

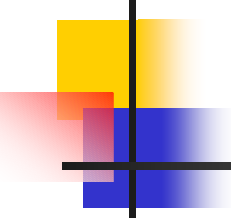


IPv6 Ready Logo Phase II

Interoperability Test

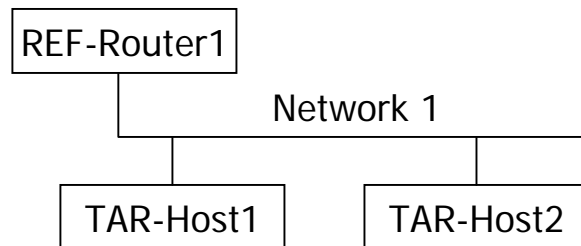
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- 1.1 ICMPv6 Echo Interoperability
 - 1.2 Address Autoconfiguration & Duplicate Address Detection
 - 1.3 Processing Router Advertisements – Prefix Discovery
 - 1.4 Processing Router Advertisements – Router Lifetime
 - 1.5 Redirect Function
 - 1.6 Path MTU Discovery & Fragmentation
 - 1.7 Routing Header Processing

1.1 ICMPv6 Echo Interoperability

Parts A-C :

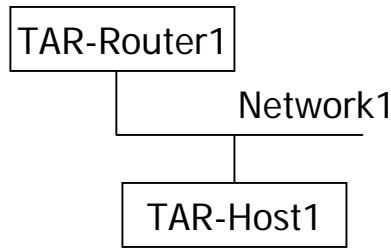


• Network 1 Prefix : 3ffe:501:ffff:1

- Part A : LLA unicast (H vs H)
 - Ping LLA : Tar-Host1 -> Tar-Host2
 - Ping LLA : Tar-Host2 -> Tar-Host1
- Part B : GA unicast (H vs H)
 - Ping GA : Tar-Host1 -> Tar-Host2
 - Ping GA : Tar-Host2 -> Tar-Host1
- Part C Multicast Address (H vs H)
 - Disable REF - router1
 - Ping (FF02::1) : Tar-Host1 -> All node
 - Ping (FF02::1) : Tar-Host2 -> All node

1.1 ICMPv6 Echo Interoperability

Parts D - F :

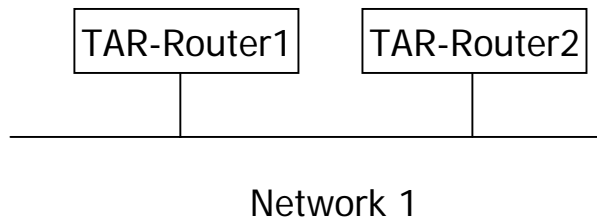


• Network 1 Prefix : 3ffe:501:ffff:1

- Part D : LLA unicast (H vs R)
 - Ping LLA : Tar-Host1 -> Tar-Router1
 - Ping LLA : Tar-Router1 -> Tar-Host1
- Part E : GA unicast (H vs R)
 - Ping GA : Tar-Host1 -> Tar-Router1
 - Ping GA : Tar-Router1 -> Tar-Host1
- Part F : Multicast Address (H vs R)
 - Ping (FF02::1) : Tar-Host1 -> All node
 - Ping (FF02::1) : Tar-Router1 -> All node
 - Ping (FF02::2) : Tar-Host 1 -> All Routers multicast address

1.1 ICMPv6 Echo Interoperability

Parts G - I :

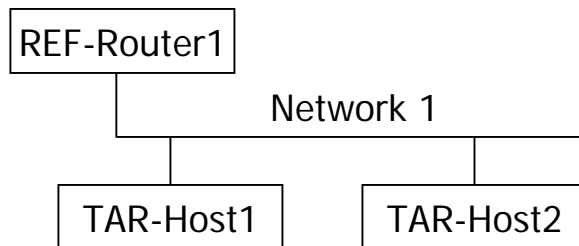


- Network 1 Prefix : 3ffe:501:ffff:1

- Part G : LLA unicast (R vs R)
 - Ping LLA : Tar-Router1 -> Tar-Router2
 - Ping LLA : Tar-Router2 -> Tar-Router1
- Part H : GA unicast (R vs R)
 - Ping GA : Tar-Router1 -> Tar-Router2
 - Ping GA : Tar-Router2 -> Tar-Router1
- Part I : Multicast Address (R vs R)
 - Ping (FF02::1) : Tar-Router1 -> All node
 - Ping (FF02::1) : Tar-Router2 -> All node
 - Repeat Ping (FF02::2) : Tar-Router1,2 -> All Router multicast address

1.2 Address Autoconfiguration & DAD

Parts A-B :



• Network 1 Prefix : 3ffe:501:ffff:1

• Check Point : 1. DAD NS MAC

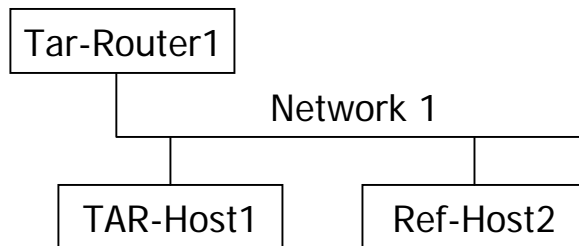
 2. DAD NA MAC

 3. REF NA,NS

- Part A : DAD-Tentative Add Unique (H vs H)
 - Enable Network 1, enabling Tar-Host1 before Tar-Host2
 - Ping LLA : Ref-Router1 -> Tar-Host1
 - Ping LLA : Ref-Router1 -> Tar-Host2
 - Repeat enable Tar-Host2 before Tar-Host1
- Part B : DAD-Tentative Add Duplicated (H vs H)
 - Tar-Host2 Tar-Host1 LLA address
 - Enable Network 1, enabling Tar-Host2 before Tar-Host1
 - REF-Router1 neighbor cache
 - Ping LLA : Ref-Rouert1 -> Tar-Host1
 - Tar-Host1 Tar-Host2 LLA address
 - Enable Network 1, enabling Tar-Host1 before Tar-Host2
 - REF-Router1 neighbor cache
 - Ping LLA : Ref-Router1 -> Tar-Host2

1.2 Address Autoconfiguration & DAD

Parts C - D:

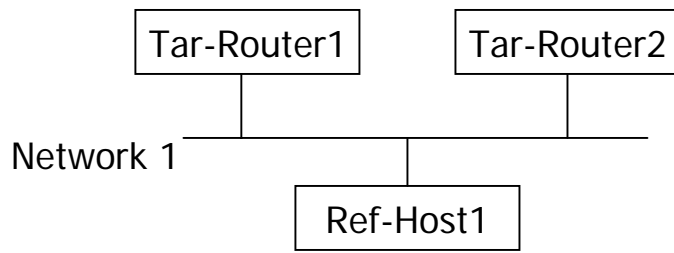


- Network 1 Prefix : 3ffe:501:ffff:1

- Part C : DAD-Tentative Add Unique (H vs R)
 - Enable Network 1, enabling Tar-Host1 before Tar-Router1
 - Ping LLA : Ref-Host2 -> Tar-Host1
 - Ping LLA : Ref-Host2 -> Tar-Router1
 - Repeat enable Tar-Router1 before Tar-Host1
- Part D : DAD-Tentative Add Duplicated (H vs R)
 - Tar-Router1 Tar-Host1 LLA address
 - Enable Network 1, enabling Tar-Router1 before Tar-Host1
 - Ref-Host2 neighbor cache
 - Ping LLA : Ref-Host2 -> Tar-Host1
 - Tar-Host1 Tar-Router1 LLA address
 - Enable Network 1, enabling Tar-Host1 before Tar-Router1
 - Ref-Host2 neighbor cache
 - Ping LLA : Ref-Host2 -> Tar-Router1

1.2 Address Autoconfiguration & DAD

Parts E - F:

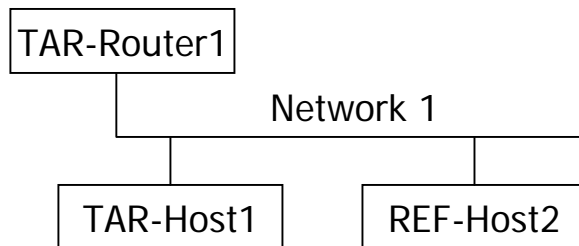


- Network 1 Prefix : 3ffe:501:ffff:1

- Part E : DAD-Tentative Add Unique (R vs R)
 - Enable Network 1, enabling Tar-Router1 before Tar-Router2
 - Ping LLA : Ref-Host1 -> Tar-Router1
 - Ping LLA : Ref-Host1 -> Tar-Router2
 - Repeat enable Tar-Router2 before Tar-Router1
- Part F : DAD-Tentative Add Duplicated (R vs R)
 - Tar-Router2 Tar-Router1 LLA address
 - Enable Network 1, enabling Tar-Router2 before Tar-Router1
 - Ref-Host1 neighbor cache
 - Ping LLA : Ref-Host1 -> Tar-Router1
 - Tar-Router1 Tar-Router2 LLA address
 - Enable Network 1, enabling Tar-Router1 before Tar-Router2
 - Ref-Host1 neighbor cache
 - Ping LLA : Ref-Host1 -> Tar-Router2

1.3 Processing Router Advertisements - Prefix Discovery (H vs R)

Parts A-C :

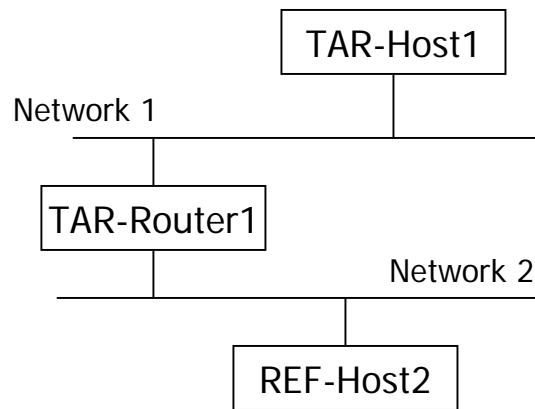


- Network 1 Prefix 1 : 3ffe:501:ffff:1
- Network 1 Prefix 2 : 3ffe:501:ffff:2

• Check Point : 1. PartC REF-Host2
Manual RA

- Part A : Single Prefix Discovery (H vs R)
 - Tar-Router1 RA prefix (valid lifetime>0)
 - Ping GA Prefix 1 : Ref-Host2 -> Tar-Host1
- Part B : Multiple Prefix Discovery (H vs R)
 - Tar-Router1 RA prefix (valid lifetime>0)
 - Ping GA Prefix 1 : Ref-Host2 -> Tar-Host1
 - Ping GA Prefix 2 : Ref-Host2 -> Tar-Host1
- Part C : Prefix Lifetime expires (H vs R)
 - Tar-Router1 RA prefix (valid lifetime=30)
 - Ping GA Prefix 1 : Ref-Host2 -> Tar-Host1
 - 35
 - Ping GA Prefix 1 : Ref-Host2 -> Tar-Host1

1.4 Processing Router Advertisements - Router Lifetime (H vs R)

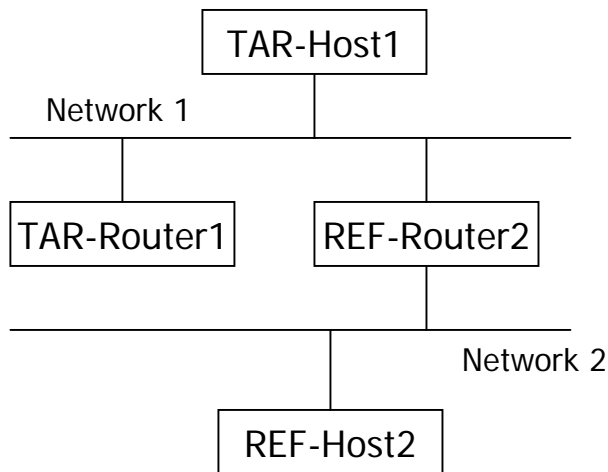


- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2

- Tar-Router1 Network1 RA Router Lifetime 0 interval
- Network2
- Ping GA: Ref-Host2 -> Tar-Host1
- Tar-Router1 RA Router Lifetime 600 RA Interval 60
- Ping GA: Ref-Host2 -> Tar-Host1
- Tar-Router1 Network1 RA Router Lifetime 0
- Ping GA: Ref-Host2 -> Tar-Host1

- Check Point : 1.TAR-Host1 Reply
TAR-Router1 LLA multicast
NS

1.5 Redirect Function (H vs R)



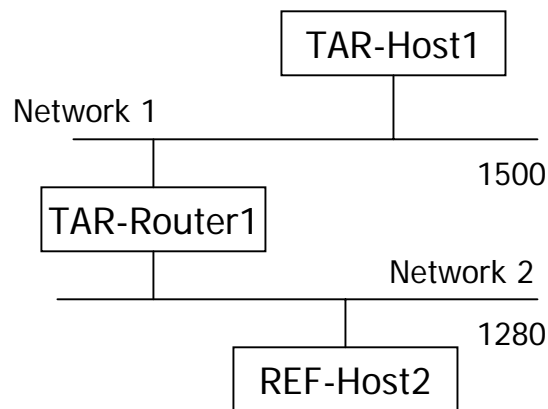
- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2

- Ref-Router2 Network1 RA Disable, Tar-Router1 static route Ref-Router2 LLA Next-hop network Network2 Prefix
- Ping GA : Ref-Host2 -> Tar-Host1
- TAR-Router1가 Redirect
- Ping GA : Ref-Host2 -> Tar-Host1

- Check Point : 1. TAR-Router1 Tar-Host1 redirect
2. Redirect , Tar-Router1 , REF-Router2 가 Request,Reply MAC

1.6 Path MTU Discovery & Fragmentation

Part A

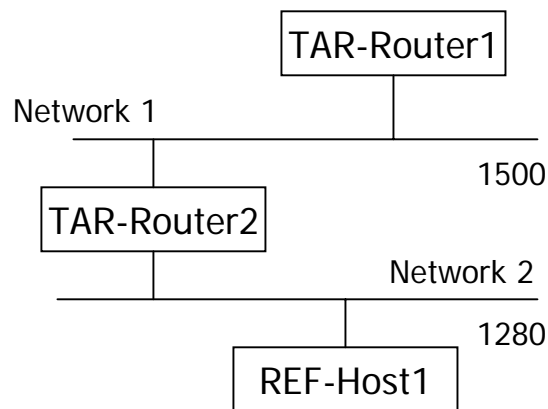


- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2

- Part A : PMTU Discovery (H vs R)
 - Tar-Router1 Network1 interface PMTU 1500bytes
 - Tar-Router1 Network2 interface PMTU 1280bytes
 - Ping GA 1400byte : Ref-Host2 -> Tar-Host1
- Check Point : 1. RA (MTU)
2. Packet too big
3. Fragmentation

1.6 Path MTU Discovery & Fragmentation

Part B

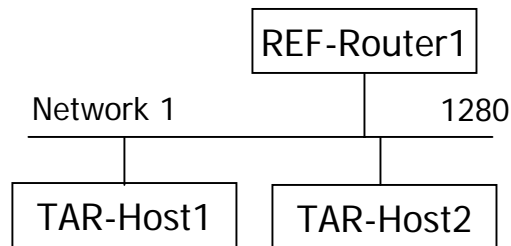


- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2

- Part B : PMTU Discovery (R vs R)
 - Tar-Router2 Tar-Router1 Network1 interface PMTU 1500bytes
 - Tar-Router2 Network2 interface PMTU 1280bytes
 - Ping GA 1400byte : Ref-Host1 -> Tar-Router1
 - Tar-Router1 Tar-Router2 ()
 - Tar-Router2 Tar-Router1 Network1 interface PMTU 1500bytes
 - Tar-Router1 Network2 interface PMTU 1280bytes
 - Ping GA 1400byte : Ref-Host1 -> Tar-Router2

1.6 Path MTU Discovery & Fragmentation

Parts C :



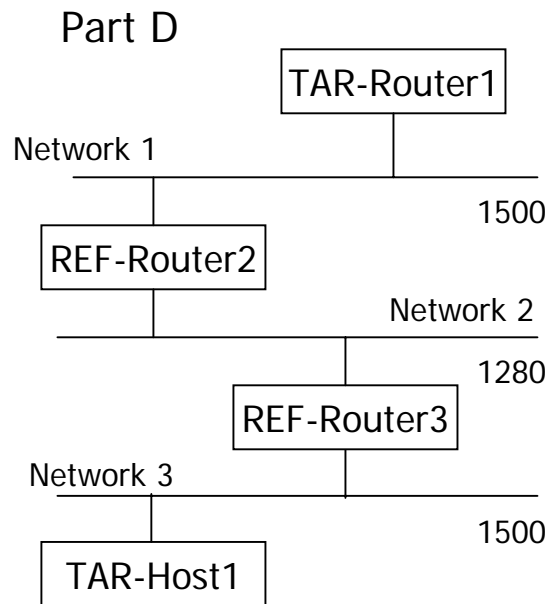
• Network 1 Prefix : 3ffe:501:ffff:1

- Part C : Fragmentation/Reassembly (H vs H)
 - REF-Router1 PMTU 1280byte
 - Ping LLA 1400 : TAR-Host1 -> Tar-Host2
 - Ping LLA 1400 : TAR-Host2 -> Tar-Host1
 - Ping GA 1400 : TAR-Host1 -> Tar-Host2
 - Ping GA 1400 : TAR-Host2 -> Tar-Host1

• Check Point : 1. LLA , Fragmentation

2. GA RA MTU
3. Fragmentation, reassembly

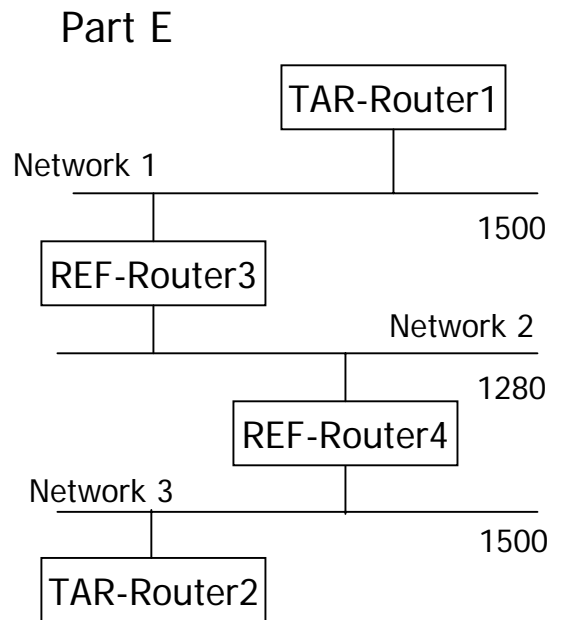
1.6 Path MTU Discovery & Fragmentation



- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2
- Network 3 Prefix : 3ffe:501:ffff:3

- Part D : Fragmentation/Reassembly (H vs R)
 - Tar-Router1 static-route Network3 next-hop REF-Router2
 - Network 1 3 Ref-Router2 Ref-Router3 static router next-hop
 - Ref-Router3 Network3 RA Router Lifetime>0
 - Ping GA 1400byte : TAR-Router1 -> Tar-Host1
 - Ping GA 1400byte : TAR-Host1 -> Tar-Router1

1.6 Path MTU Discovery & Fragmentation

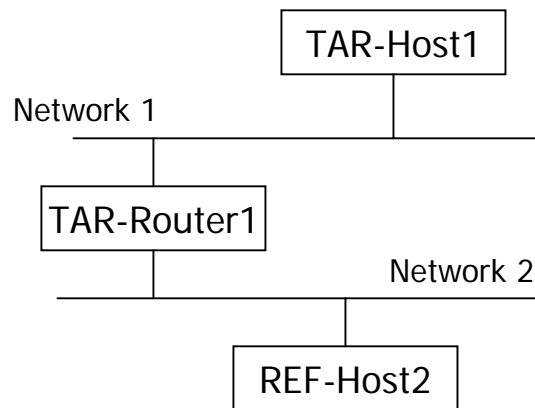


- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2
- Network 3 Prefix : 3ffe:501:ffff:3

- Part E: Fragmentation/Reassembly (R vs R)
 - Tar-Router1 static-route Network3 next-hop REF-Router3
 - Network 1 3 Ref-Router3 Ref-Router4 static router next-hop
 - Tar-Router2 static-route Network1 next-hop REF-Router4
 - Ping GA 1400byte : TAR-Router1 -> Tar-Router2
 - Ping GA 1400byte : TAR-Router2 -> Tar-Router1

1.7 Routing Header Processing

Part A



- Network 1 Prefix : 3ffe:501:ffff:1
- Network 2 Prefix : 3ffe:501:ffff:2

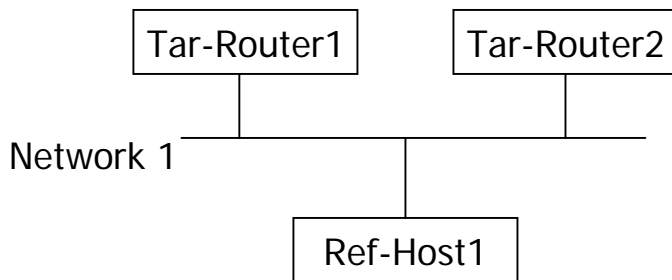
■ Part A : Routing Header (H vs R)

- REF-Host2 Routing header Echo Request
- Routing header TAR-Router1 TAR-Host1 가
- Ping Tar-Router1 Tar-Host1

- Check Point : 1. Routing Header
2. Dump routing header

1.7 Routing Header Processing

Parts B :



• Network 1 Prefix : 3ffe:501:ffff:1

- Part B : Routing Header (R vs R)
 - REF-Host1 Routing header Echo Request
 - Routing header TAR-Router1 TAR-Rout2 REF-Host1 가
 - REF-Host1 Routing header Echo Request
 - Routing header TAR-Router2 TAR-Rout1 REF-Host1 가
 - REF-Host1 Routing header Echo Request
 - Routing header TAR-Router1 TAR-Router2 가
 - REF-Host1 Routing header Echo Request
 - Routing header TAR-Router2 TAR-Router1 가