    then { **IUT sends** 'subsequent packets for the same off-link destination to the same default router' }
}

End group 1.6.4

Group 1.6.5 "Using Options in Neighbor Discovery Messages (UONDM)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8565_01
Summary: ''
RQ Ref: RQ_COR_8565
TC Ref: TC_COR_8565_01
With { **IUT** 'is Node' **and** 'is operating' }
ensure that {
    when { **IUT receives** 'Neighbor Discovery message' **containing** 'an unrecognizable Option' }
    then { **IUT ignores** 'the unrecognizable option'
        and IUT 'continues processing the remainder of the packet' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8566_01
Summary: ''
RQ Ref: RQ_COR_8566
TC Ref: TC_COR_8566_01
With { **IUT** 'is Node' **and** 'is operating' }
ensure that {
    when { **IUT receives** 'Neighbor Discovery message'
        containing 'Source Link-layer Address option'
        or containing 'Prefix Information option'
        or containing 'Redirected Header option'
        or containing 'MTU option' }
    then { **IUT** 'recognizes the contained option(s)'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8567_01
Summary: ''
RQ Ref: RQ_COR_8567
TC Ref: TC_COR_8567_01
With { 'is Node' **and** 'is operating' }
ensure that {
    when { **IUT receives** 'Neighbor Discovery message'
        containing 'recognizable valid options'
        and containing 'other unrecognizable options' }
    then { **IUT ignores** 'the unrecognizable options'
        and IUT 'processes the recognizable valid options' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8572_01
Summary: ''
RQ Ref: RQ_COR_8572
TC Ref: TC_COR_8572_01
With { 'is Node' **and** 'is operating' }
ensure that {
    when { **IUT receives** 'Neighbor Discovery message'
    containing 'several recognizable valid options' }
    then { **IUT** 'processes the options independently of their order' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8573_01
Summary: ''
RQ Ref: RQ_COR_8573
TC Ref: TC_COR_8573_01
With { 'is Node' **and** 'is operating' }
ensure that {
    when { **IUT receives** 'Neighbor Discovery message'
    containing 'multiple instances of the same valid recognizable option' }
    then { **IUT** 'processes all of the instances' }
}

End group 1.6.5

Group 1.6.6 "Process Neighbor Discovery Messages (PND)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8583_01
Summary: ''
RQ Ref: RQ_COR_8583
TC Ref: TC_COR_8583_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Discovery packet' **containing** 'Authentication Header' **set to**
'incorrect authentication value' }
    then { **IUT ignores** 'Neighbor Discovery packet'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8591_01
Summary: ''
RQ Ref: RQ_COR_8591
TC Ref: TC_COR_8591_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** **receives** 'Neighbor Discovery message' **containing** 'explicit information concerning the
sender being a host or router' }
    then { **IUT** 'updates the sender status to a host or router based on the explicit information' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8592_01
Summary: ''
RQ Ref: RQ_COR_8592
TC Ref: TC_COR_8592_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** **receives** 'Neighbor Discovery message' **containing** 'implicit information concerning the
sender being a host or router' }
    then { **IUT** 'updates the sender status to a host or router based on the implicit information' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8593_01
Summary: ''
RQ Ref: RQ_COR_8593
TC Ref: TC_COR_8593_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** **receives** 'Neighbor Discovery message' **containing** 'no explicit nor implicit
information concerning the sender being a host or router' }
    then { **IUT** 'does not change the sender status of being either a router or host' }
}

Group 1.6.6.1 "Process Neighbor Solicitation (PND)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8159_01
Summary: 'includes RQ_COR_8466'
RQ Ref: RQ_COR_8159
TC Ref: TC_COR_8159_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** **receives** 'Neighbor Solicitation' }
    then { **IUT** **sends** 'Neighbor Advertisement' **containing** 'Solicited Flag' **set to** '1'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8179_01
Summary: ''
RQ Ref: RQ_COR_8179
TC Ref: TC_COR_8179_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT** **receives** 'Neighbor Solicitation' **containing** 'Destination Address' **set to** 'multicast
address to which IUT must respond'}
    then { **IUT** **sends** 'Neighbor Advertisement' **containing** 'Target Link-layer Address Option' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8180_01
Summary: ''
RQ Ref: RQ_COR_8180
TC Ref: TC_COR_8180_01
With { **IUT** 'is Node' **and** 'operating and including link-layer address when responding to unicast
Neighbor Solicitation' }
ensure that {
    when { **IUT** **receives** 'Neighbor Solicitation' **containing** 'Destination Address' **set to** 'unicast
address to which IUT must respond'}
    then { **IUT** **sends** 'Neighbor Advertisement' **containing** 'Target Link-layer Address Option' }

```
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8162_01
Summary: ''
RQ Ref: RQ_COR_8162
TC Ref: TC_COR_8162_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Source Address' set to 'value other than
Unspecified Address (0::0)'}
    then { IUT sends 'Neighbor Advertisement' containing 'Destination Address' set to 'Source
Address of the received solicitation'}
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8163_01
Summary: ''
RQ Ref: RQ_COR_8163
TC Ref: TC_COR_8163_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Source Address' set to 'the Unspecified
Address (0::0)'}
    then { IUT sends 'Neighbor Advertisement' containing 'Destination Address' set to 'all-nodes
multicast address'}
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8177_01
Summary: ''
RQ Ref: RQ_COR_8177
TC Ref: TC_COR_8177_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation to which the IUT must respond' containing 'Target
Address Field' set to 'a non-multicast address'}
    then { IUT sends 'Neighbor Advertisement' containing 'Target Address Field' set to 'the same
address in the solicitation Target Address Field' }
}
```

Group 1.6.6.1.1 "Discover Neighbor by NS (DNNS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8103_05
Summary: ''
RQ Ref: RQ_COR_8103
TC Ref: TC_COR_8103_05
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'valid Neighbor Discovery message'}
    then { IUT 'considers Source Address of the Neighbor Discovery message to be on-link'}
}
```

End group 1.6.6.1.1

Group 1.6.6.1.2 "Process Proxy NS (PPNS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8488_01
Summary: ''
RQ Ref: RQ_COR_8488
TC Ref: TC_COR_8488_01
With { IUT 'is Node' and 'is a proxy' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Destination Address' set to 'one of the
addresses for which the IUT proxies' }
    then { IUT sends 'Neighbor Advertisement' containing 'Override Flag' set to 'zero' }
}
```

End group 1.6.6.1.2

Group 1.6.6.1.3 "Process Anycast NS (PANS)"

" No testable requirements in this section"

End group 1.6.6.1.3

Group 1.6.6.1.4 "Process NS for Address Resolution (PNSAR)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8444_01
Summary: ''
RQ Ref: RQ_COR_8444
TC Ref: TC_COR_8444_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Destination Address' set to 'multicast
address' }
    then { IUT sends 'Neighbor Advertisement' containing 'Target Link-layer Address Option' }
}

'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8452_01
Summary: ''
RQ Ref: RQ_COR_8452
TC Ref: TC_COR_8452_01
With { IUT 'is Node' and 'operating'}
ensure that {
    when { IUT receives 'valid Neighbor Solicitation to which it must respond'}
    then { IUT sends 'Neighbor Advertisement'
        containing 'Solicited Flag' set to 'one'
        and containing 'Destination Address' set to 'solicitation Source Address' }
}
```

End group 1.6.6.1.4

Group 1.6.6.1.5 "Process Field Anomalies in NS (NSFA)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8386_01
Summary: ''
RQ Ref: RQ_COR_8386
TC Ref: TC_COR_8386_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Hop Limit Field' set to 'value other
than 255' }
    then { IUT discards 'Neighbor Solicitation' }
}

'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8387_01
Summary: ''
RQ Ref: RQ_COR_8387
TC Ref: TC_COR_8387_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Authentication Header' set to 'incorrect
authentication value' }
    then { IUT discards 'Neighbor Solicitation' }
}

'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '
```

TP Id: TP_COR_8388_01
Summary: ''
RQ Ref: RQ_COR_8388
TC Ref: TC_COR_8388_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'Checksum' **set to** 'value that does not
match IUT-calculated checksum' }
    then { **IUT discards** 'Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8389_01
Summary: ''
RQ Ref: RQ_COR_8389
TC Ref: TC_COR_8389_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'ICMP Code Field' **set to** 'value other
than zero' }
    then { **IUT discards** 'Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8390_01
Summary: ''
RQ Ref: RQ_COR_8390
TC Ref: TC_COR_8390_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'ICMP Length' **set to** 'value less than 24
octets' }
    then { **IUT discards** 'Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8391_01
Summary: ''
RQ Ref: RQ_COR_8391
TC Ref: TC_COR_8391_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation'
        containing 'Source Address' **set to** 'Unspecified Address (0::0)'
        and containing 'Destination Address' **set to** 'other than the solicited-node multicast
address' }
    then { **IUT discards** 'Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8392_01
Summary: ''
RQ Ref: RQ_COR_8392
TC Ref: TC_COR_8392_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation'
        containing 'Source Address' **set to** 'Unspecified Address (0::0)'
        and containing 'Source Link-layer Address option' }
    then { **IUT discards** 'Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8393_01
Summary: ''
RQ Ref: RQ_COR_8393
TC Ref: TC_COR_8393_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'Target Address Field' **set to** 'a
multicast address'}
    then { **IUT discards** 'Neighbor Solicitation' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8395_01
Summary: ''
RQ Ref: RQ_COR_8395
TC Ref: TC_COR_8395_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'Reserved Field' set to 'value other than
zero'}
    then { IUT ignores 'Reserved Field and processes the remainder of the solicitation'}
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8436_01
Summary: ''
RQ Ref: RQ_COR_8436
TC Ref: TC_COR_8436_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation containing a Target Address set to a unicast address
that is not assigned to the IUT, nor is the Target Address field set to a unicast address for which
the IUT proxies, nor is the Target Address set to a tentative address for Duplicate Address
Detection' }
    then { IUT discards 'Neighbor Solicitation' }
}
```

End group 1.6.6.1.5

Group 1.6.6.1.6 "Process Option Anomalies in NS (NSOA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8396_01
Summary: ''
RQ Ref: RQ_COR_8396
TC Ref: TC_COR_8396_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'an unrecognizable option'}
    then { IUT ignores 'the unrecognizable option
        and IUT 'processes the remainder of the solicitation'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8394_01
Summary: ''
RQ Ref: RQ_COR_8394
TC Ref: TC_COR_8394_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'an Option' containing 'Length field' set
to 'zero'}
    then { IUT discards 'the solicitation'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8397_01
Summary: ''
RQ Ref: RQ_COR_8397
TC Ref: TC_COR_8397_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Solicitation' containing 'a Target Link-layer Address Option' }
    then { IUT ignores 'the Target Link-layer Address Option'
        and IUT 'processes the remainder of the solicitation' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8398_01
Summary: ''
RQ Ref: RQ_COR_8398
TC Ref: TC_COR_8398_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'a Prefix Information Option' }
    then { **IUT ignores** 'the Prefix Information Option'
       and IUT 'processes the remainder of the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8399_01
Summary: ''
RQ Ref: RQ_COR_8399
TC Ref: TC_COR_8399_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'a Redirected Header Option' }
    then { **IUT ignores** 'the Redirected Header Option'
       and IUT 'processes the remainder of the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8400_01
Summary: ''
RQ Ref: RQ_COR_8400
TC Ref: TC_COR_8400_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Solicitation' **containing** 'an MTU Option' }
    then { **IUT ignores** 'the MTU Option'
       and IUT 'processes the remainder of the solicitation' }
}

End group 1.6.6.1.6

End group 1.6.6.1

Group 1.6.6.2 "Process Neighbor Advertisement (PNA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8171_01
Summary: ''
RQ Ref: RQ_COR_8171
TC Ref: TC_COR_8171_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement'
       containing 'O-bit' **set to** 'zero'
       and containing 'Target Address field' **set to** 'a known IP address already associated to a
link-layer address'
       and containing 'Target Link-layer Address Option' **set to** 'a different value than that
associated with IP address in the Target Address field' }
    then { **IUT** 'does not change the link-layer address associated with address in the Target Address
field' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8172_01
Summary: ''
RQ Ref: RQ_COR_8172
TC Ref: TC_COR_8172_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement'
       containing 'O-bit' **set to** 'zero'
       and containing 'Target Address field' **set to** 'an unknown IP address'
       and containing 'Target Link-layer Address Option' **set to** 'a link-layer address' }
    then { **IUT** 'associates the link-layer address with the IP address in the Target Address field' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8522_01
Summary: ''
RQ Ref: RQ_COR_8522
TC Ref: TC_COR_8522_01
With { IUT 'is Node' and 'operating' }
ensure that {
when { IUT receives 'Neighbor Advertisement from a neighbor that is a router but not a default
router for the IUT' containing 'IsRouter flag' set to 'FALSE' }
    then { IUT 'performs Next-hop determination for all addresses forwarded through the former
router' }
}
```

Group 1.6.6.2.1 "Process Solicited Neighbor Advertisement (PSNA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8407_01
Summary: ''
RQ Ref: RQ_COR_8407
TC Ref: TC_COR_8407_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'Neighbor Advertisement'
        containing 'Destination Address' set to 'a multicast address'
        and containing 'Solicited flag' set to '1'}
    then { IUT discards 'the advertisment' }
}
```

End group 1.6.6.2.1

Group 1.6.6.2.2 "Process Unsolicited Neighbor Advertisement (PUNA)"

" No testable requirements in this section"

End group 1.6.6.2.2

Group 1.6.6.2.3 "Discover Neighbor by NA (DNNA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8102_01
Summary: ''
RQ Ref: RQ_COR_8102
TC Ref: TC_COR_8102_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'a valid Neighbor Advertisement' containing 'Target Address field'}
    then { IUT 'considers the address in Target Address field to be on-link' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8103_01
Summary: ''
RQ Ref: RQ_COR_8103
TC Ref: TC_COR_8103_01
With { IUT 'is Node' and 'operating' }
ensure that {
    when { IUT receives 'a valid Neighbor Advertisement' containing 'Source Address'}
    then { IUT 'considers the Source Address to be on-link' }
}
```

End group 1.6.6.2.3

Group 1.6.6.2.4 "Process Field Anomalies in NA (PFANA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8167_01
Summary: ''
RQ Ref: RQ_COR_8167
TC Ref: TC_COR_8167_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an ICMP Reserved field' **set to** 'value other than zero'}
    then { **IUT ignores** 'the value in the ICMP Reserved field' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8401_01
Summary: ''
RQ Ref: RQ_COR_8401
TC Ref: TC_COR_8401_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an IP Header Hop Limit field' **set to** 'value other than 255'}
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8402_01
Summary: ''
RQ Ref: RQ_COR_8402
TC Ref: TC_COR_8402_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an IP Authentication Header' **set to** 'value that does not authenticate'}
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8403_01
Summary: ''
RQ Ref: RQ_COR_8403
TC Ref: TC_COR_8403_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an IP Checksum field' **set to** 'value that does not match the IUT-calculated checksum' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8404_01
Summary: ''
RQ Ref: RQ_COR_8404
TC Ref: TC_COR_8404_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an ICMP Code field' **set to** 'value other than zero' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8405_01
Summary: ''
RQ Ref: RQ_COR_8405
TC Ref: TC_COR_8405_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an ICMP length derived from the IP
Header Length field' **set to** 'value less than 24 octets' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8406_01
Summary: ''
RQ Ref: RQ_COR_8406
TC Ref: TC_COR_8406_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'Target Address field' **set to** 'a
multicast address' }
    then { **IUT discards** 'the advertisement' }
}

End group 1.6.6.2.4

Group 1.6.6.2.5 "Process Option Anomalies in NA (POANA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8410_01
Summary: ''
RQ Ref: RQ_COR_8410
TC Ref: TC_COR_8410_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an unrecognizable Option' }
    then { **IUT ignores** 'the unrecognizable Option'
        and IUT 'processes the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8408_01
Summary: ''
RQ Ref: RQ_COR_8408
TC Ref: TC_COR_8408_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an Option' **containing** 'a Length field'
set to 'zero' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8411_01
Summary: ''
RQ Ref: RQ_COR_8411
TC Ref: TC_COR_8411_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'a Source Link-layer option' }
    then { **IUT ignores** 'the Source Link-layer option'
        and IUT 'process the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8412_01
Summary: ''
RQ Ref: RQ_COR_8412
TC Ref: TC_COR_8412_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'a Prefix Information option' }
    then { **IUT ignores** 'the Prefix Information option'
        and IUT 'process the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8413_01
Summary: ''
RQ Ref: RQ_COR_8413
TC Ref: TC_COR_8413_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'a Redirected Header option' }
    then { **IUT ignores** 'the Redirected Header option'
        and IUT 'process the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8414_01
Summary: ''
RQ Ref: RQ_COR_8414
TC Ref: TC_COR_8414_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'Neighbor Advertisement' **containing** 'an MTU option' }
    then { **IUT ignores** 'the MTU option'
        and IUT 'process the remainder of the advertisement' }
}

End group 1.6.6.2.5

End group 1.6.6.2

Group 1.6.6.3 "Process Router Solicitation (PRA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8586_01
Summary: ''
RQ Ref: RQ_COR_8586
TC Ref: TC_COR_8586_01
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a valid Router Solicitation' **containing** 'Source Address'}
    then { **IUT** 'treats the sender in the Source Address as a host' }
}

Group 1.6.6.3.1 "Discover Neighbor by RS (DNRS)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8103_02
Summary: ''
RQ Ref: RQ_COR_8103
TC Ref: TC_COR_8103_02
With { **IUT** 'is Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a valid Router Solicitation' **containing** 'Source Address'}
    then { **IUT** 'considers the Source Address of the solicitation to be on-link' }
}

End group 1.6.6.3.1

Group 1.6.6.3.2 "Router Processing of RS (RPRS)"

" No testable requirements in this section - see router section"

End group 1.6.6.3.2

Group 1.6.6.3.3 "Host Processing of RS (HPRS)"

" No testable requirements in this section - see host section"

End group 1.6.6.3.3

Group 1.6.6.3.4 "Process Field Anomalies in RS (PFARS)"

" No testable requirements in this section - see router section"

End group 1.6.6.3.4

Group 1.6.6.3.5 "Process Option Anomalies in RS (POARS)"

" No testable requirements in this section - see router section"

End group 1.6.6.3.5

End group 1.6.6.3

Group 1.6.6.4 "Process Router Advertisement (PRA)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8587_01
Summary: ''
RQ Ref: RQ_COR_8587
TC Ref: TC_COR_8587_01
With { IUT 'is a Node' }
ensure that {
    when { IUT receives 'a valid Router Advertisement' }
    then { IUT 'treats the advertisement sender as a router' }
}

'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8118_01
Summary: ''
RQ Ref: RQ_COR_8118
TC Ref: TC_COR_8118_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement' containing 'no Source Link-layer Address' }
    then { IUT sends 'a Neighbor Solicitation to determine the advertisement sender link-layer
address' }
}

'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8210_01
Summary: ''
RQ Ref: RQ_COR_8210
TC Ref: TC_COR_8210_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement'
        containing 'a Prefix Information Option'
            containing 'a Valid Lifetime field' set to '0xFFFFFFFF'
            and containing 'a Preferred Lifetime field' set to '0xFFFFFFFF' }
    then { IUT 'treats the Valid and Preferred Lifetime values as infinite' }
}
```

Group 1.6.6.4.1 "Discover Neighbor by RA (DNRA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8103_03
Summary: ''
RQ Ref: RQ_COR_8103
TC Ref: TC_COR_8103_03
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a valid Router Advertisement' }
    then { IUT 'considers the Source Address of the advertisement to be on-link' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8359_01
Summary: ''
RQ Ref: RQ_COR_8359
TC Ref: TC_COR_8359_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router advertisement from a default router'
        containing 'Prefix Information option'
            containing 'L-flag' set to '1'
            and containing 'Prefix' set to 'an unknown prefix'
            and containing 'Valid Lifetime' set to 'non-zero value' }
    then { IUT 'treats the new prefix as on-link'
        and IUT 'sets the prefix invalidation timer to the option Valid Lifetime field value'  }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8361_01
Summary: ''
RQ Ref: RQ_COR_8361
TC Ref: TC_COR_8361_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router advertisement from a default router'
        containing 'Prefix Information option'
            containing 'L-flag' set to '1'
            and containing 'Prefix' set to 'a known prefix'
            and containing 'Valid Lifetime' set to 'zero' }
    then { IUT 'treats the prefix as off-link'
        and IUT 'times out the prefix invalidation timer'  }
}
```

End group 1.6.6.4.1

Group 1.6.6.4.2 "Router Processing of RA (RPRA)"

" No testable requirements in this section"

End group 1.6.6.4.2

Group 1.6.6.4.3 "Host Processing of RA (HPRA)"

" No testable requirements in this section - see host section"

End group 1.6.6.4.3

Group 1.6.6.4.4 "Process Field Anomalies in RA (PFARA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8139_01
Summary: ''
RQ Ref: RQ_COR_8139
TC Ref: TC_COR_8139_01
With { **IUT** 'is a Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement' **containing** 'ICMP Reserved field' **set to** 'a non-zero value' }
    then { **IUT ignores** 'the ICMP Reserved field value' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8244_01
Summary: ''
RQ Ref: RQ_COR_8244
TC Ref: TC_COR_8244_01
With { **IUT** 'is a Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement' **containing** 'Source Address field' **set to** 'other than a link-local address' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8245_01
Summary: ''
RQ Ref: RQ_COR_8245
TC Ref: TC_COR_8245_01
With { **IUT** 'is a Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement' **containing** 'Hop Limit field' **set to** 'other than 255' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8246_01
Summary: ''
RQ Ref: RQ_COR_8246
TC Ref: TC_COR_8246_01
With { **IUT** 'is a Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement' **containing** 'IP Authentication Header' **set to** 'a value other than the calculated authentication' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8247_01
Summary: ''
RQ Ref: RQ_COR_8247
TC Ref: TC_COR_8247_01
With { **IUT** 'is a Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement' **containing** 'Checksum field' **set to** 'a value other than the calculated checksum' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8248_01
Summary: ''
RQ Ref: RQ_COR_8248
TC Ref: TC_COR_8248_01
With { **IUT** 'is a Node' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Advertisement' **containing** 'ICMP Code field' **set to** 'a non-zero value' }
    then { **IUT discards** 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id: TP_COR_8249_01
Summary: ''
RQ Ref: RQ_COR_8249
TC Ref: TC_COR_8249_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement' containing 'length of packet ICMP part is less than
16 octets' }
    then { IUT discards 'the advertisement' }
}
```

End group 1.6.6.4.4

Group 1.6.6.4.5 "Process Option Anomalies in RA (PAORA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8251_01
Summary: ''
RQ Ref: RQ_COR_8251
TC Ref: TC_COR_8251_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement' containing 'an unrecognizable Option' }
    then { IUT discards 'the Option'
        and IUT 'processes the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8250_01
Summary: ''
RQ Ref: RQ_COR_8250
TC Ref: TC_COR_8250_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement' containing 'an Option' containing 'a Length field'
set to 'zero' }
    then { IUT discards 'the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8205_01
Summary: ''
RQ Ref: RQ_COR_8205
TC Ref: TC_COR_8205_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement' containing 'a Target Link-layer Address Option' }
    then { IUT ignores 'the Target Link-layer Address Option'
        and IUT 'processes the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8209_01
Summary: ''
RQ Ref: RQ_COR_8209
TC Ref: TC_COR_8209_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Router Advertisement' containing 'a Prefix Information Option'
        containing 'Reserved1 and Reserved2 fields' set to 'a non-zero value'
        and containing 'a Prefix field with the bits following those after Prefix Length' set to '1'
}
    then { IUT ignores 'the values in the Reserved1 and Reserved2 fields'
        and IUT ignores 'the additional bits in the Prefix field as indicated by the Prefix Length
field'
        and IUT 'processes the remainder of the advertisement' }
}
```

End group 1.6.6.4.5

End group 1.6.6.4

Group 1.6.6.5 "Process Redirect Message (PRM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8580_01
Summary: ''
RQ Ref: RQ_COR_8580
TC Ref: TC_COR_8580_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a Redirect message from a router other than the one being used as the
destination first hop' }
    then { IUT ignores 'the Redirect' }
}
```

Group 1.6.6.5.1 "Discover Neighbor by Redirect Message (DNRM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8101_01
Summary: ''
RQ Ref: RQ_COR_8101
TC Ref: TC_COR_8101_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'Redirect Message' containing 'Destination Address' }
    then { IUT 'considers the address to be on-link' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8103_04
Summary: ''
RQ Ref: RQ_COR_8103
TC Ref: TC_COR_8103_04
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'Redirect Message' containing 'Source Address' }
    then { IUT 'considers the address to be on-link' }
}
```

End group 1.6.6.5.1

Group 1.6.6.5.2 "Router Processing of Redirect Message (RPRM)"

" No testable requirements in this section - see router section"

End group 1.6.6.5.2

Group 1.6.6.5.3 "Host Processing of Redirect Message (HPRM)"

" No testable requirements in this section - see host section"

End group 1.6.6.5.3

Group 1.6.6.5.4 "Process Field Anomalies in Redirect Message (PFARM)"

" No testable requirements in this section - see host section"

End group 1.6.6.5.4

Group 1.6.6.5.5 "Process Option Anomalies in Redirect Message (POARM)"

" No testable requirements in this section - see host section"

End group 1.6.6.5.5

End group 1.6.6.5

End group 1.6.6

Group 1.6.7 "Generate Neighbor Discovery Messages (GNDM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8576_01
Summary: ''
RQ Ref: RQ_COR_8576
TC Ref: TC_COR_8576_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'Neighbor Discovery messages' }
    then { IUT sends 'Neighbor Discovery messages with sizes limited to the link MTU' }
}
```

Group 1.6.7.1 "Generate Neighbor Solicitation (GNS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8113_01
Summary: ''
RQ Ref: RQ_COR_8113
TC Ref: TC_COR_8113_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT 'needs to determine a neighbor link-layer address (Address Resolution)' }
    then { IUT sends 'a Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8114_01
Summary: ''
RQ Ref: RQ_COR_8114
TC Ref: TC_COR_8114_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT 'needs to verify if a neighbor is reachable (Reachability)' }
    then { IUT sends 'a Neighbor Solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8454_01
Summary: ''
RQ Ref: RQ_COR_8454
TC Ref: TC_COR_8454_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT receives 'a valid Neighbor Solicitation' containing 'no Source Link-layer Address'
        and IUT 'has no link-layer address for the node that sent the solicitation'}
    then { IUT sends 'a Neighbor Solicitation' containing 'Destination Address' set to 'multicast
address' }
}
```

Group 1.6.7.1.1 "Generate Neighbor Solicitation Header (GNSH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8149_01
Summary: ''
RQ Ref: RQ_COR_8149
TC Ref: TC_COR_8149_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Solicitation for use other than for Duplicate Address
Detection' }
    then { IUT sends 'the solicitation' containing 'Source Address' set to 'the interface address
from which the solicitation is sent' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

```
TP Id: TP_COR_8150_01
Summary: 'contains RQ_COR_8152'
RQ Ref: RQ_COR_8150
TC Ref: TC_COR_8150_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Solicitation' }
    then { IUT sends 'the solicitation'
        containing 'Hop Limit field' set to '255'
        and containing 'ICMP Type field' set to '135'
        and containing 'ICMP Code field' set to 'zero'
        and containing 'Checksum field' set to 'calculated checksum'
        and containing 'Reserved field' set to 'zero'
        and containing 'Target Address field' set to 'the IP address of the solicitation target' }
}
```

End group 1.6.7.1.1

Group 1.6.7.1.2 "Generate Neighbor Solicitation Option (GNSO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id: TP_COR_8155_01
Summary: ''
RQ Ref: RQ_COR_8155
TC Ref: TC_COR_8155_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Solicitation' containing 'Source Address' set to 'Unspecified
Address (0::0)' }
    then { IUT sends 'the solicitation' containing 'no Source Link-layer option' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id: TP_COR_8156_01
Summary: ''
RQ Ref: RQ_COR_8156
TC Ref: TC_COR_8156_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Solicitation' containing 'Source Address' set to 'other than
Unspecified Address (0::0)'
        and containing 'Destination Address' set to 'a multicast address' }
    then { IUT sends 'the solicitation' containing 'a Source Link-layer option' }
}
```

End group 1.6.7.1.2

Group 1.6.7.1.3 "Generate NS for Address Resolution (GNSAR)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id: TP_COR_8423_01
Summary: 'includes RQ_COR_8426'
RQ Ref: RQ_COR_8423
TC Ref: TC_COR_8423_01
With { IUT 'is a Node' and 'operating' and 'on a multicast-capable interface' }
ensure that {
    when { IUT generates 'a Neighbor Solicitation to determine a neighbor link-layer address' }
    then { IUT sends 'the solicitation'
        containing 'Destination Address' set to 'the solicited-node multicast address'
        and containing 'Source Link-layer Option' containing 'Address field' set to 'the IUT link-
layer address' }
}
```

End group 1.6.7.1.3

End group 1.6.7.1

Group 1.6.7.2 "Generate Neighbor Advertisement (GNA)"

Group 1.6.7.2.1 "Generate Unsolicited Neighbor Advertisement (GUNA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8160_01
Summary: ''
RQ Ref: RQ_COR_8160
TC Ref: TC_COR_8160_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT 'decides to quickly propagate new information' }
    then { IUT sends 'an unsolicited Neighbor Advertisement' }
}
```

Group 1.6.7.2.1.1 "Form Unsolicited NA Header (FUNAH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8169_01
Summary: ''
RQ Ref: RQ_COR_8169
TC Ref: TC_COR_8169_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'an unsolicited Neighbor Advertisement'
    containing 'Destination Address' set to 'a unicast address' }
    then { IUT sends 'an unsolicited Neighbor Advertisement' containing 'S-bit field' set to 'zero'
}
}
```

End group 1.6.7.2.1.1

Group 1.6.7.2.1.2 "Generate Unsolicited Proxy NA (GUPNA)"

'' No testable requirements in this section - see router section''

End group 1.6.7.2.1.2

Group 1.6.7.2.1.3 "Generate Unsolicited Anycast NA (GUANA)"

'' No testable requirements in this section''

End group 1.6.7.2.1.3

End group 1.6.7.2.1

Group 1.6.7.2.2 "Form Neighbor Advertisement Header (FNAH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8161_01
Summary: 'contains RQ_COR_8166'
RQ Ref: RQ_COR_8161
TC Ref: TC_COR_8161_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Advertisement' }
    then { IUT sends 'the advertisement'
        containing 'Source Address' set to 'the sending interface address'
        and containing 'Hop Limit field' set to '255'
        and containing 'ICMP Type field' set to '136'
        and containing 'ICMP Code field' set to 'zero'
        and containing 'ICMP Checksum' set to 'the calculated checksum'
        and containing '29-bit Reserve field' set to 'zero' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

```
TP Id: TP_COR_8168_01
Summary: ''
RQ Ref: RQ_COR_8168
TC Ref: TC_COR_8168_01
With { IUT 'is a Node' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Advertisement'
    containing 'Destination Address' set to 'a multicast address' }
    then { IUT sends 'the advertisement' containing 'ICMP S-bit field' set to 'zero' }
}
```

End group 1.6.7.2.2

End group 1.6.7.2

Group 1.6.7.3 "Generate Router Solicitation (GRA)"

" No testable requirements in this section - see host section"

End group 1.6.7.3

Group 1.6.7.4 "Generate Router Advertisement (GRA)"

" No testable requirements in this section - see router section"

End group 1.6.7.4

Group 1.6.7.5 "Generate Redirect Message (GRM)"

" No testable requirements in this section - see router section"

End group 1.6.7.5

End group 1.6.7

End group 1.6

Group 1.7 "Address Architecture (AA)"

" No test purposes in this section

- All requirements concerning the correct use of addresses are tested implicitly in other test groups"

End group 1.7

Group 1.8 "Jumbograms (JG)"

Group 1.8.1 "TCP Jumbograms (TCPJG)"

" No test purposes in this section

- All requirements concerning TCP Jumbograms are out of the scope of testing the IP layer"

End group 1.8.1

Group 1.8.2 "UDP Jumbograms (UDPJG)"

" No test purposes in this section

- All requirements concerning UDP Jumbograms are out of the scope of testing the IP layer"

End group 1.8.2

Group 1.8.3 "Process Jumbograms (PJG)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_8806_01
summary : 'Tests reaction on supported jumbogram'
RQ Ref : RQ_COR_8806
TC Ref : TC_COR_8806_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 jumbograms'
    }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
             containing 'payload length' **indicating** '0'
             and containing 'next header' **indicating** 'Hop-by-Hop Options'
                     containing 'Option Type' **indicating** 'C2H'
             }

then   { **IUT accepts** 'IPv6 jumbogram'
             }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_8809_01
summary : 'Tests reaction on payload 0 IPv6 packet without jumbogram option'
RQ Ref : RQ_COR_8809
TC Ref : TC_COR_8809_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 jumbograms'
    }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
             containing 'Destination address' **indicating** 'unicast address'
             containing 'payload length' **indicating** '0'
             and containing 'next header' **indicating** 'Hop-by-Hop Options'
                     containing 'Option Type' **not indicating** 'C2H'
             }

then   { **IUT sends** 'ICMP Parameter Problem message'
             containing 'code' **indicating** '0 'erroneous header field encountered''
             and containing 'pointer' **indicating** 'high-order octet of the IPv6 payload length'
           and IUT ignores 'received packet'
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id   : TP_COR_8810_01
summary : 'Tests reaction jumbogram with payload length <> 0'
RQ Ref : RQ_COR_8810
TC Ref : TC_COR_8810_01

with   { **IUT** 'Node' **and** 'IUT ready to process IPv6 jumbograms'
    }

ensure that
{

when   { **IUT receives** 'IPv6 packet'
             containing 'Destination address' **indicating** 'unicast address'
             containing 'payload length' **not indicating** '0'
             and containing 'next header' **indicating** 'Hop-by-Hop Options'
                     containing 'Option Type' **indicating** 'C2H'
             }

then   { **IUT sends** 'ICMP Parameter Problem message'
             containing 'code' **indicating** '0 'erroneous header field encountered''
             and containing 'pointer' **indicating** 'Option Type field of the Jumbo Payload option'
           and IUT ignores 'received packet'
         }

```
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_8811_01
summary : 'Tests reaction on jumbogram with length < 65536'
RQ Ref  : RQ_COR_8811
TC Ref  : TC_COR_8811_01

with    { IUT 'Node' and 'IUT ready to process IPv6 jumbograms'
    }

ensure that
{

when     { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'unicast address'
            containing 'payload length' indicating '0'
            and containing 'next header' indicating 'Hop-by-Hop Options'
                  containing 'Option Type' indicating 'C2H'
                  containing 'Jumbo Payload Length' indicating '< 65536'
          }

then     { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '0 'erroneous header field encountered''
            and containing 'pointer' indicating 'high-order octet of the Jumbo payload length'
          and IUT ignores 'received packet'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_8812_01
summary : 'Tests reaction on jumbogram with fragment header'
RQ Ref  : RQ_COR_8812
TC Ref  : TC_COR_8812_01

with    { IUT 'Node' and 'IUT ready to process IPv6 jumbograms'
    }

ensure that
{

when     { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'unicast address'
            containing 'payload length' indicating '0'
            and containing 'next header' indicating 'Hop-by-Hop Options'
                  containing 'Option Type' indicating 'C2H'
            and containing 'next header' indicating 'Fragment Header'
          }

then     { IUT sends 'ICMP Parameter Problem message'
            containing 'code' indicating '0 'erroneous header field encountered''
            and containing 'pointer' indicating 'high-order octet of the Fragment header'
          and IUT ignores 'received packet'
        }
}
```
End group 1.8.3

Group 1.8.4 "Generate Jumbograms (GJG)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_8805_01
summary : 'Tests generation of jumbogram, includes COR_8804'
RQ Ref  : RQ_COR_8805
TC Ref  : TC_COR_8805_01

with    { IUT 'Node' and 'IUT ready to send IPv6 jumbograms'
    }

ensure that
{
```

```
when    { IUT generates 'IPv6 jumbograms'
            }

then    { IUT sends 'IPv6 packet'
            containing 'payload length' indicating '0'
            and containing 'next header' indicating 'Hop-by-Hop Options'
                    containing 'Option Type' indicating 'C2H'
            }
}
```

End group 1.8.4

End group 1.8

Group 1.9 " IPv6 in Ethernet Frame (IPEF)"

" No test purposes in this section

- All requirements concerning the embedding of IPv6 in Ethernet frames are tested implicitly in every test"

End group 1.9

End group 1

Group 2 "Host (HS)"

"All empty Groups are omitted"

Group 2.3 "Initialize (INI)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8338_01
Summary: 'Implement default values on a router-less link'
RQ Ref: RQ_COR_8338
TC Ref: TC_COR_8338_01
With { IUT 'is a Host' and IUT 'is on a router-less link' }
ensure that {
    when { IUT generates 'IPv6 messages' }
    then { IUT sends 'IPv6 packets whose MTU is according to the specific link-layer document'
    containing 'the Current Hop Limit field' set to 'the value per the assigned numbers RFC'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8338_02
Summary: ''
RQ Ref: RQ_COR_8338
TC Ref: TC_COR_8338_02
With { IUT 'is host' and 'on a router-less link'}
ensure that {
    when { }
    then { IUT 'uses Reachable Time set to a uniformly distributed random value between the protocol
constants MIN_RANDOM_FACTOR and MAX_RANDOM_FACTOR times the Base Reachable Time in ms' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8338_03
Summary: ''
RQ Ref: RQ_COR_8338
TC Ref: TC_COR_8338_03
With { IUT 'is host' and 'on a router-less link'}
ensure that {
    when { }
    then { IUT 'sets the Retrans Timer to the protocol constant RETRANS_TIMER in milliseconds' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8338_04
Summary: ''
RQ Ref: RQ_COR_8338
TC Ref: TC_COR_8338_04
With { **IUT** 'is a Host' }
ensure that {
    when { **IUT receives** 'Router Advertisements that do not override default values' }
    then { **IUT sends** 'IPv6 packets whose MTU is according to the specific link-layer document'
    containing 'the Current Hop Limit field' **set to** 'the value per the assigned numbers RFC'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8338_05
Summary: ''
RQ Ref: RQ_COR_8338
TC Ref: TC_COR_8338_05
With { **IUT** 'is host' **and** 'initializing' }
ensure that {
    when { **IUT receives** 'Router Advertisements that do not override default values' }
    then { **IUT** 'uses a reachable time that is a uniformly distributed random value between the
protocol constants MIN_RANDOM_FACTOR and MAX_RANDOM_FACTOR times the Base Reachable Time in ms' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8338_06
Summary: ''
RQ Ref: RQ_COR_8338
TC Ref: TC_COR_8338_06
With { **IUT** 'is host' **and** 'on a router-less link'}
ensure that {
    when { **IUT receives** 'Router Advertisments that do not override default values' }
    then { **IUT** 'sets the Retrans Timer to the protocol constant RETRANS_TIMER in milliseconds' }
}

Group 2.3.2.2.1 "Form Link-local Address (LLA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8108_01
Summary: ''
RQ Ref: RQ_COR_8108
TC Ref: TC_COR_8108_01
With { **IUT** 'is host' }
ensure that {
    when { **IUT generates** 'link-local addresses for its interfaces' }
    then { **IUT** 'assigns a valid link-locl address to each of its interfaces' }
}

End group 2.3.2.2.1

Group 2.3.2.6 "Assign Global Address (GA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1228_01
Summary: ''
RQ Ref: RQ_COR_1228
TC Ref: TC_COR_1228_01
With { **IUT** 'is host' **and** 'on a large site with multiple networks and routers' }
ensure that {
    when { **IUT** 'performs Stateless Autoconfiguration' }
    then { **IUT** 'forms its global address using the prefixes of the subnets to which it is attached'
}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1294_01
Summary: ''
RQ Ref: RQ_COR_1294
TC Ref: TC_COR_1294_01
With { **IUT** 'is host'
    and 'on a router-less link'
    and 'has no option for disabling stateful autoconfiguration' }
ensure that {
    when { **IUT generates** 'the interface global address' }
    then { **IUT** 'attempts stateful autoconfiguration to obtain address and other information' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1245_01
Summary: ''
RQ Ref: RQ_COR_1245
TC Ref: TC_COR_1245_01
With { **IUT** 'is a Host' **and** 'is initializing' **and** 'has a unique link-local address' }
ensure that {
    when { }
    then {**IUT** 'waits for Router Advertisements' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1248_01
Summary: ''
RQ Ref: RQ_COR_1248
TC Ref: TC_COR_1248_01
With { **IUT** 'is a Host' **and** 'is initializing' **and** 'has a unique link-local address'}
ensure that {
    when { **IUT** 'cannot wait for the delay between successive Router Advertisements' }
    then { **IUT sends** 'one or more Router Solicitations' **containing** 'Destination Address' **set to**
'all-routers multicast Group' }
}

Group 2.3.2.6.1 "Use of M-bit (UMB)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1298_01
Summary: ''
RQ Ref: RQ_COR_1298
TC Ref: TC_COR_1298_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'using only Stateless Autoconfiguration'}
ensure that {
    when { **IUT receives** 'Router Advertisment' **containing** 'M-bit' **set to** 'same value as previous
Router Advertisement' }
    then { **IUT** 'continues Stateless Autoconfiguration'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1299_01
Summary: ''
RQ Ref: RQ_COR_1299
TC Ref: TC_COR_1299_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'using only Stateful Autoconfiguration' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'M-bit' **set to** 'TRUE'}
    then { **IUT** 'does not reinvoke Stateful Autoconfiguration' }
}

End group 2.3.2.6.1

Group 2.3.2.6.2 "Use of O-Flag (UOB)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1303_01
Summary: ''
RQ Ref: RQ_COR_1303
TC Ref: TC_COR_1303_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'O-flag' **set** **to** 'same value as in previous advertisements'}
    then { **IUT** 'continues using Stateless Autoconfiguration'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9027_01
Summary: ''
RQ Ref: RQ_COR_9027
TC Ref: TC_COR_9027_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateful Autconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'O-flag' **set** **to** 'same value as in previous advertisements'}
    then { **IUT** 'continues using Stateful Autoconfiguration'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1304_01
Summary: ''
RQ Ref: RQ_COR_1304
TC Ref: TC_COR_1304_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateful Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'O-flag' **set** **to** 'FALSE. The O-flags in previous advertisments were set to TRUE'}
    then { **IUT** 'does not reinvoke Stateful Autoconfiguration'}
}

End group 2.3.2.6.2

Group 2.3.2.6.3 "Process the Prefix Information Option (PFX)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1305_01
Summary: ''
RQ Ref: RQ_COR_1305
TC Ref: TC_COR_1305_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'Prefix Information Option' **containing** 'not set Autonomous Flag' }
    then { **IUT ignores** 'Prefix Information Option' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1306_01
Summary: ''
RQ Ref: RQ_COR_1306
TC Ref: TC_COR_1306_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'Prefix Information Option' **containing** 'link-local prefix' }
    then { **IUT ignores** 'Prefix Information Option' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1307_01
Summary: ''
RQ Ref: RQ_COR_1307
TC Ref: TC_COR_1307_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement' **containing** 'Prefix Information Option' **containing** 'Preferred Lifetime' **set to** 'value greater than Valid Lifetime' }
    then { **IUT ignores** 'Prefix Information Option' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1309_01
Summary: ''
RQ Ref: RQ_COR_1309
TC Ref: TC_COR_1309_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement'
        containing 'Prefix Information Option' **set to** 'prefix not in list'
        and containing 'Valid Lifetime' **set to** 'value other than zero' }
    then { **IUT** 'forms an address by combining the advertised prefix in the Option with the link interface identifier'
        and IUT 'adds the address to the list of addresses assigned to the interface initializing the preferred and valid lifetime values with those from the Prefix Option' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1310_01
Summary: ''
RQ Ref: RQ_COR_1310
TC Ref: TC_COR_1310_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'Router Advertisement'
        containing 'Prefix Information Option' **containing** 'prefix whose length summed to link interface identifier does not equal 128 bits' }
    then { **IUT ignores** 'Prefix Information Option'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1315_01
Summary: ''
RQ Ref: RQ_COR_1315
TC Ref: TC_COR_1315_01
With { **IUT** 'is Host' **and** 'is initializing' **and** 'is using Stateless Autoconfiguration to determine a global address' }
ensure that {
    when { **IUT receives** 'unauthenticated Router Advertisement'
        containing 'Prefix Information Option' **set to** 'prefix of an autoconfigured address'
        and containing 'Stored Lifetime' **set to** 'less than or equal to 2 hours'
        and containing 'Received Lifetime' **set to** 'less than or equal to Stored Lifetime' }
    then { **IUT ignores** 'Prefix Information Option' }
}

End group 2.3.2.6.3

End group 2.3.2.6

End group 2.3

Group 2.6 "Neighbour Discovery (ND)"

Group 2.6.1 "ND Protocol Constants and Default Values (NDPCDV)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8578_01
Summary: ''
RQ Ref: RQ_COR_8578
TC Ref: TC_COR_8578_01
With { IUT 'is Host' and 'operating' }
ensure that {
    when { IUT 'performs Neighbor Discovery' }
    then { IUT 'implements the following protocol constants and default values:
        MAX_RTR_SOLICITATION_DELAY - 1 second,
        RTR_SOLICITATION_INTERVAL - 4 seconds,
        MAX_RTR_SOLICITATIONS - 3 transmissions ' }
}
```

End group 2.6.1

Group 2.6.6.1.4 "Process NS for Address Resolution (PNSAR)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8446_01
Summary: ''
RQ Ref: RQ_COR_8446
TC Ref: TC_COR_8446_01
With { IUT 'is Host' and 'operating' }
ensure that {
    when { IUT receives 'valid Neighbor Solicitation to which it must respond'}
    then { IUT sends 'Neighbor Advertisement' containing 'Router Flag' set to 'zero'}
}
```

End group 2.6.6.1.4

Group 2.6.6.3.3 "Host Processing of RS (HPRS)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8233_01
Summary: ''
RQ Ref: RQ_COR_8233
TC Ref: TC_COR_8233_01
With { IUT 'is Host' and 'operating' }
ensure that {
    when { IUT receives 'a Router Solicitation'}
    then { IUT discards 'the solicitation' }
}
```

End group 2.6.6.3.3

Group 2.6.6.4.3 "Host Processing of RA (HPRA)"

```
'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8385_01
Summary: ''
RQ Ref: RQ_COR_8385
TC Ref: TC_COR_8385_01
With { IUT 'is a Host' and 'operating' and 'has determined the link has no routers' }
ensure that {
    when { IUT receives 'a valid Router Advertisement'}
    then { IUT 'adds the router to its Default Router list' }
}

'  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx  '

TP Id: TP_COR_8231_01
Summary: ''
```

RQ Ref: RQ_COR_8231
TC Ref: TC_COR_8231_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'is on a link with two or more routers transmitting
Router Advertisements' }
ensure that {
    when { }
    then { **IUT** 'uses at least two of the advertising routers as its default routers' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8346_01
Summary: ''
RQ Ref: RQ_COR_8346
TC Ref: TC_COR_8346_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'does not yet have at least two default routers' }
ensure that {
    when { **IUT receives** 'a valid Router Advertisement from a new router' **containing** 'Router
Lifetime' **set to** 'a non-zero value' }
    then { **IUT** 'adds the router to its default router list'
        and IUT 'sets an invalidation timer to the advertisment Router Lifetime value' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8348_01
Summary: ''
RQ Ref: RQ_COR_8348
TC Ref: TC_COR_8348_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least two default routers'}
ensure that {
    when { **IUT receives** 'a Router Advertment from one of its default routers' **containing** 'Router
Lifetime field' **set to** 'a non-zero value' }
    then { **IUT** 'resets its invalidation timer for the router to the value in the advertisement
Router Lifetime field' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8349_01
Summary: ''
RQ Ref: RQ_COR_8349
TC Ref: TC_COR_8349_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least two default routers'}
ensure that {
    when { **IUT receives** 'a Router Advertment from one of its default routers' **containing** 'Router
Lifetime field' **set to** 'zero' }
    then { **IUT** 'times out its invalidation timer for the router'
        and IUT ' no longer uses the default router' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8343_01
Summary: ''
RQ Ref: RQ_COR_8343
TC Ref: TC_COR_8343_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has several advertising routers on the same link'}
ensure that {
    when { **IUT receives** 'a valid Router Advertisement' **containing** 'information for a parameter or
option that differs from earlier received information. This parameter/option can have only one
value' }
    then { **IUT** 'updates the corresponding value of the parameter/option with the new information' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8345_01
Summary: ''
RQ Ref: RQ_COR_8345
TC Ref: TC_COR_8345_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a valid Router Advertisement' **containing** 'any field' **set to** 'the
Unspecified value' }
    then { **IUT** 'does not change the corresponding field value back to the the field default value' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8360_01
Summary: ''
RQ Ref: RQ_COR_8360
TC Ref: TC_COR_8360_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a valid Router Advertisement'
        containing 'a Prefix Option'
            containing 'a Prefix field' **set to** 'a known prefix'
            and containing 'L-flag' **set to** '1'
            and containing 'Valid Lifetime field' **set to** 'a non-zero value' }
    then { **IUT** 'sets the prefix invalidation timer to Valid Lifetime field value' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8362_01
Summary: ''
RQ Ref: RQ_COR_8362
TC Ref: TC_COR_8362_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a valid Router Advertisement'
        containing 'a Prefix Option'
            containing 'a Prefix field' **set to** 'an unknown prefix'
            and containing 'L-flag' **set to** '1'
            and containing 'Valid Lifetime field' **set to** 'zero' }
    then { **IUT ignores** 'the Prefix option'
        and IUT 'continues processing the remainder of the advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8358_01
Summary: ''
RQ Ref: RQ_COR_8358
TC Ref: TC_COR_8358_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a valid Router Advertisement'
        containing 'a Prefix Option'
            containing 'a Prefix field' **set to** 'a link-local prefix'
            and containing 'L-flag' **set to** '1' }
    then { **IUT ignores** 'the Prefix option'
        and IUT 'processes the remainder of the advertisement' }
}

End group 2.6.6.4.3

Group 2.6.6.4.5 "Process Option Anomalies in RA (POARA)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8224_01
Summary: ''
RQ Ref: RQ_COR_8224
TC Ref: TC_COR_8224_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a valid Router Advertisement' **containing** 'an MTU Option' **containing** 'a
Reserved field' **set to** 'a non-zero value' }
    then { **IUT ignores** 'the Reserved field of the option'
        and IUT 'processes the remainder of the option' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8221_01
Summary: ''
RQ Ref: RQ_COR_8221
TC Ref: TC_COR_8221_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Router Advertisement' containing 'a Redirected Header Option'  }
    then { IUT ignores 'the Redirected Header option'
        and IUT 'processes the remainder of the advertisement' }
}
```

End group 2.6.6.4.5

Group 2.6.6.5.3 "Host Processing of Redirect Message (HPRM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8557_01
Summary: ''
RQ Ref: RQ_COR_8557
TC Ref: TC_COR_8557_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'a Target Link-layer Address option' set to 'a
value different from the previously known value for the neighbor' }
    then { IUT 'updates the link-layer/IP address association for the neighbor'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8558_01
Summary: ''
RQ Ref: RQ_COR_8558
TC Ref: TC_COR_8558_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'a Target Link-layer Address option' set to 'a
value for an unknown neighbor' }
    then { IUT 'adds the link-layer/IP address association for the neighbor to its neighbor list'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the new
neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8556_01
Summary: ''
RQ Ref: RQ_COR_8556
TC Ref: TC_COR_8556_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'a Target Link-layer Address option' set to
'an unchanged value for a known neighbor' }
    then { IUT 'does not change its link-layer information for this known neighbor' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8560_01
Summary: ''
RQ Ref: RQ_COR_8560
TC Ref: TC_COR_8560_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'Destination Address' set to 'value different
from the Target' }
    then { IUT 'treats Target as a router' }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8561_01
Summary: ''
RQ Ref: RQ_COR_8561
TC Ref: TC_COR_8561_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'Destination Address' set to 'value equal to
the Target.  The Target is an unknown neighbor' }
    then { IUT 'adds the new neighbor to its neighbor list'
        and IUT 'treats Target as a host and on-link' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8559_01
Summary: ''
RQ Ref: RQ_COR_8559
TC Ref: TC_COR_8559_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'Destination Address' set to 'value equal to
the Target.  The Target is a known neighbor' }
    then { IUT 'treats Target as on-link' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8533_01
Summary: ''
RQ Ref: RQ_COR_8533
TC Ref: TC_COR_8533_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a valid Redirect' containing 'Source Address' set to 'value that is not the
first-hop router for the Destination Address' }
    then { IUT discards 'the Redirect' }
}
```

End group 2.6.6.5.3

Group 2.6.6.5.4 "Process Field Anomalies in Redirect Message (PFARM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8528_01
Summary: ''
RQ Ref: RQ_COR_8528
TC Ref: TC_COR_8528_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'Source Address' set to 'other than link-local
address' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8529_01
Summary: ''
RQ Ref: RQ_COR_8529
TC Ref: TC_COR_8529_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'Hop Limit field' set to 'other than 255' }
    then { IUT discards 'the Redirect' }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8530_01
Summary: ''
RQ Ref: RQ_COR_8530
TC Ref: TC_COR_8530_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'an Authentication' set to 'a value that does not
match the calculated authentication value' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8531_01
Summary: ''
RQ Ref: RQ_COR_8531
TC Ref: TC_COR_8531_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'a Checksum field' set to 'a value that does not
match the calculated checksum' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8532_01
Summary: ''
RQ Ref: RQ_COR_8532
TC Ref: TC_COR_8532_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'a Length field' set to 'a value that gives an ICMP
length less than 40 octets' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8534_01
Summary: ''
RQ Ref: RQ_COR_8534
TC Ref: TC_COR_8534_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'an ICMP Code field' set to 'a non-zero value' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8535_01
Summary: ''
RQ Ref: RQ_COR_8535
TC Ref: TC_COR_8535_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'Destination Address' set to 'a multicast address' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8536_01
Summary: ''
RQ Ref: RQ_COR_8536
TC Ref: TC_COR_8536_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect'
        containing 'redirection to a router'
        and containing 'Target Address field' set to 'other than a link-local address' }
    then { IUT discards 'the Redirect' }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8537_01
Summary: ''
RQ Ref: RQ_COR_8537
TC Ref: TC_COR_8537_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect'
        containing 'redirection to an on-link destination'
        and containing 'Target Address field' set to 'a value than the Destination Address' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8539_01
Summary: ''
RQ Ref: RQ_COR_8539
TC Ref: TC_COR_8539_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'Reserved field' set to 'a non-zero value' }
    then { IUT ignores 'the Reserved field'
        and IUT 'processes the remainder of the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8545_01
Summary: ''
RQ Ref: RQ_COR_8545
TC Ref: TC_COR_8545_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect' containing 'Target Address field' set to 'a value other than
one of the link prefix values' }
    then { IUT 'processes the Redirect' }
}
```

End group 2.6.6.5.4

Group 2.6.6.5.5 "Process Option Anomalies in Redirect Message (POARM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8538_01
Summary: ''
RQ Ref: RQ_COR_8538
TC Ref: TC_COR_8538_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect message' containing 'an Option' containing 'Length field' set to
'zero' }
    then { IUT discards 'the Redirect' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8218_01
Summary: ''
RQ Ref: RQ_COR_8218
TC Ref: TC_COR_8218_01
With { IUT 'is a Host' and 'operating' and 'has at least one default router' }
ensure that {
    when { IUT receives 'a Redirect message' containing 'a Redirected Header Option' containing
'Reserved field' set to 'a non-zero value' }
    then { IUT ignores 'the Redirected Header Option'
        and IUT 'processes the remainder of the Redirect' }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8540_01
Summary: ''
RQ Ref: RQ_COR_8540
TC Ref: TC_COR_8540_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a Redirect message' **containing** 'an unrecognizable option' }
    then { **IUT ignores** 'the unrecognizable option'
        and IUT 'processes the remainder of the Redirect' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8541_01
Summary: ''
RQ Ref: RQ_COR_8541
TC Ref: TC_COR_8541_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a Redirect message' **containing** 'a Source Link-layer Address Option' }
    then { **IUT ignores** 'the Source Link-layer Address Option'
        and IUT 'processes the remainder of the Redirect' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8542_01
Summary: ''
RQ Ref: RQ_COR_8542
TC Ref: TC_COR_8542_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a Redirect message' **containing** 'a Prefix Information Option' }
    then { **IUT ignores** 'the Prefix Information Option'
        and IUT 'processes the remainder of the Redirect' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8543_01
Summary: ''
RQ Ref: RQ_COR_8543
TC Ref: TC_COR_8543_01
With { **IUT** 'is a Host' **and** 'operating' **and** 'has at least one default router' }
ensure that {
    when { **IUT receives** 'a Redirect message' **containing** 'an MTU Option' }
    then { **IUT ignores** 'the MTU Option'
        and IUT 'processes the remainder of the Redirect' }
}

End group 2.6.6.5.5

Group 2.6.7.3 "Generate Router Solicitation (GRS)"

Group 2.6.7.3.1 "Generate Router Solicitation Header (GRSH)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8125_01
Summary: ''
RQ Ref: RQ_COR_8125
TC Ref: TC_COR_8125_01
With { **IUT** 'is a Host' **and** 'operating' }
ensure that {
    when { **IUT generates** 'a Router Solicitation and has an IP address already assigned to the
sending interface' }
    then { **IUT sends** 'the solicitation' **containing** 'Source Address' **set to** 'IP address assigned to
the sending interface' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8126_01
Summary: ''
RQ Ref: RQ_COR_8126
TC Ref: TC_COR_8126_01
With { IUT 'is a Host' and 'operating' }
ensure that {
    when { IUT generates 'a Router Solicitation and has no IP address assigned to the sending
interface' }
    then { IUT sends 'the solicitation' containing 'Source Address' set to 'the Unspecified Address
(0::0)' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8128_01
Summary: 'combines RQ_COR_8130'
RQ Ref: RQ_COR_8128
TC Ref: TC_COR_8128_01
With { IUT 'is a Host' and 'operating' }
ensure that {
    when { IUT generates 'a Router Solicitation' }
    then { IUT sends 'the solicitation'
        containing 'Hop Limit field' set to '255'
        and containing 'ICMP Type field' set to '133'
        and containing 'ICMP Code field' set to 'zero'
        and containing 'ICMP Checksum field' set to 'the calculated checksum'
        and containing 'ICMP Reserved field' set to 'zero' }
}
```

End group 2.6.7.3.1

Group 2.6.7.3.2 "Generate RS Source Link-layer Address Option (GRSSLAO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8243_01
Summary: ''
RQ Ref: RQ_COR_8243
TC Ref: TC_COR_8243_01
With { IUT 'is a Host' and 'operating' }
ensure that {
    when { IUT generates 'a Router Solicitation' containing 'Source Address' set to 'other than
Unspecified Address (0::0)' }
    then { IUT sends 'the solicitation' containing 'only the Source Link-layer Address option' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8133_01
Summary: ''
RQ Ref: RQ_COR_8133
TC Ref: TC_COR_8133_01
With { IUT 'is a Host' and 'operating' }
ensure that {
    when { IUT generates 'a Router Solicitation' containing 'Source Address' set to 'the Unspecified
Address (0::0)' }
    then { IUT sends 'the solicitation' containing 'no Source Link-layer Address option' }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8379_01
Summary: 'contains RQ_COR_8199'
RQ Ref: RQ_COR_8379
TC Ref: TC_COR_8379_01
With { **IUT** 'is a Host' **and** 'operating' }
ensure that {
    when { **IUT generates** 'a Router Solicitation' **containing** 'Source Address' **set to** 'an interface
unicast address' }
    then { **IUT sends** 'the solicitation'
        containing 'Destination Address' **set to** 'the all-routers multicast address'
        and containing 'only the Source Link-layer Address option'
            containing 'Source Link-layer Address field' **set to** 'the IUT link-layer address'
            and containing 'Type field' **set to** '1'
            and containing 'Length field' **set to** 'length of the option including its type and length
in units of 8 octets' }
}

End group 2.6.7.3.2

Group 2.6.7.3.3 "Router Solicitation Behavior (RSB)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8384_01
Summary: ''
RQ Ref: RQ_COR_8384
TC Ref: TC_COR_8384_01
With { **IUT** 'is a Host' **and** 'operating' }
ensure that {
    when { **IUT** 'sends MAX_RTR_SOLICITATIONS number of Router Solicitations'
        and IUT 'waits MAX_RTR_SOLICITATION_DELAY after sending the last solicitation' }
    then { **IUT** 'treats the link as having no routers' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8382_01
Summary: ''
RQ Ref: RQ_COR_8382
TC Ref: TC_COR_8382_01
With { **IUT** 'is a Host' **and** 'operating' }
ensure that {
    when { **IUT** 'sends a Router Solicitation'
        and IUT receives 'a valid Router Advertisement' **containing** 'Router Lifetime field' **set to** 'a
non-zero value' }
    then { **IUT** 'stops sending Router Solicitations until one of the following events occurs:
        (1) The interface is initialized at system startup time;
        (2) The interface is reinitialized after a temporary interface failure;
        (3) The interface is temporarily disabled by system management;
        (4) The system changes from a router to being a host;
        (5) The IUT attaches to the link for the first time;
        (6) Or the IUT re-attaches to the link after being detached for some time' }
}

End group 2.6.7.3.3

End group 2.6.7.3

End group 2.6

End group 2

Group 3 "Router (RT)"

"All groups of 3.6.7.4, even if empty are included. All other empty groups are omitted"

Group 3.2 "Process IPv6 packets (PIP)"

Group 3.2.1.2 "Process Routing Header (PRH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1042_01
summary : 'Tests reaction on packet to link with too low MTU'
RQ Ref  : RQ_COR_1042
TC Ref  : TC_COR_1042_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'routing header' indicating 'route to link with MTU too low'
            }

then    { IUT sends 'ICMP Message Too Big message' indicating 'received source address'
            and IUT ignores 'received packet'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1059_01
summary : 'Tests reaction on packet with routing header and hop limit not too low'
RQ Ref  : RQ_COR_1059
TC Ref  : TC_COR_1059_01

with    { IUT 'Node' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '> 1'
            and containing 'routing header' indicating 'routing type 0'
            and containing 'Hdr Ext Len' indicating 'even value'
            and containing 'next address' indicating 'unicast address'
            }

then    { IUT sends 'IPv6 packet'
            containing 'destination address' indicating 'next address from received routing header'
            and containing 'Hop Limit' indicating 'received value incremented by 1'
        }
}
```

End group 3.2.1.2

End group 3.2

Group 3.3 "Initialize (INI)"

Group 3.3.2 "Configure Address {CA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1246_01
Summary: ''
RQ Ref: RQ_COR_1246
TC Ref: TC_COR_1246_01
With { IUT 'is a Router' }
ensure that {
    when { IUT generates 'Router Advertisements' }
    then { IUT sends 'Router Advertisements' to 'hosts on the link' containing 'Autoconfiguration
instructions' }
}
```

Group 3.3.2.2 "Stateless Autoconfiguration (SAC)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_1229_01
Summary: ''
RQ Ref: RQ_COR_1229
TC Ref: TC_COR_1229_01
With { IUT 'is a router' and IUT 'is on large site with multiple networks and routers where
stateless autoconfiguration is used' }
ensure that {
    when { IUT generates 'Router Advertisements' }
    then { IUT sends 'Router Advertisements' to 'the all-nodes multicast address' containing 'active
prefix options' set to 'the set of active prefixes on the link' }
}
```

Group 3.3.2.2.1 "Form Link-local Address (LLA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8107_01
Summary: ''
RQ Ref: RQ_COR_8107
TC Ref: TC_COR_8107_01
With { IUT 'is router' }
ensure that {
    when { IUT generates 'link-local addresses for its interfaces' }
    then { IUT 'assigns a valid link-local address to each of its interfaces' }
}
```

End group 3.3.2.2.1

End group 3.3.2.2

End group 3.3.2

End group 3.3

Group 3.5 "ICMPv6 Functions (ICF)"

Group 3.5.2 "Process ICMPv6 Messages (PIM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1416_05
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_05

with    { IUT 'Router' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
          containing 'Hop Limit' indicating '0
          and containing 'ICMPv6 Type' indicating '1, Destination Unreachable'
          }

then    { IUT not sends 'ICMP Time Exceeded message'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1416_06
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_06

with    { IUT 'Router' and 'IUT ready to process ICMPv6 messages'
    }
```

```
ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '0'
            and containing 'ICMPv6 Type' indicating '2, Packet Too Big'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
            }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_1416_07
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_03

with    { IUT 'Router' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '0'
            and containing 'ICMPv6 Type' indicating '31, Time Exceeded'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
            }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_1416_08
summary : 'Tests non-reaction on ICMPv6 error message'
RQ Ref  : RQ_COR_1416
TC Ref  : TC_COR_1416_04

with    { IUT 'Router' and 'IUT ready to process ICMPv6 messages'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '0'
            and containing 'ICMPv6 Type' indicating '4, Parameter Problem'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
    }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

```
TP Id      : TP_COR_1417_02
summary : 'Tests non-reaction on IPv6 packet to multicast address, includes COR_1418'
RQ Ref  : RQ_COR_1417
TC Ref  : TC_COR_1417_02

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
    }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '0'
            and containing 'Destination Address' indicating 'multicast address'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
            }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1419_03
summary : 'Tests non-reaction on IPv6 packet on link-layer multicast'
RQ Ref  : RQ_COR_1419
TC Ref  : TC_COR_1419_03

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet on link-layer multicast'
            containing 'Hop Limit' indicating '0'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1421_02
summary : 'Tests non-reaction on IPv6 packet on link-layer broadcast'
RQ Ref  : RQ_COR_1421
TC Ref  : TC_COR_1421_021

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet on link-layer broadcast'
            containing 'Hop Limit' indicating '0'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1424_02
summary : 'Tests non-reaction on IPv6 packet from ambiguous source address'
RQ Ref  : RQ_COR_1424
TC Ref  : TC_COR_1424_02

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Hop Limit' indicating '0'
            and containing 'Source Address' indicating 'IPv6 Unspecified address'
            }

then    { IUT not sends 'ICMP Time Exceeded message'
         }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1425_02
summary : 'Tests non-reaction on IPv6 packet from ambiguous source address'
RQ Ref  : RQ_COR_1425
TC Ref  : TC_COR_1425_02

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{
```

```
when    { IUT receives 'IPv6 packet'
             containing 'Hop Limit' indicating '0'
             and containing 'Source Address' indicating 'IPv6 multicast address'
             }

then    { IUT not sends 'ICMP Time Exceeded message'
             }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1426_02
summary : 'Tests non-reaction on IPv6 packet from ambiguous source address'
RQ Ref   : RQ_COR_1426
TC Ref   : TC_COR_1426_02

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Hop Limit' indicating '0'
             and containing 'Source Address' indicating 'IUT known IPv6 anycast address'
             }

then    { IUT not sends 'ICMP Time Exceeded message'
             }
}
```

End group 3.5.2

Group 3.5.3.2.2 "Generate Time Exceeded Message (GTEM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1449_01
summary : 'Tests generation of Time Exceeded message'
RQ Ref   : RQ_COR_1449
TC Ref   : TC_COR_1449_01

with    { IUT 'Router' and 'IUT ready to send ICMPv6 messages'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Hop Limit' indicating '= 0'
             }

then    { IUT sends 'ICMP Time Exceeded message'
             containing 'type' indicating '3'
             and containing 'code' indicating '0 'hop limit exceeded in transit''
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1450_01
summary : 'Tests generation of Time Exceeded message'
RQ Ref   : RQ_COR_1450
TC Ref   : TC_COR_1450_01

with    { IUT 'Router' and 'IUT ready to send ICMPv6 messages'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Hop Limit' indicating '= 1'
             }
```

```
then    { IUT sends 'ICMP Time Exceeded message'
            containing 'type' indicating '3
            and containing 'code' indicating '0 'hop limit exceeded in transit''
        }
}
```

End group 3.5.3.2.2

Group 3.5.3.2.3 "Generate Message Too Big Message (GMTBM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1443_01
summary : 'Tests reaction on packet to link with too low MTU, includes COR_1445'
RQ Ref  : RQ_COR_1443
TC Ref  : TC_COR_1443_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'unicast address'
            and containing 'routing header' indicating 'route to link with MTU too low'
            }

then    { IUT sends 'ICMP Message Too Big message'
            containing 'type' indicating '2'
            and containing 'code' indicating '0'
            and containing 'MTU' indicating 'MTU of the next hop'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
TP Id      : TP_COR_1443_02
summary : 'Tests reaction on packet to link with too low MTU, includes COR_1445'
RQ Ref  : RQ_COR_1443
TC Ref  : TC_COR_1443_02

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'multicast address'
            and containing 'routing header' indicating 'route to link with MTU too low'
            }

then    { IUT sends 'ICMP Message Too Big message' indicating 'received source address'
            containing 'type' indicating '2'
            and containing 'code' indicating '0'
            and containing 'MTU' indicating 'MTU of the next hop'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1443_03
summary : 'Tests reaction on packet to link with too low MTU, includes COR_1445'
RQ Ref  : RQ_COR_1443
TC Ref  : TC_COR_1443_03

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
        }

ensure that
{
```

```
when    { IUT receives 'IPv6 packet on link-layer multicast'
             containing 'routing header' indicating 'route to link with MTU too low'
             }

then    { IUT sends 'ICMP Message Too Big message'
             containing 'type' indicating '2'
             and containing 'code' indicating '0'
             and containing 'MTU' indicating 'MTU of the next hop'
        }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1443_04
summary : 'Tests reaction on packet to link with too low MTU, includes COR_1445'
RQ Ref  : RQ_COR_1443
TC Ref  : TC_COR_1443_04

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet on link-layer broadcast'
             containing 'routing header' indicating 'route to link with MTU too low'
             }

then    { IUT sends 'ICMP Message Too Big message'
             containing 'type' indicating '2'
             and containing 'code' indicating '0'
             and containing 'MTU' indicating 'MTU of the next hop'
        }
}
```

End group 3.5.3.2.3

Group 3.5.3.2.4 "Generate Destination Unreachable Message (GTEM)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1432_01
summary : 'Tests reaction on packet that cannot be delivered not due to congestion, includes
COR_1444'
RQ Ref  : RQ_COR_1432
TC Ref  : TC_COR_1432_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Destination address' indicating 'address to which the packet cannot be
delivered due to reasons other than congestion'
             and IUT generates 'ICMP Destination Unreachable message'
             }

then    { IUT sends 'ICMP Destination Unreachable message'
             containing 'type' indicating '1'
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1435_01
summary : 'Tests non-reaction on packet that cannot be delivered due to congestion'
RQ Ref  : RQ_COR_1435
TC Ref  : TC_COR_1435_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }
```

```
ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'address to which the packet cannot be
delivered due to congestion'
            and IUT generates 'ICMP Destination Unreachable message'
            }

then    { IUT sends not 'ICMP Destination Unreachable message'
            }
}
```

End group 3.5.3.2.4

Group 3.5.3.2.4.1 "Destination Unreachable Code Field Value (DUCFV)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1436_01
summary : 'Tests reaction on packet that cannot be delivered due to lack of entry in routing table'
RQ Ref  : RQ_COR_1436
TC Ref  : TC_COR_1436_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'address to which the packet cannot be
delivered due to lack of entry in routing table'
            and IUT generates 'ICMP Destination Unreachable message'
            }

then    { IUT sends 'ICMP Destination Unreachable message'
            containing 'type' indicating '1'
            and containing 'code' indicating '0 'no route to destination''
        }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1437_01
summary : 'Tests reaction on packet that cannot be delivered due to administrative prohibition'
RQ Ref  : RQ_COR_1437
TC Ref  : TC_COR_1437_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
        }

ensure that
{

when    { IUT receives 'IPv6 packet'
            containing 'Destination address' indicating 'address to which the packet cannot be
delivered due to administrative prohibition'
            and IUT generates 'ICMP Destination Unreachable message'
            }

then    { IUT sends 'ICMP Destineation Unreachable message'
            containing 'type' indicating '1'
            and containing 'code' indicating '1 'communication with destination administratively
prohibited''
        }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1438_01
summary : 'Tests reaction on packet that cannot be delivered due 'other' reason'
RQ Ref  : RQ_COR_1438
TC Ref  : TC_COR_1438_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Destination address' indicating 'address to which the packet cannot be
delivered due to 'other' reason'
             and IUT generates 'ICMP Destination Unreachable message'
             }

then    { IUT sends 'ICMP Destination Unreachable message'
             containing 'type' indicating '1'
             and containing 'code' indicating '3 'address unreachable''
         }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id      : TP_COR_1441_01
summary : 'Tests reaction on packet that cannot be delivered due to lack of upper layer peer'
RQ Ref  : RQ_COR_1441
TC Ref  : TC_COR_1441_01

with    { IUT 'Router' and 'IUT ready to process IPv6 packets'
     }

ensure that
{

when    { IUT receives 'IPv6 packet'
             containing 'Destination address' indicating 'address to which the packet cannot be
delivered due to lack of upper layer peer'
             and IUT generates 'ICMP Destination Unreachable message'
             }

then    { IUT sends 'ICMP Destination Unreachable message'
             containing 'type' indicating '1'
             and containing 'code' indicating '4 'port unreachable''
         }
}
```

End group 3.5.3.2.4.1

End group 3.5

Group 3.6 "Neighbour Discovery (ND)"

Group 3.6.1 "ND Protocol Constants and Default Values (NDPCDV)"


```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8577_01
Summary: ''
RQ Ref: RQ_COR_8577
TC Ref: TC_COR_8577_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'performs Neighbor Discovery' }
    then { IUT 'implements the following protocol constants and default values:
        MAX_INITIAL_RTR_ADVERT_INTERVAL - 16 seconds,
        MAX_INITIAL_RTR_ADVERTISEMENTS - 3 transmissions,
        MAX_FINAL_RTR_ADVERTISEMENTS - 3 transmissions,
        MIN_DELAY_BETWEEN_RAS - 3 seconds,
        MAX_RA_DELAY_TIME - 0.5 seconds '
        }
}
```

End group 3.6.1

Group 3.6.2.1 "Address Resolution Behavior (ARB)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8435_01
Summary: ''
RQ Ref: RQ_COR_8435
TC Ref: TC_COR_8435_01
With { **IUT** 'is Router' **and** 'performing Address Resolution' }
ensure that {
    when { **IUT receives** 'no Neighbor Advertisement after sending MAX_MULTICAST_SOLICIT Neighbor
Solicitations and Retrans Timer expiry after the sending of the last solicitation' }
    then { **IUT sends** 'an ICMP Destination Unreachable message for each packet awaiting address
resolution' **containing** 'Destination Address' **set to** 'Source Address of the unresolved packet'
        and containing 'ICMP Code field' **set to** '3' }
}

End group 3.6.2.1

Group 3.6.3.1.1 "Start Neighbor Reachability Determination (SNRD)"

TP Id: TP_COR_8512_01
Summary: ''
RQ Ref: RQ_COR_8512
TC Ref: TC_COR_8512_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation indicating a new neighbor on the link' }
    then { **IUT** 'recognizes the new neighbor'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the new
neighbor'
        and IUT sends 'a Router Advertisement'}
}
```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8516_01
Summary: ''
RQ Ref: RQ_COR_8516
TC Ref: TC_COR_8516_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation modifying a known neighbor link-layer address' }
    then { **IUT** 'updates the association between the neighbor IP address and the new link-layer
address'
        and IUT 'waits ReachableTime milliseconds for reachability confirmation with the known
neighbor'
        and IUT sends 'a Router Advertisement'}
}

End group 3.6.3.1.1

Group 3.6.6.1.4 "Process NS for Address Resolution (PNSAR)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```

TP Id: TP_COR_8445_01
Summary: ''
RQ Ref: RQ_COR_8445
TC Ref: TC_COR_8445_01
With { **IUT** 'is Router' **and** 'operating'}
ensure that {
    when { **IUT receives** 'valid Neighbor Solicitation to which it must respond'}
    then { **IUT sends** 'Neighbor Advertisement' **containing** 'Router Flag' **set to** '1'}
}

End group 3.6.6.1.4

Group 3.6.6.3 "Process Router Solicitation (PRS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9033_01
Summary: ''
RQ Ref: RQ_COR_9033
TC Ref: TC_COR_9033_01
With { IUT 'is Router' and 'operating' and 'configuration flag for sending Router Advertisments and
responding to Router Solicitation is left at its default value'}
ensure that {
    when { }
    then { IUT 'does not send periodic Router Advertisements'}
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9033_02
Summary: ''
RQ Ref: RQ_COR_9033
TC Ref: TC_COR_9033_02
With { IUT 'is Router' and 'operating' and 'configuration flag for sending Router Advertisments and
responding to Router Solicitation is left at its default value'}
ensure that {
    when { IUT receives 'a valid Router Solicitation'}
    then { IUT ignores 'the solicitation' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9034_01
Summary: ''
RQ Ref: RQ_COR_9034
TC Ref: TC_COR_9034_01
With { IUT 'is Router' and 'operating' and 'a configuration flag is set to send Router Advertisments
and respond to Router Solicitation' }
ensure that {
    when { IUT receives 'a valid Router Solicitation' }
    then { IUT sends 'a valid Router Advertisement'}
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_9034_02
Summary: ''
RQ Ref: RQ_COR_9034
TC Ref: TC_COR_9034_02
With { IUT 'is Router' and 'operating' and 'a configuration flag is set to send Router Advertisments
and respond to Router Solicitation' }
ensure that {
    when { }
    then { IUT sends 'periodic Router Advertisements'}
}
```

Group 3.6.6.3.1 "Discover Neighbor by RS (DNRS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8327_01
Summary: ''
RQ Ref: RQ_COR_8327
TC Ref: TC_COR_8327_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'Router Solicitation from a new neighbor' containing 'Source Address' set to
'Unspecified Address (0::0)' }
    then { IUT 'does not recognize the neighbor as on-link' }
}
```

End group 3.6.6.3.1

Group 3.6.6.3.2 "Router Processing of RS (RPRS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8112_01
Summary: 'includes RQ_COR_8136'
RQ Ref: RQ_COR_8112
TC Ref: TC_COR_8112_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a valid Router Solicitation' }
    then { IUT sends 'a Router Advertisement'
        containing 'Destination Address' set to 'the solicitation Source Address'
        and containing 'Source Address' set to 'the link-local address of the IUT sending interface'
        and containing 'Hop Limit field' set to '255' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8229_01
Summary: 'includes RQ_COR_8136'
RQ Ref: RQ_COR_8229
TC Ref: TC_COR_8229_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a valid Router Solicitation' containing 'Destination Address' set to 'all-
routers multicast address' }
    then { IUT sends 'a Router Advertisement'
        containing 'Destination Address' set to 'the solicitation Source Address'
        and containing 'Source Address' set to 'the link-local address of the IUT sending interface'
        and containing 'Hop Limit field' set to '255' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8319_01
Summary: ''
RQ Ref: RQ_COR_8319
TC Ref: TC_COR_8319_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a valid Router Solicitation' }
    then { IUT sends 'a Router Advertisement after a random delay between the receipt of the
solicitation and the  protocol constant MAX_RA_DELAY_TIME seconds' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8320_01
Summary: ''
RQ Ref: RQ_COR_8320
TC Ref: TC_COR_8320_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'multiple valid Router Solicitations to which it has yet to respond with a
Router Advertisement' }
    then { IUT sends 'a Router Advertisement after a random delay between the receipt of the
solicitation and the  protocol constant MAX_RA_DELAY_TIME seconds relative to the first received
solicitation'}
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8321_01
Summary: ''
RQ Ref: RQ_COR_8321
TC Ref: TC_COR_8321_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'multiple valid Router Solicitations' }
    then { IUT 'limits consecutive Router Advertisements sent to the all-nodes multicast address to
no more than one advertisement every MIN_DELAY_BETWEEN_RAS seconds' }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8330_01
Summary: ''
RQ Ref: RQ_COR_8330
TC Ref: TC_COR_8330_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'Router Solicitation from a known router-neighbor'
        containing 'Source Address' set to 'unicast address'
        and containing 'no Source Link-layer Address option'}
    then { IUT 'treats neighbor now as a host and no longer as a router' }
}
```

End group 3.6.6.3.2

Group 3.6.6.3.4 "Process Field Anomalies in RS (PFARS)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8131_01
Summary: ''
RQ Ref: RQ_COR_8131
TC Ref: TC_COR_8131_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a Router Solicitation' containing 'ICMP Reserved field' set to 'any value'
}
    then { IUT ignores 'the value in the ICMP Reserved field' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8234_01
Summary: ''
RQ Ref: RQ_COR_8234
TC Ref: TC_COR_8234_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a Router Solicitation' containing 'Hop Limit field' set to '255' }
    then { IUT discards 'the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8235_01
Summary: ''
RQ Ref: RQ_COR_8235
TC Ref: TC_COR_8235_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a Router Solicitation' containing 'Authentication Header that fails
authentication' }
    then { IUT discards 'the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8236_01
Summary: ''
RQ Ref: RQ_COR_8236
TC Ref: TC_COR_8236_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT receives 'a Router Solicitation' containing 'Checksum' set to 'that does not match
IUT-calculated checksum' }
    then { IUT discards 'the solicitation' }
}
```

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8237_01
Summary: ''
RQ Ref: RQ_COR_8237
TC Ref: TC_COR_8237_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'ICMP Code' **set to** 'value other than
zero' }
    then { **IUT discards** 'the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8238_01
Summary: ''
RQ Ref: RQ_COR_8238
TC Ref: TC_COR_8238_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'ICMP Length part' **set to** 'less than 8
octets' }
    then { **IUT discards** 'the solicitation' }
}

End group 3.6.6.3.4

Group 3.6.6.3.5 "Process Option Anomalies in RS (POARS)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8204_01
Summary: ''
RQ Ref: RQ_COR_8204
TC Ref: TC_COR_8204_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'Target Link-layer Address option' }
    then { **IUT ignores** 'the Target Link-layer Address option'

        and IUT 'processes the remainder of the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8215_01
Summary: ''
RQ Ref: RQ_COR_8215
TC Ref: TC_COR_8215_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'a Prefix Information option' }
    then { **IUT ignores** 'the Prefix Information option'
      and IUT 'processes the remainder of the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8222_01
Summary: ''
RQ Ref: RQ_COR_8222
TC Ref: TC_COR_8222_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'a Redirected Header option' }
    then { **IUT ignores** 'the Redirected Header option'
      and IUT 'processes the remainder of the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8227_01
Summary: ''
RQ Ref: RQ_COR_8227
TC Ref: TC_COR_8227_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'an MTU option' }
    then { **IUT ignores** 'the MTU option'
        and IUT 'processes the remainder of the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8239_01
Summary: ''
RQ Ref: RQ_COR_8239
TC Ref: TC_COR_8239_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'an option' **containing** 'Length field' **set
to** 'zero'}
    then { **IUT discards** ' the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8240_01
Summary: ''
RQ Ref: RQ_COR_8240
TC Ref: TC_COR_8240_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation'
        containing 'Source Address' **set to** 'Unspecified Address (0::0)'
        and containing 'no Source Link-layer Address Option' }
    then { **IUT discards** ' the solicitation' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8241_01
Summary: ''
RQ Ref: RQ_COR_8241
TC Ref: TC_COR_8241_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a Router Solicitation' **containing** 'an unrecognizable option' }
    then { **IUT ignores** 'the unrecognizable option'
        and IUT 'processes the remainder of the solicitation' }
}

End group 3.6.6.3.5

End group 3.6.6.3

Group 3.6.6.5.2 "Router Processing of Redirect Message (RPRM)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8552_01
Summary: ''
RQ Ref: RQ_COR_8552
TC Ref: TC_COR_8552_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a valid Redirect'}
    then { **IUT** 'does not update its routing tables' }
}

End group 3.6.6.5.2

Group 3.6.7.2 "Generate Neighbor Advertisement (GNA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8201_01
Summary: ''
RQ Ref: RQ_COR_8201
TC Ref: TC_COR_8201_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Neighbor Advertisement' containing 'Target Link-layer Address Option' }
    then { IUT sends 'the advertisement' containing 'Target Link-layer Address Option'
        containing 'Type field' set to '2'
        and containing 'Length field' set to 'length of the option including type and length fields
in units of 8 octets'
        and containing 'Target Link-layer Address field' set to 'target link-layer address' }
}
```

Group 3.6.7.2.1.2 "Generate Unsolicited Proxy NA (GUPNA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8486_01
Summary: ''
RQ Ref: RQ_COR_8486
TC Ref: TC_COR_8486_01
With { IUT 'is Router' and 'operating' and 'proxy'}
ensure that {
    when { IUT generates 'Neighbor Advertisements to inform that is willing to accept packets not
addressed to itself (proxying)' }
    then { IUT 'uses the same mechanisms in sending proxy advertisements as those used for anycast
advertisements' }
}
```

End group 3.6.7.2.1.2

End group 3.6.7.2

Group 3.6.7.4 "Generate Router Advertisement (GRA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8111_01
Summary: ''
RQ Ref: RQ_COR_8111
TC Ref: TC_COR_8111_01
With { IUT 'is Router' and 'operating' and 'on a multicast-capable link' }
ensure that {
    when { }
    then { IUT sends 'periodic Router Advertisements with link and Internet parameters' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8574_01
Summary: ''
RQ Ref: RQ_COR_8574
TC Ref: TC_COR_8574_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement where the options cause the advertisement size to
exceed the link MTU' }
    then { IUT sends 'multiple separate advertisments each' containing 'a subset of the options' }
}
```

Group 3.6.7.4.1 "Form Router Advertisement Header (FRAH)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8135_01
Summary: 'includes RQ_COR_8138'
RQ Ref: RQ_COR_8135
TC Ref: TC_COR_8135_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement' }
    then { IUT sends 'the advertisement'
        containing 'Destination Address' set to 'the all-nodes multicast address'
        and containing 'Source Address' set to 'the sending interface link-local address'
        and containing 'Hop Limit' set to '255'
        and containing 'ICMP Type field' set to '134'
        and containing 'ICMP Code field' set to '0'
        and containing 'ICMP Checksum field' set to 'the calculated checksum'
        and containing 'ICMP Reserved 6-bit field' set to 'zero' }
}
```

End group 3.6.7.4.1

Group 3.6.7.4.2 "Form Router Advertisment Options (FRAO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8253_01
Summary: ''
RQ Ref: RQ_COR_8253
TC Ref: TC_COR_8253_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement' }
    then { IUT sends 'the advertisement' containing 'only the Source Link-layer Address, Prefix
Information, and MTU options' }
}
```

Group 3.6.7.4.2.1 "RA MTU Option (RAMTUO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8223_01
Summary: ''
RQ Ref: RQ_COR_8223
TC Ref: TC_COR_8223_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement' containing 'an MTU option' }
    then { IUT sends 'the advertisement' containing 'the MTU option'
        containing 'the Type field' set to '5'
        and containing 'the Length field' set to '1'
        and containing 'the MTU field' set to 'the recommended link MTU' }
}
```

End group 3.6.7.4.2.1

Group 3.6.7.4.2.2 "RA Source Link-layer Address Option (RASLAO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8200_01
Summary: ''
RQ Ref: RQ_COR_8200
TC Ref: TC_COR_8200_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement' containing 'a Source Link-layer Address option' }
    then { IUT sends 'the advertisement' containing 'the Source Link-layer Address option'
        containing 'the Type field' set to '1'
        and containing 'the Length field' set to 'the length of the option including its type and
length fields in units of 8 octets'
        and containing 'the Link-layer Address field' set to 'the IUT link-layer address' }
}
```

End group 3.6.7.4.2.2

Group 3.6.7.4.2.3 "RA Prefix Information Option (RAPIO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8302_01
Summary: 'includes RQ_COR_8208'
RQ Ref: RQ_COR_8302
TC Ref: TC_COR_8302_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement' }
    then { IUT sends 'the advertisement' containing 'one Prefix Information option for each prefix
provided by system management during configuration'
        containing 'the Type field' set to '3'
        and containing 'the Length field' set to '4'
        and containing 'the Prefix Length field' set to 'the number of valid leading bits in the
Prefix field that are valid'
        and containing 'the Reserved1 field' set to 'zero'
        and containing 'the Valid Lifetime field' set to 'the time in seconds relative to the time
the advertisment is sent that the prefix is valid for on-link determination'
        and containing 'the Preferred Lifetime field' set to 'the time in seconds relative the time
the advertisment is sent that addresses generated from the prefix by stateless autoconfiguration
remain preferred'
        and containing 'the Reserved2 field' set to 'zero'
        and containing 'the Prefix field' set to 'the address or the prefix of the IP address.  The
leading bits of the field are the prefix.  The number of leading bits for the prefix is given in the
Prefix Length field.  The remaining end bits in the prefix are set to zero' }
}
```

End group 3.6.7.4.2.3

End group 3.6.7.4.2

Group 3.6.7.4.3 "Router Advertisement Behavior (RAB)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8326_01
Summary: ''
RQ Ref: RQ_COR_8326
TC Ref: TC_COR_8326_01
With { IUT 'is Router' and 'operating and MinRtrAdvInterval variable set to n' }
ensure that {
    when { IUT generates 'unsolicited multicast Router Advertisements' }
    then { IUT sends 'no more than n unsolicited advertisements over n intervals at one
advertisement per interval' }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8309_01
Summary: ''
RQ Ref: RQ_COR_8309
TC Ref: TC_COR_8309_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'unsolicited multicast Router Advertisements' }
    then { IUT sends 'the unsolicited advertisements at intervals that are random uniformly
distributed values between the minimum and maximum router advertisement interval' }
}
```

Group 3.6.7.4.3.1 "Startup Router Advertisement Behavior (SRAB)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8303_01
Summary: ''
RQ Ref: RQ_COR_8303
TC Ref: TC_COR_8303_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Router Advertisement'
        and IUT 'is not configured to advertise as a default router' }
    then { IUT sends 'the advertisement' containing 'Router Lifetime field' set to 'zero' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8297_01
Summary: ''
RQ Ref: RQ_COR_8297
TC Ref: TC_COR_8297_01
With { IUT 'is Router' and 'operating' and 'is administratively disabled' }
ensure that {
    when { IUT 'is configured as an advertising interface'
        and IUT 'is re-enabled' }
    then { IUT 'returns to being an advertising interface' }
}
```

Group 3.6.7.4.3.1.1 "AdvCurHopLimit (ACHL)"

" No testable requirements in this section"

End group 3.6.7.4.3.1.1

Group 3.6.7.4.3.1.2 "AdvDefaultLifetime (ADL)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8284_01
Summary: ''
RQ Ref: RQ_COR_8284
TC Ref: TC_COR_8284_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'is configured' containing 'Router Lifetime field' set to 'default value'}
    then { IUT sends 'Router Advertisements' containing 'Router Lifetime field' set to '3 times the
maximum router advertisement interval' }
}


' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8286_01
Summary: ''
RQ Ref: RQ_COR_8286
TC Ref: TC_COR_8286_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'is configured' containing 'Router Lifetime field'}
    then { IUT sends 'Router Advertisements' containing 'Router Lifetime field' set to 'a value
between the maximum router advertisement interval and 9000 seconds' }
```

}

End group 3.6.7.4.3.1.2

Group 3.6.7.4.3.1.3 "AdvManagedFlag (AMF)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8265_01
Summary: ''
RQ Ref: RQ_COR_8265
TC Ref: TC_COR_8265_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Managed Address Configuration flag' **set to** 'default
value'}
    then { **IUT sends** 'Router Advertisements' **containing** 'Managed Address Configuration flag' **set to**
'False' }
}

End group 3.6.7.4.3.1.3

Group 3.6.7.4.3.1.4 "AdvOtherConfigFlag (AOCF)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8268_01
Summary: ''
RQ Ref: RQ_COR_8268
TC Ref: TC_COR_8268_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Other Stateful Configuration flag' **set to** 'default
value'}
    then { **IUT sends** 'Router Advertisements' **containing** 'Other Stateful Configuration flag' **set to**
'False' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8269_01
Summary: ''
RQ Ref: RQ_COR_8269
TC Ref: TC_COR_8269_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Other Stateful Configuration flag' **set to** 'True'}
    then { **IUT sends** 'Router Advertisements' **containing** 'Other Stateful Configuration flag' **set to**
'True' }
}

End group 3.6.7.4.3.1.4

Group 3.6.7.4.3.1.5 "AdvReachableTime (ART)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8274_01
Summary: ''
RQ Ref: RQ_COR_8274
TC Ref: TC_COR_8274_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Reachable Time field' **set to** 'the default value'}
    then { **IUT sends** 'Router Advertisements' **containing** 'Reachable Time field' **set to** 'the
unspecified reachable time value (zero)' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8275_01
Summary: ''
RQ Ref: RQ_COR_8275
TC Ref: TC_COR_8275_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'is configured' containing 'Reachable Time field' set to 'a configured value'}
    then { IUT sends 'Router Advertisements' containing 'Reachable Time field' set to 'system
configured value' }
}
```

End group 3.6.7.4.3.1.5

Group 3.6.7.4.3.1.6 "AdvRetransTimer (ADRT)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8277_01
Summary: ''
RQ Ref: RQ_COR_8277
TC Ref: TC_COR_8277_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'is configured' containing 'Advertisement Retrans Timer field' set to 'the default
value'}
    then { IUT sends 'Router Advertisements' containing 'Advertisement Retrans Timer field' set to
'the unspecified Retrans time value (zero)' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8278_01
Summary: ''
RQ Ref: RQ_COR_8278
TC Ref: TC_COR_8278_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'is configured' containing 'Advertisement Retrans Timer field' set to 'a configured
value'}
    then { IUT sends 'Router Advertisements' containing 'Advertisement Retrans Timer field' set to
'system configured value' }
}
```

End group 3.6.7.4.3.1.6

Group 3.6.7.4.3.1.7 "MaxRtrAdvInterval (MAXRAI)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8259_01
Summary: ''
RQ Ref: RQ_COR_8259
TC Ref: TC_COR_8259_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT 'is configured' containing 'Maximum Router Advertisement Interval field' set to 'the
default value'}
    then { IUT sends 'periodically unsolicited Router Advertisements whose maximum interval is 600
seconds' }
}
```

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```
TP Id: TP_COR_8260_01
Summary: ''
RQ Ref: RQ_COR_8260
TC Ref: TC_COR_8260_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Maximum Router Advertisement Interval field' **set to** 'a
configured value'}
    then { **IUT sends** 'periodically unsolicited Router Advertisements whose maximum interval is the
configured value' }
}

End group 3.6.7.4.3.1.7

Group 3.6.7.4.3.1.8 "MinRtrAdvInterval (MINRAI)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```
TP Id: TP_COR_8262_01
Summary: ''
RQ Ref: RQ_COR_8262
TC Ref: TC_COR_8262_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Minimum Router Advertisement Interval field' **set to** 'the
default value'}
    then { **IUT sends** 'periodically unsolicited Router Advertisements whose minimum interval is 1/3
of the maximum interval MaxRtrAdvInterval' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```
TP Id: TP_COR_8263_01
Summary: ''
RQ Ref: RQ_COR_8263
TC Ref: TC_COR_8263_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is configured' **containing** 'Minimum Router Advertisement Interval field' **set to** 'a
configured value'}
    then { **IUT sends** 'periodically unsolicited Router Advertisements whose minimum interval is the
configured value. The configured value is no less than 3 seconds and no more than 3/4 of the
maximum interval value MaxRtrAdvInterval' }
}

End group 3.6.7.4.3.1.8

End group 3.6.7.4.3.1

Group 3.6.7.4.3.2 "Router Advertisement Behavior on Reconfiguration (RABR)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '
```
TP Id: TP_COR_8299_01
Summary: ''
RQ Ref: RQ_COR_8299
TC Ref: TC_COR_8299_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT receives** 'a valid Router Solicitation' **containing** 'Destination Address' **set to** 'the
all-routers multicast address' }
    then { **IUT sends** 'a valid Router Advertisement' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8315_01
Summary: ''
RQ Ref: RQ_COR_8315
TC Ref: TC_COR_8315_01
With { **IUT** 'is Router' **and** 'operating' **and** 'configured to not be an advertising interface' }
ensure that {
    when { **IUT** 'is reconfigured by system management to become an operating interface' }
    then { **IUT sends** 'periodic unsolicited Router Advertisements' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8315_02
Summary: ''
RQ Ref: RQ_COR_8315
TC Ref: TC_COR_8315_02
With { **IUT** 'is Router' **and** 'operating' **and** 'configured to not be an advertising interface' }
ensure that {
    when { **IUT** 'is reconfigured by system management to become an operating interface'
        and IUT receives 'a valid Router Solicitation' }
    then { **IUT sends** 'a valid solicited Router Advertisement' }
}

End group 3.6.7.4.3.2

End group 3.6.7.4.3

End group 3.6.7.4

Group 3.6.7.5 "Generate Redirect Message (GRM)"

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8182_01
Summary: 'includes RQ_COR_8184 and RQ_COR_8186 and RQ_COR_8525'
RQ Ref: RQ_COR_8182
TC Ref: TC_COR_8182_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is to inform a host of a better first-hop router on the path to a destination' }
    then { **IUT sends** 'a valid Redirect' **containing** 'Source Address' **set to** 'the IUT link-local address'
        and containing 'Destination Address' **set to** 'Source Address of the packet triggering the Redirect'
        and containing 'Hop Limit field' **set to** '255'
        and containing 'ICMP Type field' **set to** '137'
        and containing 'ICMP Code field' **set to** 'zero'
        and containing 'Checksum field' **set to** 'the calculated checksum'
        and containing 'Reserved field' **set to** 'zero' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8183_01
Summary: ''
RQ Ref: RQ_COR_8183
TC Ref: TC_COR_8183_01
With { **IUT** 'is Router' **and** 'operating' }
ensure that {
    when { **IUT** 'is to inform a host that a destination which appears to be off-link is, in fact, a neighbor on the same link' }
    then { **IUT sends** 'a valid Redirect' **containing** 'Target Address' **set to** 'the neighbor Destination Address' }
}

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8551_01
Summary: ''
RQ Ref: RQ_COR_8551
TC Ref: TC_COR_8551_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'Redirect messages'}
    then { IUT 'limits the rate of sending Redirect messages according to [ICMPv6]'}
}
```

Group 3.6.7.5.1 "Generate Redirect Options (GRO)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8191_01
Summary: 'includes RQ_COR_8202'
RQ Ref: RQ_COR_8191
TC Ref: TC_COR_8191_01
With { IUT 'is Router' and 'operating on an NBMA link' and 'target link-layer address is known' }
ensure that {
    when { IUT generates 'Redirect'}
    then { IUT sends 'Redirect' containing 'Target Link-layer Address option'
        containing 'Link-layer Address field' set to 'known link-layer address'
        and containing 'Type field' set to '2'
        and containing 'Length field' set to 'the option length in units of 8 octets including the
type and length fields' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8217_01
Summary: ''
RQ Ref: RQ_COR_8217
TC Ref: TC_COR_8217_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'Redirect' containing 'Redirected Header option' }
    then { IUT sends 'Redirect' containing 'Redirected Header option'
        containing 'Type field' set to '4'
        and containing 'Length field' set to 'the option length in units of 8 octets including the
type and length fields'
        and containing 'Reserved field' set to '0'
        and containing 'IP Header + Data field' set to 'a copy of the original packet prompting the
Redirect truncated so that the total Redirect size is not greater than 1280 octets' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8544_01
Summary: ''
RQ Ref: RQ_COR_8544
TC Ref: TC_COR_8544_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'Redirect'}
    then { IUT sends 'Redirect' containing 'Target Link-layer Address option'
        or IUT sends 'Redirect' containing 'Redirected Header option' }
}
```

End group 3.6.7.5.1

Group 3.6.7.5.2 "Determine Redirect Target Address Field (DRTA)"

```
' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8188_01
Summary: 'includes RQ_COR_8336'
RQ Ref: RQ_COR_8188
TC Ref: TC_COR_8188_01
With { IUT 'is Router' and 'operating' and 'target link-layer address is known' }
ensure that {
    when { IUT generates 'a Redirect to indicate a better first hop router to use for a given
Destination Address'}
    then { IUT sends 'Redirect' containing 'Target Address' set to 'link-local address of the better
first hop router' }
}

' xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx '

TP Id: TP_COR_8550_01
Summary: ''
RQ Ref: RQ_COR_8550
TC Ref: TC_COR_8550_01
With { IUT 'is Router' and 'operating' }
ensure that {
    when { IUT generates 'a Redirect whose target is a host' }
    then { IUT sends 'a valid Redirect' containing 'Target Address field' set to 'the same value as
the Redirect Destination Address' }
}
```

End group 3.6.7.5.2

End group 3.6.7.5

End group 3.6.7

End group 3.6

End group 3

History

Document history		
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