Aerohive Networks Inc.

AMRP2 TestCase

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
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| 1.4 | 01/30/2009 | Xiaohua Wang | Add case of bridge tunneled in argos (4.7.7 4.7.8) |
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Glossary and Abbreviations

|  |  |
| --- | --- |
| Glossary | Description |
| HiveOS | Aerohive Operating System |
| CLI | Command Line Interface |
| AP | Access Point |
| MP | Aerohive Mesh Point |
| STA | Station |
| AMRP | Aerohive Mobility Routing Protocol |
|  |  |

# Introduction

AMRP (Aerohive Mesh Routing Protocol) uses the link-state approach at each MAP to compute the correct route for layer2 frame inside the mesh network. We can divide AMRP function into three part (Eth-link, wireless, and client).

AMRP

Layer 3

Eth-link

Layer2

Wireless

Layer1

Client

In the Eth-link side, Each running Ethernet interface in backhaul mode will be in one of the following state:

* DISCOVER
* ATTACH
* DA
* BDA

When AMRP first detect a running backhaul interface, it will be in DISCOVER state. Each Ethernet backhaul interface will have a priority assigned, the priority value (Range: 0-255; Default: 0; Note: The greater the number is, the higher its priority, and the more preferred the HiveAP will be during the DA election process. For example, 100 has a higher priority than 50.)

1. **DISCOVER state:**

A running Ethernet interface will be in DISCOVER state initially, a periodic broadcast hello-message will be send out, indicating: (1) node ID (2) interface ID (3) interface state (4) priority. Receiving either a DISCOVER hello-message with higher ranking or a DA/BDA hello-message will transmit this AP to ATTACH state. Otherwise, after several try until the max timeout, the AP itself will become BDA.

1. **ATTACH state:**

There is no broadcast hello-message send out in this state. AP in this state will only unicast its link-state to both DA. But it will listen to BDA’s hello-message. if no DA/BDA detect during certain time, it will fall back to DISCOVER state.

1. **BDA state:**

In BDA state, the AP will periodically broadcast hello-message to announce its existence. it’s also possible that a triggered hello-message is sending out after receive a DISCOVER hello-message, but it will be rate limited to no more frequent than the hello interval. BDA node will listen the unicast keepalive message from DA node. If no DA node can be detected within certain interval, the BDA node will promote to DA state. If receive a higher ranking BDA hello-message, the lower ranking one will demoted to ATTACH state, this make sure that only 1 BDA node will exist for any one broadcast link.

1. **DA state:**

In DA state, periodic broadcast hello-message was send out to announce its existence, the DA node will also unicast keepalive message to BDA node frequently for fast failover. DA node will also do reliable unicast to the APs in ATTACH state. In case of detecting another higher ranking node in DA state, the lower ranking AP will fall back to ATTACH state. DA will periodically sync its database with BDA.

In wireless side, each wireless interface in backhaul side will be in one of the following state with neighbor:

* Null
* One-way
* Two-way

1. **Null state:**

In Null state, AP periodic broadcast NBR-HELLO message to announce its existence.But received none NBR-hello packets with same hive-id and same hive password from other APs. AP will drop all NBR-Hello packets if not match self vlan-id hive-id and password.

1. **One-way state:**

In one-way state, AP also periodic broadcast NBR-HELLO message to announce its existence. And received NBR-Hello packets with same hive-id and same hive password from other APs, but this NBR-Hello packets not include self. In other words. Peer AP not received NBR-hello packets from this AP

1. **Two-way state:**

In Two-way state, AP also periodic broadcast NBR-HELLO message to announce its existence. And received NBR-Hello packets with same hive-id and same hive password from other APs, and this NBR-Hello packets include self info. In other words. Peer AP have received NBR-hello packets from this AP.

After two way state establish. Each AP will periodic send unicast packets NBR-KEEPALIVE to each two-way state APs for make sure each wifi neighbor is alive.

And also periodic send unicast packets WIFI-LINK-LSU to wifi neighbor for announce local topology. When neighbor received this wifi-link-lsu. He will check local database. If same will not update database, if not same AP will learn new info and extend to database. And then relay this packet to other wifi neighbors.

In client side is much easy. When a client associate to AP, AMRP will create a client route on route table for data forwarding. And send unicast packets CLIENT-UPDATE to all wifi neighbor. All neighbor received this packet will update route database and relay this packet to all wifi-neighbor. This packet end on eth-link side.

# Test point or strategy

# Test Case Topology

# Function Test Case

## Behavior of establish neighbors

### Ethlink neighbor establish

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Neighbor\_establish\_testcase\_1 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | -----Switch-----  | |  Portal1 Portal2 | | |
| Description | Ethink node neighbor establish condition check (hive name,hive password,mgt0 vlan) | | |
| Pre-condition | -two APs wifi bachual is down. | | |
| Test procedure | 1. Configure APs in the same hive and have same hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish.   For example :  AH-042f40#hive xxx  AH-042f40#hive xxx password \*\*\*\*\*\*\*\*  AH-042f40#in m0 hive xxx  AH-042f40#in m0 vlan xx  AH-042f40#in m0 native-vlan xx   1. Configure APs in different hive and same hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish. 2. Configure APs in the same hive, but different hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish. 3. Configure APs in the same hive and have same hive password, the same mgt0 vlan but the different native vlan. “show amrp neighbor” check neighbor establish. 4. Configure APs in the same hive and have same hive password, the same native vlan but the different mgt0 vlan. “show amrp neighbor” check neighbor establish. | | |
| Expect result | 1. Ethlink node neighbor can be established 2. Ethlink node neighbor can’t be established 3. Ethlink node neighbor can’t be established 4. Ethlink node neighbor can be established 5. Ethlink node neighbor can’t be established | | |

### Wifi 1.1 neighbor establish

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Neighbor\_establish\_testcase\_2 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | -----Switch-----  | |  Portal1 ----- Portal2 | | |
| Description | Wifi1 node neighbor establish condition check (hive name,hive password,mgt0 vlan,native vlan) | | |
| Pre-condition | Wifi1.1 is backhaul and is up | | |
| Test procedure | 1. Configure APs in the same hive and have same hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish.   For example :  AH-042f40#hive xxx  AH-042f40#hive xxx password \*\*\*\*\*\*\*\*  AH-042f40#in m0 hive xxx  AH-042f40#in m0 vlan xx  AH-042f40#in m0 native-vlan xx   1. Configure APs in different hive and same hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish. 2. Configure APs in the same hive, but different hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish. 3. Configure APs in the same hive and have same hive password, the same mgt0 vlan but the different native vlan. “show amrp neighbor” check neighbor establish. 4. Configure APs in the same hive and have same hive password, the same native vlan but the different mgt0 vlan. “show amrp neighbor” check neighbor establish. | | |
| Expect result | 1. Ethlink node neighbor can be established 2. Ethlink node neighbor can’t be established 3. Ethlink node neighbor can’t be established 4. Ethlink node neighbor can be established 5. Ethlink node neighbor can’t be established | | |

### Wifi 0.1 neighbor establish

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Neighbor\_establish\_testcase\_3 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | -----Switch-----  | |  Portal1 ----- Portal2 | | |
| Description | Wifi0 node neighbor establish condition check (hive name,hive password,mgt0 vlan,native vlan) | | |
| Pre-condition | Wifi0.1 is backhaul and is up,wifi1.1 is access or down | | |
| Test procedure | 1. Configure APs in the same hive and have same hive password, the same mgt0 vlan and native vlan. “show amrp neighbor” check neighbor establish.   For example :  AH-042f40#hive xxx  AH-042f40#hive xxx password \*\*\*\*\*\*\*\*  AH-042f40#in m0 hive xxx  AH-042f40#in m0 vlan xx  AH-042f40#in m0 native-vlan xx   1. Configure APs in different hive and same hive password, the same mgt0 vlan and native vlan. “ show amrp neighbor” check neighbor establish. 2. Configure APs in the same hive, but different hive password, the same mgt0 vlan and native vlan. “ show amrp neighbor” check neighbor establish. 3. Configure APs in the same hive and have same hive password, the same mgt0 vlan but the different native vlan. “show amrp neighbor” check neighbor establish. 4. Configure APs in the same hive and have same hive password, the same native vlan but the different mgt0 vlan. “show amrp neighbor” check neighbor establish. | | |
| Expect result | 1. Ethlink node neighbor can be established 2. Ethlink node neighbor can’t be established 3. Ethlink node neighbor can’t be established 4. Ethlink node neighbor can be established 5. Ethlink node neighbor can’t be established | | |

### Wifi neighbor established

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Neighbor\_establish\_testcase\_4 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | -----Switch-----  |  Portal1  MP | | |
| Description | Wifi0 node neighbor establish,when MP not got address | | |
| Pre-condition | Wifi1.1 is backhaul and is up, | | |
| Test procedure | 1. Boot up MP,but MP not got IP address “show int mgt0” 2. When MP Bootup “debug amrp wifi keeplive” 3. “Show amrp neighbor” on MP | | |
| Expect result | 1. “Show int m0” IP address is 0.0.0.0 2. Via debug, we see MP send/received NBR-Keepalive and up amrp not discard 3. When MP not got IP address,MP should established neighbor with same hive and hive password APs | | |

### Wifi neighbor established

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Neighbor\_establish\_testcase\_5 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | -----Switch-----  |  Portal1  MP | | |
| Description | Wifi0 node neighbor establish,when MP in default IP state | | |
| Pre-condition | Wifi1.1 is backhaul and is up, | | |
| Test procedure | 1. Boot up MP,but MP not got IP address “show int mgt0” 2. When MP Bootup “debug amrp wifi keeplive” 3. “Show amrp neighbor” on MP | | |
| Expect result | 1. “Show int m0” IP address is 192.168.x.x 2. Via debug, we see MP send/received NBR-Keepalive and up amrp not discard 3. When MP not got IP address,MP should established neighbor with same hive and hive password APs | | |

## Portal topology test

### One Portal Topology

#### AMRP2\_Portal\_topology\_testcase\_1



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_1 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | Switch  |  Portal | | |
| Description | One Portal boot up, check amrp state, route table. | | |
| Pre-condition | One AP, One switch | | |
| Test procedure | 1. When AP boot up, “show amrp interface eth0, show amrp ethlink” is AP. 2. Show route, check route table.(default route ,interface route) 3. Plug out cable of Portal, check route table. 4. plug in cable of portal, check route table. 5. Create max SSID on wifi0, create max SSID on wifi1, check route table again. | | |
| Expect result | 1. This Portal should be DA. 2. Default route should be eth0, node route number should be right (eap.4 11n 7). 3. No default route, interface route number should be right. 4. Default route will be eth0 again, interface route number should be right 5. Amrp should add SSID’s interface route in route table. | | |



#### AMRP2\_Portal\_topology\_testcase\_2

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_2 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Switch  |  ---(wifi0)Portal(wifi0)---    Client 1 Client2 | | |
| Description | One portal boot up, clients associate/ disassociate on wifi0, check route table and datapath. | | |
| Pre-condition | -Create two SSID on wifi0 and client associate this AP, pass authentication  -Two client associate to portal interface wifi0 | | |
| Test procedure | 1. Two clients associate to one SSID (wifi0.1), check route table. 2. “show ssid xxx station” check VLAN-ID and UPID 3. “show amrp client” check VLAN-ID and UPID 4. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client1 ping client2  Client1 ping portal  Client1 ping gateway   1. Two clients disassociate to Portal .check route table 2. Two clients associate to different SSID (wifi0.1 wifi0.2), check route table. 3. “show ssid xxx station” check VLAN-ID and UPID 4. “show amrp client ” check VLAN-ID and UPID 5. Two clients send unicast(ICMP pkts), broadcast pkts(debug FE)   Client1 ping client2  Client1 ping portal  Client1 ping gateway   1. Two clients disassociate to Portal .check route table 2. Two clients associate to one SSID ,Plug out cable of Portal, check route table 3. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client1 ping client2  Client1 ping portal  Client1 ping gateway | | |
| Expect result | 1. Two client’s route will be added ,outgoing interface should be wifi0.1. 2. VLAN-ID and UPID should be consistent with configure. 3. VLAN-ID and UPID should be consistent with configure. 4. Broadcast pkts handle should right (out to all up interface), ping should successfully(match routing table). 5. Amrp will delete client’s route because of client disassociate. 6. Two client’s route will be added ,one outgoing interface is wifi0.1,one outgoing interface is wifi0.2. 7. VLAN-ID and UPID should be consistent with configure 8. VLAN-ID and UPID should be consistent with configure 9. Broadcast pkts handle should right, ping should successfully. 10. Amrp will delete client’s route in route table. 11. No default route , Node route number client’s route still no changed 12. Broadcast pkts handle should right, ping should successfully. | | |

#### AMRP2\_Portal\_topology\_testcase\_3



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_3 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | Switch  |  ---(wifi0)Portal(wifi1)---    Client 1 Client2 | | |
| Description | One portal boot up, client associate/ disassociate on wifi0 and wifi1, | | |
| Pre-condition | -Create two SSID each on wifi0 and wifi1 and client associate this AP, pass authentication  -client 1 associatt to wifi0 client2 associate to wifi1 | | |
| Test procedure | 1. Two clients associate to same SSID but different interface (one connected to wifi0.1, one connected to wifi1.1), check route table(interface route client route node route ). 2. “show ssid xxx station” check VLAN-ID and UPID 3. “show amrp client ” check VLAN-ID and UPID 4. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client1 ping client2  Client1 ping portal  Client1 ping gateway   1. Two clients disassociate to Portal .check route table 2. Two clients associate to different SSID and different interface ,check route table.(one connected to wifi0.1 one connected to wifi1.2) 3. “show ssid xxx station” check VLAN-ID and UPID 4. “show amrp client ” check VLAN-ID and UPID 5. Two clients send unicast(ICMP pkts), broadcast pkts(debug FE)   Client1 ping client2  Client1 ping portal  Client1 ping gateway   1. Two clients disassociate to Portal .check route table 2. Plug out cable of Portal, check route table 3. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client1 ping client2  Client1 ping portal  Client1 ping gateway | | |
| Expect result | 1. Two client’s route will be added in route table , one outgoing interface is wifi0.1 , one outgoing interface is wifi1.1 2. VLAN-ID and UPID should be consistent with configure 3. VLAN-ID and UPID should be consistent with configure 4. Broadcast pkts handle should right, ping should successfully. 5. Amrp will delete client’s route in route table. 6. Two client’s route will be added in route table , one outgoing interface is wifi0.1 , one outgoing interface is wifi1.2 7. VLAN-ID and UPID should be consistent with configure 8. VLAN-ID and UPID should be consistent with configure 9. Broadcast pkts handle should right, ping should successfully. 10. Amrp will delete client’s route. 11. No default route, client’s route should still exist. 12. Broadcast pkts handle should right, ping should successfully. | | |

#### AMRP2\_Portal\_topology\_testcase\_4 (datapath)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_4 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC1 PC2  Switch  |  ---(wifi0.1)Portal(wifi0.2)---    Client 1 Client2 | | |
| Description | One portal boot up, test datapath(G-ARP,Multicast,Unicast,DHCP,Proxy-ARP) | | |
| Pre-condition | -Create two SSID each on wifi0 and client associate this AP, pass authentication | | |
| Test procedure | 1. When clients associate to ssid, “debug fe\_arp basic” in portal 2. client1 send a broadcast pkt. “debug fe basic” 3. client1 send a unicast pkt client2. “debug fe basic” 4. client1 send a unicast pkt to pc. “debug fe basic” 5. client1 send dhcp pkt. “debug fe basic” 6. pc send a broadcast pkt “debug fe basic” 7. pc send a unicast pkt whose dst-mac does not exist in route table “debug fe basic” (PC create a unexist arp entry ) 8. pc send a dhcp pkt. “debug fe basic” 9. mgt0 send broadcast “debug fe basic” 10. mgt0 send unicast “debug fe basic” 11. mgt0 send unknown unicast “debug fe basic” (AP create a unexist arp entry ) 12. mgt0 send dhcp “debug fe basic” 13. If arp cache is empty, client1 send a arp req, 14. If arp cache is empty, pc send a arp req 15. If arp cache is empty, mgt0 send a arp req 16. If already has arp entry for client2, client1 send arp req for client2 17. If already has arp entry for pc, client1 send arp req for pc 18. If already has arp entry for client1, pc send arp req for client1 19. If already has arp entry for pc2, pc1 send arp req for pc2 20. If already has arp entry for mgt0, pc1 send arp req for mgt0 21. If already has arp entry for client1, mgt0 send arp req for client1 22. If already has arp entry for pc1, mgt0 send arp req for pc1 | | |
| Expect result | 1. portal should send out a Gratitous-ARP to eth0,pkt should be in client vlan 2. pkt should be forwarded to wifi1.1,wifi0.1,wifi0.2, eth0,mgt0 3. ICMP pkts should match AP’s route table and out interface wifi0.1 4. ICMP pkts should match default route and out interface eth0 5. DHCP discover pkt should special handle and only be send to eth0, mgt0 6. pkt should be forward to wifi0.1,wifi0.2,wifi1.1,mgt0 (all up interface) 7. AP should drop this pkt 8. Up this DHCP pkts to mgt0 not broadcast to access side 9. pkt should be forwarded to wifi1.1,wifi0.1,wifi0.2, eth0,mgt0 (all up interface) 10. Traffic should be ok(match default route or match in route table) 11. ap should forwarding via default route 12. DHCP pkts should only be send to eth0, mgt0 13. Ap should learn this arp entry and add in arp-table 14. Ap should learn this arp entry and add in arp-table 15. Ap should learn this arp entry and add in arp-table 16. AP will do proxy reply and do not forward this pkt up to mgt0 17. AP will do proxy reply and do not forward this pkt up to mgt0 18. AP will do proxy reply and do not forward this pkt up to mgt0 19. AP will do proxy reply and do not forward this pkt up to mgt0 20. AP will will do proxy reply this req and do not forward req to client2 21. AP will will do proxy reply this req and do not forward req to pc 22. AP will will do proxy reply this req and do not forward req to client1 | | |

### Two Portals Topology

#### AMRP2\_Portal\_topology\_testcase\_5



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_5 | | |
| Priority | High | Automation Flag | No |
| Topology to use | PC  |  ------------Switch-----------  | |  Portal 1 ----- Portal 2  Client1 client2 | | |
| Description | Two portals boot up one by one .check DA/BDA, route table. | | |
| Pre-condition | -Configure two Portals in the same subnet and same hive, full mesh.  - Boot portal1 first and then portal2.  -clients associate to portal1 and portal2 | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2, calculate route converge time. 2. Check DA/BDA state in Portal 1 and portal 2 “Show amrp interface eth0/eth1, show amrp ethlink” check AP’s role 3. Check route table in Portal 1 and portal 2(default route,client’s route,interface route) 4. Client1 and Client 2 associate to portal1 and portal2. Clients send icmp pks   Client1 ping PC  Client 1ping Portal1 and Portal2  Client1 ping client2  Portal1 ping Portal2  Portal1 ping client1 and client2 | | |
| Expect result | 1. Pls syn clock in this topo, use debug to calculate converge time. 2. Portal1 should be DA, Portal2 should be BDA,AP’s eth1 in Attached state 3. Default route should be eth0, interface route should be added and client route should also added. 4. All traffic should successfully(outgoing match route table or match default rotue) | | |

#### AMRP2\_Portal\_topology\_testcase\_6



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_6 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | ------------Switch-----------  | |  Portal 1------ Portal 2 | | |
| Description | Two portals boot up at the same time .check DA/BDA, route table. | | |
| Pre-condition | -configure two Portals in the same subnet and same hive.  - boot portal1 portal2 at the same time | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2, calculate route converge time. 2. Check DA/BDA state in Portal 1 and portal 2 (Show amrp interface eth0, show amrp ethlink) 3. Check route table in Portal 1 and portal 2(default route , client route,interface route)(those action will not affect route table same as above) | | |
| Expect result | 1. 2`3 seconds 2. One AP should be DA, one AP should be BDA, Portal 1 and Portal 2 ‘s role. (DA/BDA state this depend on competition) 3. Default route should be eth0, interface route should be right. Should give out the route table here | | |

#### AMRP2\_Portal\_topology\_testcase\_7



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_7 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | PC  ------------Switch-----------  | |  Portal 1 Portal 2  Client1 Client2 | | |
| Description | Two independence portals boot up, check route table and data-path | | |
| Pre-condition | -configure two Portals in the same subnet and same hive, but Portal1 and Portal2 not mesh topology(wifi1 is down)  - boot portal1 first and then portal2.  -Create a SSID on wifi0 and two clients associate two AP, pass authentication | | |
| Test procedure | 1. When APs boot up, debug amrp basic in Portal1 and Portal2, calculate route converge time 2. Check DA/BDA state in Portal 1 and portal 2 (Show amrp interface eth0, show amrp ethlink ) 3. Two clients associate to two APs, and send unicast, broadcast pkt. client ping each other.(debug FE)   Client1 ping client2  Client1 ping portal 1  Client1 ping pc  Client1 ping portal2  Portal1 ping portal2   1. Check route table in Portal 1 and portal 2(check client’s route) 2. Shut down the Portal1,check “show amrp int eth0” in Portal2 3. Recover the topology ,shut down the Portal2,check route in Portal1 | | |
| Expect result | 1. 2`3 seconds 2. Portal1 should be DA, Portal2 should be BDA, (who boot up first who act as DA) 3. Data forward and handle should right, ping should successfully(depend on route table . all pkts will match route table) 4. In route table, only add local clients route in route table. 5. Check route table, debug amrp basic, how longer Portal2 act as DA. 6. Check route table, debug amrp basic, Portal1 DA state no change. | | |

#### AMRP2\_Portal\_topology\_testcase\_8



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_8 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC  |  ------------Switch-----------  | |  Portal 1------ Portal 2  Client1 Client2 | | |
| Description | Two portals boot up, DA up/down check route converge | | |
| Pre-condition | -configure two Portals in the same subnet and same hive, full mesh.  -boot portal1 first and then portal2  - Create a SSID on wifi0 and two clients associate two APs, pass authentication | | |
| Test procedure | 1. When AP boot up, show amrp interface eth0, show amrp neighbor in Portal 1 and portal 2. 2. Two clients associate to two APs, and send unicast, broadcast pkt.   Client ping each other.  Client ping PC(debug FE)  Client ping portal1 and Portal2   1. Plug out cable of Portal 1’s eth0, check route converge time, check route table. Check client ‘s traffic 2. Plug in cable of Portal 1’s eth0, check route converge time, check route table. Check client ‘s traffic 3. Fast plug out/in cable of Portal 1’s eth0, Fast plug out/in cable of Portal 2’s eth0 | | |
| Expect result | 1. Portal 1 should be DA, Portal 2 should be BDA, Portal 1 and Portal 2 are wifi neighbors. 2. Data forward and handle should right, ping should successfully. 3. Portal 2 will change to DA quickly, Portal 1 will be MP, selecting Portal 2 as Master Portal. Traffic will recover quickly   Calculate how long portal1’s default route will be wifi1.1, how long Portal2 change route to Portal1 became wifi1.1   1. Portal 1 will be BDA quickly, Portal 2 still act as DA( show amrp interface eth0) Traffic will recover quickly, portal1change default route to wifi1.1( how long), Portal2 change route to Portal1 became wifi1.1( how long) 2. Route table will not turbulence. | | |

#### AMRP2\_Portal\_topology\_testcase\_9

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_9 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC  |  ------------Switch-----------  | |  Portal 1------ Portal 2  Client1 Client2 | | |
| Description | Two portals boot up, BDA up/down check route converge. | | |
| Pre-condition | -configure two Portals in the same subnet and same hive, full mesh.  -boot portal1 first and then portal2  - Create a SSID on wifi0 and two clients associate two AP, pass authentication | | |
| Test procedure | 1. When AP boot up, show amrp interface eth0, show amrp neighbor in Portal 1 and portal 2. 2. Two clients associate to two APs, and send unicast, broadcast pkt.   client ping each other.  Client ping PC(debug FE)  Client ping portal1 and Portal2   1. Plug out cable of Portal 2’s eth0, check route converge time, check route table. Check client ‘s traffic 2. Plug in cable of Portal 2’s eth0, check route converge time, check route table. Check client ‘s traffic 3. Fast plug out/in cable of Portal 2’s eth0, Fast plug out/in cable of Portal 2’s eth0 | | |
| Expect result | 1. Portal 1 should be DA, Portal 2 should be BDA, Portal 1 and Portal 2 are wifi neighbors. 2. Data forward and handle should right, ping should successfully. 3. Portal 2 will change to DA quickly, Portal 1 will be MP, selecting Portal 2 as Master Portal. Traffic will recover quickly   Calculate how long portal1’s default route will be wifi1.1, how long Portal2 change route to Portal1 became wifi1.1   1. Portal 1 will be BDA quickly, Portal 2 still act as DA( show amrp interface eth0) Traffic will recover quickly, portal1change default route to wifi1.1( how long), Portal2 change route to Portal1 became wifi1.1( how long) 2. Route table will not turbulence. | | |

#### AMRP2\_Portal\_topology\_testcase\_10(BMT-table)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_10 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | -------------Switch----------------  | |  Portal1 --- Portal2 | | |
| Description | Check BMT change | | |
| Pre-condition | -Configure Portals in the same subnet and same hive  -Portal1 and Portal2 are wifi neighbor  -Configure a SSID on AP1 client associate to Portal1 | | |
| Test procedure | 1. Client associate to Portal1, check bmt-table in portal1 (show amrp interface eth0 bmt-table) 2. Client send broadcast “debug FE basic” in Portal1 3. Plug out cable of eth0. check bmt-table in portal1, portal2 (show amrp interface eth0 bmt-table) 4. Client send broadcast “debug FE basic” in Portal1,Portal2 5. Plug in cable of eth0 again. check bmt-table in portal1, portal2 (show amrp interface eth0 bmt-table) 6. Client send broadcast “debug FE basic” in Portal1,Portal2 | | |
| Expect result | 1. BMT should be self. 2. Client’s broadcast Packets send out via (eth0, wifi0.1 wifi1.1) 3. In AP1 should not have BMT table and in AP2 should be AP1’s BMT,only Portal forwarding broadcast from Portal1 4. Packets send out via ( in AP1 wifi1.1 wifi0.1) in AP2 (wifi1.1 wifi0.1 eth0) 5. AP1 should be BMT self again 6. Packets send out via (eth0, wifi0.1 wifi1.1) | | |



#### AMRP2\_Portal\_topology\_testcase\_11(loop-protected)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_11 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC  |  ------------Switch-----------  | |  Portal 1------ Portal 2  Client1 Client2 | | |
| Description | Two portals full mesh boot up, check loop protested. | | |
| Pre-condition | -configure two Portals in the same subnet and same hive, full mesh.  - Create a SSID on wifi0 and two clients associate two AP, pass authentication | | |
| Test procedure | 1. Client1 associate to Portal1 send a broadcast packet. Check how Portal1 handle 2. Client1 send a broadcast packet, check how Portal2 handle 3. Portal1 will receive broadcast from Portal2’wifi1.1 src-mac is client1 so how handle on Portal1 4. PC send a broadcast pkts heck how Portal1 handle 5. PC send a broadcast packet, check how Portal2 handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. Portal1 will drop this broadcast from portal2’s wifi1.1 src-mac is client1 4. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 5. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 | | |

### Three Portals Topology

#### AMRP2\_Portal\_topology\_testcase\_12



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_12 | | |
| Priority | High | Automation Flag | No |
| Topology to use | -------------Switch----------------  | | |  Portal2  Portal1----- ---- Portal 3 | | |
| Description | Three portals boot up one by one, Check DA/BDA selecting, route table. | | |
| Pre-condition | -configure three Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 full mesh  -boot portal1 first and then portal2,Portal3.  -Client associate Portal1 | | |
| Test procedure | 1. When APs boot up, “debug amrp basic” in Portal1 and Portal2,Portal3 Calculate route converge time(how longer) 2. “Show amrp interface”eth0, “show amrp ethlink”. in Portal 1 and portal 2, ,Portal3 3. Check route table in Portal 1 and portal 2,Portal3 (default route , client route, interface route) 4. When Portal1 and Portal2‘s state stabilization Portal1 DA, Portal2 BDA .then boot up Portal3, calculate route converge time when Portal3 boot up. 5. Client associate to portal1. Client send icmp pkts   Client ping PC  Client ping Portal1 and Portal2,Portal3  Client1 ping client2  Portal1 ping Portal2   1. Client send broadcast,check how portal1, portal2,portal3 handle. 2. Portal1 ping client1 Portal2 Ping client1 Portal3 ping client1 | | |
| Expect result | 1. 2`3 seconds 2. Portal1 should be DA, Portal2 should be BDA, Portal3 should be Attach state ,Portal 1 and Portal 2 ,Portal3 are wifi neighbors. 3. Default route should be eth0,interface route should be included? 4. Should be converge at once. 5. Ping should successfully 6. Portal1 will forwording out wifi1.1 and wifi0.1 and eth0, Portal will drop pkts form wifi1.1 and rec from eth0, forwording out all up interface except eth0. 7. Portal send ICMP packets should successfully. | | |



#### AMRP2\_Portal\_topology\_testcase\_13(loop-protected)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_13 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Three portals full mesh boot up, check loop protested. | | |
| Pre-condition | -configure three Portals in the same subnet and same hive, full mesh.  -Create a SSID on wifi0 and two clients associate two AP, pass authentication | | |
| Test procedure | 1. Client1 associate to Portal1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how Portal2 handle 3. Client1 send a broadcast packets, check how Portal3 handle 4. Portal1 will receive broadcast from Portal2’/Portal3 wifi1.1 src-mac is client1 so how handle on Portal1 5. PC send a broadcast pkts heck how Portal1 handle 6. PC send a broadcast packet, check how Portal2 handle 7. PC send a broadcast packet, check how Portal3 handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. Portal3 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 4. Portal1 will discard broadcast packets from Portal2’/Portal3 wifi1.1 src-mac is client1 5. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 6. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 7. Portal3 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 | | |

#### AMRP2\_Portal\_topology\_testcase\_14



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_14 | | |
| Priority | Low | Automation Flag | No |
| Topology to use |  | | |
| Description | Three portals boot up at the same time, Check DA/BDA/Attach preempt, route table. | | |
| Pre-condition | -configure three Portals in the same subnet and same hive.  -Portal 1 and portal 2, Portal3 full mesh.  -boot portal1 portal2,Portal3 at the same time. | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2,Portal3,calculate how long DA/BDA/ATTACH state will be stabilization 2. Check DA/BDA/attach state in Portal 1 and portal 2,Portal3( show amrp interface eth0, show amrp ethlink ) 3. check route table in Portal 1 and portal 2,Portal3 (default route, node route) | | |
| Expect result | 1. ? 2. One AP should be DA, one AP should be BDA, one AP should be Attach state (this depend on preempt) , Portal 1 and Portal 2 ,Portal3 are neighbors. 3. Default route should be eth0, node route number, should be added. Example: in portal1 route table, should have self interface route and default route | | |

#### AMRP2\_Portal\_topology\_testcase\_15



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_15 | | |
| Priority | High | Automation Flag | No |
| Topology to use | PC  -------------Switch----------------  | | |  Portal1----- Portal2 Portal 3  client1 client 2 client3 | | |
| Description | Three not full mesh portals boot up, Check route converge route table and client data-path | | |
| Pre-condition | -configure APs in the same subnet and same hive.  -Portal 1 can ACSP scan portal 2 ,Portal3 can’t scan portal1 and portal2  - boot portal1 first and then portal2, Portal3.  -Client associate to Portal1 and Portal2,Portal3 | | |
| Test procedure | 1. When AP boot up, “debug amrp basic” in Portal1 and Portal2, Portal3, calculate route converge time. 2. “Show amrp interface eth0”, “show amrp ethlink”. in Portal 1 and portal 2 3. Check route table in Portal 1 and portal 2,Portal3 (default route ,node route ,interface route,client route) 4. Client associate to portal1. Client send icmp pkts   Client ping PC  Client ping Portal1 and Portal2,Portal3  Client1 ping client2  Portal1 ping Portal2  Portal1 ping client1 Portal2 Ping client1 Portal3 ping client1 | | |
| Expect result | 1. Less than 3s 2. Portal1 should be DA, Portal2 should be BDA, Portal3 should be Attach state, Portal 1 and Portal 2 are neighbors. 3. Default route should be eth0, node route number, neighbor route should be right. Portal1 and Portal2 route table should not appear client3’s route. Portal3 route table should not appear client1 and client2’s route. 4. Ping should successfully | | |



#### AMRP2\_Portal\_topology\_testcase\_16(loop-protected)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_16 | | |
| Priority | High | Automation Flag |  |
| Topology to use | PC  -------------Switch----------------  | | |  Portal1----- Portal2 Portal 3  client1 client 2 client3 | | |
| Description | Three not full mesh portals boot up, Check loop protected | | |
| Pre-condition | -configure APs in the same subnet and same hive.  -Portal 1 can ACSP scan portal 2 ,Portal3 can’t scan portal1 and portal2  - boot portal1 first and then portal2, Portal3.  -Client associate to Portal1 and Portal2,Portal3 | | |
| Test procedure | 1. Client1 associate to Portal1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how Portal2 handle 3. Client1 send a broadcast packets, check how Portal3 handle 4. Portal1 will receive broadcast from Portal2’s wifi1.1 src-mac is client1,check how portal1 will handle 5. Client3 associate to Portal3 send broadcast packets. Check how Portal1 handle 6. Client3 send a broadcast packets, check how Portal2 handle 7. Client3 send a broadcast packets, check how Portal1 handle 8. PC send a broadcast pkts heck how Portal1 handle 9. PC send a broadcast packet, check how Portal2 handle 10. PC send a broadcast packet, check how Portal3 handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. Portal3 will recv this pkts from eth0 and forwarding out all port except eth0 4. Portal1 will discard broadcast from Portals’2 wifi1.1. src-mac is client1 5. Portal3 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 6. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 7. Portal1 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 8. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 9. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 10. Portal3 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 | | |

#### AMRP2\_Portal\_topology\_testcase\_17



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_17 | | |
| Priority | High | Automation Flag | No |
| Topology to use | -------------Switch----------------  | | |  Portal1----- Portal2 ---- Portal 3  client1 client 2 client3 | | |
| Description | Three linearity portals boot up , Check amrp state, route table | | |
| Pre-condition | -configure two Portals in the same subnet and same hive.  -Portal 1 can ACSP scan portal 2 can’t scan portal3 ,Portal3 can scan portal 2 can’t scan portal1  - boot portal1 first and then portal2, Portal3.  - Create a SSID on wifi0 and three clients associate three APs, pass authentication | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2,Portal3 calculate route converge time 2. Show amrp interface eth0, show amrp ethlink. in Portal 1 and portal 2 3. Check route table in Portal 1 and portal 2,Portal3 (default route ,node route ,interface route, client route) 4. Client associate to portal1. Client send icmp pkts   Client ping PC  Client ping Portal1 and Portal2,Portal3  Client1 ping client2  Portal1 ping Portal2  Portal1 ping client1 Portal2 Ping client1 Portal3 ping client1 | | |
| Expect result | 1. Less than 3s 2. Portal1 should be DA, Portal2 should be BDA, Portal3 should be Attach state, Portal 1 and Portal 2 , Portal 2 and Portal3 are ethlink/wifi neighbor. 3. Default route should be eth0, node route number, neighbor route should be right. Portal1 route table should not appear client3’s route.   Portal2 route table should appear client1 client3’s route  Portal3 route table should not appear client1’s route.   1. Ping should successfully | | |

#### AMRP2\_Portal\_topology\_testcase\_18(loop protected)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_18 | | |
| Priority | High | Automation Flag | No |
| Topology to use | PC  -------------Switch----------------  | | |  Portal1----- Portal2 ------ Portal 3  client1 client 2 client3 | | |
| Description | Three linearity portals boot up, check loop protected | | |
| Pre-condition | -configure two Portals in the same subnet and same hive.  -Portal 1 can ACSP scan portal 2 ,Portal3 can’t scan portal1 and portal2  - boot portal1 first and then portal2, Portal3.  -Client associate to Portal1 and Portal2,Portal3 | | |
| Test procedure | 1. Client1 associate to Portal1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how Portal2 handle 3. Client1 send a broadcast packets, check how Portal3 handle 4. Portal 1 will received broadcast packets from Portal2’s wifi1.1 src-mac is client1 so how portal1 will handle 5. PC send a broadcast pkts heck how Portal1 handle 6. PC send a broadcast packet, check how Portal2 handle 7. PC send a broadcast packet, check how Portal3 handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. Portal3 will recv this pkts from eth0 and forwarding out all port except eth0 4. Portal1 will discard those broadcast packets from wifi1.1 5. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 6. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 7. Portal3 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 | | |

#### AMRP2\_Portal\_topology\_testcase\_19



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_19 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | -------------Switch----------------  | | |  Portal1----- Portal2 ---- Portal 3 | | |
| Description | Three linearity portals boot up, Middle Portal down, Check route table | | |
| Pre-condition | -configure two Portals in the same subnet and same hive.  -Portal 1 can ACSP scan portal 2 can’t scan portal3 ,Portal3 can scan portal 2 can’t scan portal1  -boot portal1 first and then portal2,Portal3. | | |
| Test procedure | 1. When three APs boot up,show amrp interface eth0, show amrp ethlink, in Portal 1 and portal 2, portal 3 2. Plug out cable of Portal2,check route table in Portal2 3. Check route in Portal1 and Portal3, calculate how long Portal1 and Portal’s route will change. 4. Plug in cable of Portal2, calculate all route table will be change. | | |
| Expect result | 1. Portal1 should be DA, Portal2 should be BDA, Portal3 should be Attach state. 2. Portal2 will be MP, and selecting Portal2 or Portal3 as its portal, this will be bases on metric. 3. 1s 4. 3s | | |

#### AMRP2\_Portal\_topology\_testcase\_20



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_20 | | |
| Priority | High | Automation Flag | No |
| Topology to use |  | | |
| Description | Three portals boot up, full mesh.DA/BDA/Attach down/up check amrp state and route converge. | | |
| Pre-condition | -configure three Portals in the same subnet and same hive  --Portal 1 and portal 2, Portal3 full mesh  -boot portal1 first and then portal2, Portal3  - Create a SSID on wifi0 and three clients associate three APs, pass authentication | | |
| Test procedure | 1. When AP boot up, show amrp interface eth0, show amrp ethlink ,check route table, show amrp neighbor in Portal 1 and portal 2,Portal3. 2. Three clients associate to three APs, and send unicast, broadcast pkt. client ping each other.(debug FE). 3. plug out cable of Portal 1’s eth0, check route converge time ,check route table. Check client ‘s traffic. 4. plug out cable of Portal 2’s eth0, check route converge time ,check route table. Check client ‘s traffic. 5. plug in cable of Portal 1’s eth0, check route converge time ,check route table. Check client ‘s traffic. 6. plug in cable of Portal 2’s eth0, check route converge time ,check route table. Check client ‘s traffic. 7. Fast plug out/in cable of Portal 1’s eth0, Fast plug out/in cable of Portal 2’s eth0, Fast plug out/in cable of Portal 3’s eth0. | | |
| Expect result | 1. Portal 1 should be DA , Portal 2 should be BDA ,Portal3 should be attach state . Portal 1 and Portal 2,Portal3 are neighbors. 2. Data forward and handle should right, ping should successfully. 3. Portal 2 will change to DA quickly, Portal3 will change to BDA quickly, Portal 1 will be MP, selecting Portal1 or Portal3 as portal, traffic will be recover quickly ( show amrp interface eth0/ show amrp ethlink) via debug amrp calculate route converge time 4. Portal 3 will be DA quickly, Portal 1, Portal 2 act as MP, selecting Portal3 as portal, , traffic will be recover quickly 5. Portal 1 will became BDA, Portal 3 act as DA. via debug amrp calculate route converge time, , traffic will be recover quickly. 6. Portal 1 act as BDA, Portal 3 act as DA, Portal 2 will became Attached , via debug amrp calculate route converge time, traffic will be recover quickly 7. Route table will not turbulence. | | |

#### AMRP2\_Portal\_topology\_testcase\_21



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_21 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | -------------Switch----------------  | | |  Portal1(DA)----- Portal2(attach) Portal 3 (BDA)  Client1 client2 client3 | | |
| Description | Three portals, not fully mesh, DA failover | | |
| Pre-condition | -configure two Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 full mesh  -boot portal1 first and then portal3,Portal2.  - AP1 is DA, AP2 is attach, AP3 is BDA. | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2,Portal3 Calculate route converge time 2. Show amrp interface eth0, show amrp ethlink. in Portal 1 and portal 2, ,Portal3 3. Plug out cable of Portal1,check route converge in Portal2 Portal3 4. Check client traffic recover 5. Plug in cable of Portal1, check route converge in Portal2 Portal3 6. Check client traffic recover 7. Fast plug out/ in cable of Portal1 check route table | | |
| Expect result | 1. Route converge time should ASAP 2. Portal1 should be DA,Portal2 should BDA,Portal3 should be attach 3. Portal2 and Portal3’s route converge should be ASAP 4. Traffic should be recover quickly 5. Portal2 and Portal3’s route converge should be ASAP 6. Traffic should be recover quickly 7. Route should not be turbulence. | | |

#### AMRP2\_Portal\_topology\_testcase\_22

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_22 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | -------------Switch----------------  | | |  Portal1(BDA)----- Portal2(attach) Portal 3 DA  Client1 client2 client3 | | |
| Description | Three portals, no fully mesh, BDA failover | | |
| Pre-condition | -configure two Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 full mesh  -boot portal3 first and then portal1,Portal2.  - AP1 is BDA, AP2 is attach, AP3 is DA.  - Client ping gateway. | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2,Portal3 Calculate route converge time 2. Show amrp interface eth0, show amrp ethlink. in Portal 1 and portal 2, ,Portal3 3. Plug out cable of Portal1,check route converge in Portal2 Portal3 4. Check client traffic recover 5. Plug in cable of Portal1, check route converge in Portal2 Portal3 6. Check client traffic recover 7. Fast plug out/ in cable of Portal1 check route table | | |
| Expect result | 1. Route converge time should ASAP 2. Portal1 should be BDA,Portal2 should attach,Portal3 should be DA 3. Portal2 and Portal3’s route converge should be ASAP 4. Traffic should be recover quickly 5. Portal2 and Portal3’s route converge should be ASAP 6. Traffic should be recover quickly 7. Route should not be turbulence. | | |

#### AMRP2\_Portal\_topology\_testcase\_23

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_23 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | -------------Switch----------------  | | |  Portal1(attach)----- Portal2(BDA) Portal 3(DA)  Client1 client2 client3 | | |
| Description | Three portals, no fully mesh, Attach failover | | |
| Pre-condition | -configure two Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 full mesh  -boot portal1 first and then portal3,Portal2.  - AP1 is Attach, AP2 is BDA, AP3 is DA.  - Client ping gateway. | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2,Portal3 Calculate route converge time 2. Show amrp interface eth0, show amrp ethlink. in Portal 1 and portal 2, ,Portal3 3. Plug out cable of Portal1,check route converge in Portal2 4. Check client traffic recover 5. Plug in cable of Portal3, check route converge in Portal2 6. Check client traffic recover 7. Fast plug out/ in cable of Portal3 check route table | | |
| Expect result | 1. Route converge time should ASAP 2. Portal1 should be attach,Portal2 should BDA,Portal3 should be DA 3. Portal2 and Portal3’s route converge should be ASAP 4. Traffic should be recover quickly 5. Portal2 and Portal3’s route converge should be ASAP 6. Traffic should be recover quickly 7. Route should not be turbulence. | | |

#### AMRP2\_Portal\_topology\_testcase\_24

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_24 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | -------------Switch----------------  | | |  Portal1(attach)----- Portal2(DA) Portal 3(BDA)  Client1 client2 client3 | | |
| Description | Three portals, no fully mesh, Attach failover | | |
| Pre-condition | -configure two Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 full mesh  -boot portal1 first and then portal3,Portal2.  - AP1 is Attach, AP2 is DA, AP3 is BDA.  - Client ping gateway. | | |
| Test procedure | 1. When AP boot up, debug amrp basic in Portal1 and Portal2,Portal3 Calculate route converge time 2. Show amrp interface eth0, show amrp ethlink. in Portal 1 and portal 2, ,Portal3 3. Plug out cable of Portal1,check route converge in Portal2 4. Check client traffic recover 5. Plug in cable of Portal1, check route converge in Portal2 6. Check client traffic recover 7. Fast plug out/ in cable of Portal3 check route table | | |
| Expect result | 1. Route converge time should ASAP 2. Portal1 should be attach,Portal2 should DA,Portal3 should be BDA 3. Portal2 and Portal3’s route converge should be ASAP 4. Traffic should be recover quickly 5. Portal2 and Portal3’s route converge should be ASAP 6. Traffic should be recover quickly 7. Route should not be turbulence. | | |

### N Portals Topology

#### AMRP2\_Portal\_topology\_testcase\_25



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_25 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1 ----Portal2--- Portal 3 ---- portal n | | |
| Description | N portals boot up one by one, Full mesh, DA/BDA/attach APs stability. | | |
| Pre-condition | -configure all Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal n fully meshed on wifi-backhaul side.  - boot portal1 first and then portal2…Portal n | | |
| Test procedure | 1. When AP boot up, show int eth0, show int wifi1, Calculate Rx/Tx control packets. In switch side check port traffic 2. Check CPU memory utilization 3. Check Ethlink node stability 4. Check DA/BDA state stability 5. Keep this topo overnight, check system stability 6. Check dump file and check crash error log | | |
| Expect result | 1. Calculate Rx/Tx control packets statistic, the impact of network. 2. If wifi backhaul side down,CPU,Memory is low(5`10%) If wifi bachaul side is up, CPU and memory is high,(50`60% average) 3. Ethlink node should be stability 4. DA/BDA state should be stability 5. System should be stability and client associate to APs should no effect 6. No dump file and no crash error log | | |

#### AMRP2\_Portal\_topology\_testcase\_26



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_26 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1 Portal2 Portal 3 portal n | | |
| Description | N portals boot up at the same time, full mesh,check DA/BDA /attach, route table. | | |
| Pre-condition | -configure all Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal n fully meshed on wifi-backhaul side.  - boot portal1 portal2…Portal n at the same time | | |
| Test procedure | 1. When APs boot up at the same time.check route converge and DA/BDA state 2. When AP boot up, show int eth0, show int wifi1, Calculate Rx/Tx control packets. In switch side check port traffic 3. Check CPU memory utilization 4. Check Ethlink node stability 5. Check DA/BDA state stability 6. Keep this topo overnight, check system stability 7. Check dump file and check crash error log | | |
| Expect result | 1. Route converge should quickly and DA/BDA state should be stability and right 2. Calculate Rx/Tx control packets statistic, the impact of network. 3. If wifi backhaul side down,CPU,Memory is low(5`10%) If wifi bachaul side is up, CPU and memory is high,(50`60% average) 4. Ethlink node should be stability 5. DA/BDA state should be stability 6. System should be stability and client associate to APs should no effect 7. No dump file and no crash error log | | |

#### AMRP2\_Portal\_topology\_testcase\_27



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_27 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | ------------Switch-------------------------  | | | |  Portal 1---- Portal 2--- Portal3-- portal n | | |
| Description | N linearity portals boot up .check DA/BDA/attach , route table. | | |
| Pre-condition | -configure all Portals in the same subnet and same hive.  -All Portals are point to point topology, not full mesh.  - boot portal1 first and then portal2,Portal3. | | |
| Test procedure | 1. When APs boot up at the same time.check route converge and DA/BDA state 2. When AP boot up, show int eth0, show int wifi1, Calculate Rx/Tx control packets. In switch side check port traffic 3. Check CPU memory utilization 4. Check Ethlink node stability 5. Check DA/BDA state stability 6. Keep this topo overnight, check system stability 7. Check dump file and check crash error log | | |
| Expect result | 1. Route converge should quickly and DA/BDA state should be stability and right 2. Calculate Rx/Tx control packets statistic, the impact of network. 3. If wifi backhaul side down,CPU,Memory is low(5`10%) If wifi bachaul side is up, CPU and memory is high,(50`60% average) 4. Ethlink node should be stability 5. DA/BDA state should be stability 6. System should be stability and client associate to APs should no effect 7. No dump file and no crash error log | | |

#### AMRP2\_Portal\_topology\_testcase\_28



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_28 | | |
| Priority | High | Automation Flag | No |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1 Portal2 Portal 3 portal n | | |
| Description | N portals boot up topology change ,check DA/BDA/attach , route table., | | |
| Pre-condition | -configure Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal n not fully meshed on wifi-backhaul side..  -take turns boot up portal1 , portal2, Portal3…..portal n | | |
| Test procedure | 1. When APs boot up Show amrp interface eth0,show amrp ethlink,show amrp neighbor in Portal 1, Portal 2, Portal 3….portal n. 2. Plug out cable of Portal 1’s eth0, check route converge time ,check route table. Check client ‘s traffic 3. Plug out cable of Portal 2’s eth0, check route converge time ,check route table. Check client ‘s traffic 4. Plug in cable of Portal 1’s eth0, check route converge time ,check route table. Check client ‘s traffic 5. Plug in cable of Portal 2’s eth0, check route converge time ,check route table. Check client ‘s traffic 6. plug out cable of attach AP, check route converge time ,check route table. Check client ‘s traffic | | |
| Expect result | 1. Portal1 should be DA , Portal 2 should be BDA , Portal3 and other APs should be Attached , Portal 1 and Portal 2,Portal 3…portal n are neighbors 2. Portal 1 will be MP, Portal 2 will change to DA immediately, one AP will change to BDA immediately (How long topology will stabilization) 3. One AP which is BDA will be DA immediately, Portal 1, Portal 2 act as MP( show amrp interface eth0) (How long topology will stabilization) 4. Portal 1 will become attached state. (How long topology will stabilization) 5. Portal 2 will became Attached too. (How long topology will stabilization) 6. How long topology will stabilization | | |

#### AMRP2\_Portal\_topology\_testcase\_29

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_29 | | |
| Priority | High | Automation Flag | No |
| Topology to use | -|---------|---------|-------|--------  Ethernet Connection    |         |         |       |  AP1-------AP2-------AP3-----AP4                \        /                \      /                 \    /                  \  /                   MP--------station | | |
| Description | Topology change ,check recover time | | |
| Pre-condition | AP1's wifi neighbor: AP2     AP2's wifi neighbor: AP1, AP3, MP     AP3's wifi neighbor: AP2, AP4, MP     AP4's wifi neighbor: AP3     MP's wifi neighbor: AP2, AP3 (AP3 is MP's portal) | | |
| Test procedure | -Generate ping traffic from the server to each AP    -Shutdown AP1's eth0 interface, only AP1 lost 1 packets    -Each AP updated amrp link-state table and route table very quickly (within 1 second)    -Other APs did not lose packets    -Shutdown AP2's interface, same results as AP1.    -Shutdown AP3's eth0 interface, only MP and station lost 4-5 packets because AP3 is MP's portal, no packets lost on other APs  -power down AP3, The traffic will be recovered after 3 seconds when the AP detected the neighbor link lost(three NBR-KEEPALIVE) | | |
| Expect result |  | | |

#### AMRP2\_Portal\_topology\_testcase\_30

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Portal\_topology\_testcase\_30 | | |
| Priority | High | Automation Flag | No |
| Topology to use | -|---------|---------|-------|--------  Ethernet Connection    |         |         |       |  AP1-------AP2-------AP3-----AP4                \        /                 \      /                   \    /                   \  /                    MP--------station | | |
| Description | Topology change ,check traffic recover time | | |
| Pre-condition | 2. AP1's wifi neighbor: AP2, AP3     AP2's wifi neighbor: AP1, AP3, AP4, MP     AP3's wifi neighbor: AP1. AP2, AP4, MP     AP4's wifi neighbor: AP2, AP3     MP's wifi neighbor: AP2, AP3 | | |
| Test procedure | -Generate ping traffic from the server to each AP    -Shutdown AP1's eth0 interface, only AP1 lost 1 packets    -Each AP updated amrp link-state table and route table very quickly (within 1 second)    -Other APs did not lose packets    -Shutdown AP2's interface, same results as AP1.    -Shutdown AP3's eth0 interface, only MP and station lost 2-3 packets because AP3 is MP's portal, no packets lost on other APs  -power down AP3, The traffic will be recovered after 3 seconds when the AP detected the neighbor link lost (three NBR-KEEPALIVE) | | |
| Expect result |  | | |

## Mesh Topology test

### One portal , one MPs Topology

#### AMRP2\_Mesh\_topology\_testcase\_1



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_1 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | ---------- switch1-----------  |  Portal1  |  MP1 | | |
| Description | 1 Portal, 1 MP boot up, route table check | | |
| Pre-condition | -configure two APs in the same subnet and same hive  - MP1 act as mesh point | | |
| Test procedure | 1. When AP boot up, show amrp interface eth0, show amrp ethlink in Portal1. 2. Show route, check route table in Portal1.(default route ,node route) 3. Show route, check route table in MP1 4. Plug out cable of Portal, check route table. 5. Plug in cable of portal, check route table 6. Create a SSID on MP1’s wifi0, check route table again 7. Shut down the MP1. 8. Reboot MP1,caluate calculate time of Portal1 learn MP1’s route | | |
| Expect result | 1. DA should be Portal self. 2. Default route should be eth0, node route number should be right. 3. Default route should be wifi1.1,node route number should be right 4. No default route, node route number should be right. 5. Default route will be eth0 again, node route number should be right 6. Amrp should add this route of this SSID in route table. 7. Amrp should delete the route of MP1 in route table.(how long Po rtal1 will delete MP’s route in route table) 8. Time should very short(how long Portal1’s route table appear MP1’s route) | | |

#### AMRP2\_Mesh\_topology\_testcase\_2



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_2 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  |  Portal1  |  MP1  client | | |
| Description | Plug out/in cable of Portal1,check how long route will recover | | |
| Pre-condition | -configure two APs in the same subnet and same hive  - MP1 act as mesh point  -Client associated MP1, pass authentication | | |
| Test procedure | 1. When client associated to MP1,check route table of MP1 and Portal 1 2. Plug out cable of Portal1,check route table Portal1, 3. Check route table of MP1 4. Plug in cable of Portal1,check route table of Portal1 5. Check route table of MP1 6. Client ping Portal ,ping MP,gateway.   Portal ping client  MP ping client | | |
| Expect result | 1. Route table should include client’s route,MP1’s default route is wifi1.1 Portal1’s default route is eth0 2. No default route, client’s route should still exist. 3. Default route still wifi1.1 client route still exist. 4. Default route will be eth0 again,(how long route will recover) 5. Default route still wifi1.1 client route still exist. 6. Ping should successfully (how long traffic can recover) | | |

#### AMRP2\_Mesh\_topology\_testcase\_3



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_3 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  |  Portal1  |  MP1  client | | |
| Description | Shut/undo shut down Portal1 interface of wifi1.1,check how long route will recover | | |
| Pre-condition | -configure two APs in the same subnet and same hive  - MP1 act as mesh point  -Client associated MP1, pass authentication | | |
| Test procedure | 1. When client associated to MP1,check route table of MP1 and Portal 1 2. Shut Protal1’s interface of wifi1.1,check route table Portal1, 3. Check route table of MP1 4. Undo shut interface of wifi1.1,check route table of Portal1 5. Check route table of MP1 6. Client ping gateway.   Client ping Portal ,ping MP.  Portal ping client  MP ping client | | |
| Expect result | 1. Route table should include client’s route,MP1’s default route is wifi1.1 Portal1’s default route is eth0 2. Default route still eth0, client’s route should disappear. 3. No default route, client route still exist. 4. Default route still eth0 ,client’s route will update again (how long client ,node route will update and recover) 5. Default route will be wifi1.1 again, client route still exist. ,(how long route will recover) 6. Ping should successfully (how long traffic can recover) | | |

#### AMRP2\_Mesh\_topology\_testcase\_4



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_4 | | |
| Priority | High | Automation Flag | No |
| Topology to use | ---------- switch1-----------  |  Portal1 ---client1  MP1----client2 | | |
| Description | 1 Portal, 1 MP boot up, client associate/disassociate , route table check | | |
| Pre-condition | -configure two APs in the same subnet and same hive  - MP1 act as mesh point  -Create a SSID on wifi0 and client associate AP, pass authentication | | |
| Test procedure | 1. Two clients associate to Portal’s SSID(wifi0.1) , check route table in portal1 2. Check route table in MP1 3. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client ping Portal ,ping MP.  Portal ping client  MP ping client   1. Two clients disassociate to Portal .check route table in portal1 and MP1(no roaming cache ). 2. Two clients associate to MP1’s SSID(wifi0.1) ,check route table. in portal1 3. Check route table in MP1. 4. Two clients send unicast(ICMP pkts), broadcast pkts(debug FE)   Client ping Portal ,ping MP.  Portal ping client  MP ping client   1. Two clients disassociate to MP .check route table in Portal1 and MP1 2. Two clients associate to different AP, one connected to Portal1(wifi0.1) ,one connected to MP1(wifi0.1) .check route in Portal1 3. Check route table in MP1 4. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client ping Portal ,ping MP.  Portal ping client  MP ping client   1. Two clients disassociate to node.check route table in portal1 and MP1. 2. Plug out cable of Portal, check route table 3. Two clients send unicast(ICMP pkts), broadcast pkts.(debug FE)   Client ping Portal ,ping MP.  Portal ping client  MP ping client | | |
| Expect result | 1. Portal1’s default route should be eth0, node route number should be right. clients Route outgoing interface should be wifi0.1 2. AP1’s default route should be wifi1.1 ,clients Route outgoing interface should be wifi1.1(how long MP learn client’s route) 3. Broadcast pkt handle should right, ping should successfully. 4. Amrp will delete client’s route in route table. 5. Clients Route outgoing interface should be wifi1.1 (how long Portal learn client’s route). 6. Clients Route outgoing interface should be wifi0.1 7. Broadcast pkt handle should right, ping should successfully. 8. Amrp will delete client’s route in route table. 9. One client1 Route outgoing interface should be wifi1.1, One client1 Route outgoing interface should be wifi0.1 (how long Portal learn client’s route). 10. One client1 Route outgoing interface should be wifi1.1, One client1 Route outgoing interface should be wifi0.1 (9.10 should reverse ) (how long Portal learn client’s route). 11. Broadcast pkt handle should right, ping should successfully. 12. Amrp will delete client’s route in route table. 13. No default route in Portal1 and node route ,client’s route should still exist 14. Broadcast pkt handle should right, ping should successfully. | | |

#### AMRP2\_Mesh\_topology\_testcase\_5 (datapath)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_5 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | Client3 client1  | |  pc1,pc2======sw=====portal------mp-----client2 | | |
| Description | One portal one MP boot up, client datapath | | |
| Pre-condition | -Create two SSID each on wifi0 and client associate this AP, pass authentication | | |
| Test procedure | 1. When MP boot up” debug amrp basic” check BMT table in portal 2. When clients associate to ssid, “debug fe\_arp basic” in MP and Portal 3. client1 send a broadcast pkt. “debug fe basic” in MP and Portal 4. client1 send a unicast pkt client2. “debug fe basic” 5. client1 send a unicast pkt client3. “debug fe basic” 6. client1 send a unicast pkt to pc. “debug fe basic” 7. client1 send dhcp pkt. “debug fe basic”. In MP and Portal 8. pc send a broadcast pkt “debug fe basic” 9. pc send a unicast pkt whose dst-mac does not exist in route table “debug fe basic” 10. pc send a dhcp pkt. “debug fe basic” 11. mgt0 send broadcast “debug fe basic” 12. mgt0 send unicast to PC“debug fe basic” 13. mgt0 send unknown unicast “debug fe basic” 14. mgt0 send dhcp “debug fe basic” 15. if arp cache is empty, client1 send a arp req, 16. If arp cache is empty, pc send a arp req 17. If arp cache is empty, mgt0 send a arp req 18. If already has arp entry for client3 and pc on mp, client1 send arp req for client3 and pc 19. If already has arp entry for client3 and pc on portal, but mp has not, client1 send arp req for client3 and pc 20. If already has arp entry for client1 on portal and mp, client3 or pc send arp req for client1 21. If already has arp entry for client1 on mp, but portal has not, client3 or pc send arp req for client1 22. If already has arp entry for client1 on portal, mgt0 send arp req for client1 23. If already has arp entry for mgt0 on portal,mp has not entry for portal mgt0,client1 send arp req for portal mgt0 24. If already has arp entry for portal mgt0 on mp, client1 send arp req for portal mgt0 25. If already has arp entry for mp’s mgt0 on portal, pc or client3 send arp req for mp’s mgt0 26. If already has arp entry for mp’s mgt0 on mp, but portal has not, pc or client3 send arp req for mp’s mgt0 | | |
| Expect result | 1. bmt add for mp on portal (how fast ?) 2. portal should send out a Gratitous-ARP to eth0,pkt should be in client vlan 3. pkt should be forwarded to wifi1.1,wifi0.1,wifi0.2,mgt0, in portal should broadcast via wifi1.1 wifi0.1 mgt0 and eth0. 4. traffic should be ok. Outgoing interface should wifi0.1 5. traffic should be ok. Outgoing interface should wifi1.1 6. traffic should be ok. Outgoing interface should wifi1.1 7. pkt should only be send to Wifi1.1, mgt0, Portal only forward it out to eth0 and mgt0 8. In Portal should forward it to mgt0,wifi0.1 wifi1.1 and eth0 In MP pkt should be forward to wifi0.1,wifi1.1,mgt0. 9. Portal should drop this pkt 10. Portal should forwarding to mgt0 and MP should not receive this pks 11. pkt should be forwarded to wifi1.1,wifi0.1, eth0,mgt0 12. traffic should be ok. Forwarding to wifi1.1 13. ap should drop this pkt 14. pkt should only be send to wifi1.1, mgt0 15. MP and portal should learn this arp and add in arp-table but in different interface 16. MP and portal should learn this arp and add in arp-table but in different interface 17. MP and portal should learn this arp and add in arp-table but in different interface 18. mp should reply these req instead of client3 and pc 19. portal will reply req instead of client3 and pc 20. portal do not reply, mp will reply instead of cleint1 21. MP will reply instead of client1 22. This not relate with proxy arp table should see linux arp table 23. Portal will reply 24. mp will reply instead of Portal 25. Portal will reply instead of Portal 26. MP will reply | | |

### One portal , two MPs Topology

#### AMRP2\_Mesh\_topology\_testcase\_6



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_6 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  |  MP1------- Portal1 ---------- MP2 | | |
| Description | 1 Portal, 2 MP full mesh ,check route table, make sure MP selecting right portal based on wifi-link cost | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -MP 1 and MP 2 are mesh point  -Create a SSID on wifi0 and client associate AP, pass authentication | | |
| Test procedure | 1. When AP boot up, show amrp interface eth0 ,show amrp ethlink in Portal1. 2. Show route, check route table in Portal1.(default route , interface route/node route/client route ) 3. Show route, check route table in MP1, (default route , interface route/node route/client route ) 4. Show route, check route table in MP2(default route , interface route/node route/client route ) 5. When client associate to MP2,check route table, data traffic.    1. Client ping wired pc    2. Client ping ap1,ap2,ap3 | | |
| Expect result | 1. DA should be Portal self. 2. Default route should be eth0, should have MP1, MP2’s route(outgoing interface is wifi1.1). 3. Default route should be wifi1.1, MP1 selecting portal1 as portal(based on metric cost ) 4. Default route should be wifi1.1, MP2 selecting portal1 as portal(based on metric cost ) 5. Route table should include client’s route ,how long Portal1 will update route table (base on how long portal received the SIU packet)   interface route/node route/client route should be right and traffic should successfully | | |

#### AMRP2\_Mesh\_topology\_testcase\_7



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_7 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | ---------- switch1-----------  |  MP1------- Portal1 ---------- MP2 | | |
| Description | 1 Portal, 2 MP full mesh, check change wifi link metric, route will be updated. | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -MP 1 and MP 2 are mesh point  -Create a SSID on wifi0 and client associate AP, pass authentication | | |
| Test procedure | 1. Show route, check route table in Portal1.(default route ,node route) 2. Show route, check route table in MP1, 3. Show route, check route table in MP2 4. Change metric cost of MP1-> Portal1 ,(MP2->MP1-> Portal1, MP1-> Portal1) 5. Running traffic after route update. | | |
| Expect result | 1. Default route should be eth0, should have MP1,MP2’s route(outgoing interface is wifi1.1). 2. Default route should be wifi1.1, MP1 selecting portal1 as portal(base on metric cost ) 3. Default route should be wifi1.1, MP2 selecting portal1 as portal(base on metric cost ) 4. Check route of MP1,MP1 will change route base on metric.(when metric change ,how long route will change ,and how many metric changed ,route will change) 5. Traffic should be successfully. | | |

#### AMRP2\_Mesh\_topology\_testcase\_8(loop protected)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_8 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | One portal two MP boot up, Check loop protected | | |
| Pre-condition | -configure APs in the same subnet and same hive.  -Client1 associate to MP1  -Client2 associate to Portal | | |
| Test procedure | 1. Client1 associate to MP1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how MP2 handle 3. Client1 send a broadcast packets, check how Portal handle 4. Client2 associate to Portal send broadcast packets. Check how Portal handle 5. Client2 send a broadcast packets, check how MP2 handle 6. Client2 send a broadcast packets, check how MP1 handle 7. PC send a broadcast pkts heck how Portal handle 8. PC send a broadcast packet, check how MP1 handle 9. PC send a broadcast packet, check how MP2 handle | | |
| Expect result | 1. MP1 will forwarding this broadcast pkts out all interface except eth0 (wifi1.1 wifi0.1 ) 2. MP2 will recv this pkts from wifi1.1, MP will drop pkts from Portal ,only recv from MP1 and forwarding out all port except eth0 3. Portal will recv this pkts from wifi1.1 and forwarding out all port, will drop pkts from MP2 4. Portal will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 5. MP2 will recv this pkts from wifi1.1, MPl2 will drop pkts from MP1 ,only recv from Portal and forwarding out all port except eth0 6. MP1 will recv this pkts from wifi1.1, MP1 will drop pkts from MP2,only recv from Portal and forwarding out all port except eth0 7. Portal will forwarding this broadcast pkts out all interface except eth0( wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 8. MP1 will recv this pkts from Wifi1.1, MP1 will drop this pkts from MP2 , only recv from Portal and forwarding out all port except eth0 9. MP2 will recv this pkts from wifi1.1, MPl2 will drop pkts from MP1 ,only recv from Portal and forwarding out all port except eth0. | | |

#### AMRP2\_Mesh\_topology\_testcase\_9



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_9 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | ---------- switch1-----------  |  Portal1  MP1  MP2 | | |
| Description | 1 Portal, 2 hops MP, make sure MP’s route is right. | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -MP 1 and MP 2 are mesh point | | |
| Test procedure | 1. Show route, check route table in Portal1.(default route ,node route) 2. Show route, check route table in MP1(default route , interface route/node route/client route ) 3. Show route, check route table in MP2(default route , interface route/node route/client route ) 4. Client associate to MP2 running traffic (ping) | | |
| Expect result | 1. Default route should be eth0,should have MP1,MP2’s route(outgoing interface is wifi1.1).. 2. Default route should be wifi1.1 point to Portal1, MP1 selecting portal1 as portal 3. Default route should be wifi1.1, point to MP1, MP2 selecting portal1 as portal 4. Traffic should be successfully | | |

#### AMRP2\_Mesh\_topology\_testcase\_10



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_10 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | ---------- switch1-----------  |  Portal1  |  MP1  |  MP2  Client1 | | |
| Description | 1 Portal, 2 hops MP, Client associate /disassociate ,make sure client’s route can be update | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -MP 1 and MP 2 are mesh point  -Create a SSID on wifi0 and client associate , pass authentication | | |
| Test procedure | 1. Client associate to MP2 ,show route, check route table in Portal1. 2. Show route, check route table in MP1 3. Show route, check route table in MP2 4. Client send unicast(ICMP packets), broadcast pkt.(debug FE) 5. Client associate to MP2,check route table---check time how longer add 6. Client disassociate to MP2 7. Clients associate to MP1 MP2 and Portal1,check route table, running traffic. 8. When client associate to MP2,check route table, data traffic.    1. Client ping wired pc    2. Client ping ap1,ap2,ap3 | | |
| Expect result | 1. Client’s route should be added (outgoing interface is wifi1.1) 2. Client’s route should be added (outgoing interface is wifi1.1).. 3. Client’s route should be added (outgoing interface is wifi0.1) 4. Data forward and handle should right. 5. Portal1,MP1,MP2 should update client’s route in route table, how long Portal will update route table (base on how long portal received the SIU packet) 6. Client’s route should be delete in route table. 7. Route table should be right. Traffic should be right. 8. Ping should successuflly | | |

### Two portals, one MPs Topology

#### AMRP2\_Mesh\_topology\_testcase\_11



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_11 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  | |  Portal1 ------ portal2  \ /  MP1 | | |
| Description | 2 Portal, 1 MP boot up(full mesh), Portal up/down check route failover. Route converge. | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -Boot portal 1 first and then boot portal2  -MP1 is mesh point | | |
| Test procedure | 1. Show route, check route table in Portal1,Portal2(default route ,node route) 2. Show route, check route table in MP1. 3. If MP1 selecting Portal1 as Portal, change wifi-link cost of MP1 to Portal1,check route table again, 4. Plug out cable of Portal1, Show amrp ethlink, check route table. 5. Plug in cable of portal1, Show amrp ethlink , check route table 6. Shut down the MP1,check route table 7. Client associate MP1   Client ping wired pc  Client ping ap1,ap2,ap3   1. 8. Client associate Portal1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal2   Client ping wired pc  Client ping ap1,ap2,ap3 | | |
| Expect result | 1. Default route should be eth0, route table should include all node route. 2. Default route should be wifi1.1,and selecting Portal1 or Portal2 as portal, not turbulence(this base on wifi-link metric cost) 3. MP1 will selecting Portal2 as Portal, 4. Default route will be changed to wifi1.1,.Portal1 selecting Portal2 as portal ,Portal2 will become DA 5. Default route will be eth0 again, should not effect other route entry 6. Amrp should delete the route of MP1 in portal’s route table. 7. Traffic should be right 8. Traffic should be right 9. Traffic should be right | | |

#### AMRP2\_Mesh\_topology\_testcase\_12(loop-protected)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_12 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Two portals one MP boot up, Check loop protected | | |
| Pre-condition | -configure three APs in the same subnet and same hive.  -Client1 associate to Portal1  -Client2 associate to MP  -Portal1 is MP’s BMT | | |
| Test procedure | 1. Client1 associate to Portal1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how Portal2 handle 3. Client1 send a broadcast packets, check how MP handle 4. Portal1 will receive broadcast packets,src-mac is client1’s mac. So how Portal1 will handle 5. Client2 associate to MP send broadcast packets. Check how MP handle 6. Client2 send a broadcast packets, check how Portal2 handle 7. Client2 send a broadcast packets, check how Portal1 handle 8. PC send a broadcast pkts heck how Portal1 handle 9. PC send a broadcast packet, check how Portal2 handle 10. PC send a broadcast packet, check how MP handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. MP will recv this pkts from wifi1.1 (Portal1 and Portal2),will drop pkts from Portal2 and forwarding out all port except eth0 4. Portal1 will discard thos packets from wifi1.1 src mac is client1’s mac 5. MP will forwarding this broadcast pkts out all interface ( wifi1.1 wifi0.1 ) 6. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will forwarding pkts from wifi1.1 but not forwarding out via eth0 , recv from eth0 and will discard packets because route check.those packets will up to mgt0 7. Portal1 will recv this pkts from eth0 and wifi1.1, Portal1 will drop pkts from eth0 ,only recv from wifi1.1 and forwarding out all port 8. Portal1 will forwarding this broadcast pkts out all interface except eth0(wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 9. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 10. MP will recv this pkts from wifi1.1, MP will drop this pkts from Portal2 ,only recv from wifi1.1 and forwarding out all port except eth0 | | |

#### AMRP2\_Mesh\_topology\_testcase\_13

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_13 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  | |  Portal1 portal2  |  MP1 | | |
| Description | 2 Portal, 1 MP boot up, (not full mesh), client associate. check route table | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -Boot portal 1 first and then boot portal2  -MP1 is mesh point  -client associate to MP1 and Portal1 | | |
| Test procedure | 1. Show route, check route table in Portal1,(default route ,node route interface route and client route) 2. Show route, check route table in Portal2,(default route ,node route interface route and client route) 3. Show route, check route table in MP1. 4. Portal2 send a broadcast pkts ,check how MP and Portal1 handle. 5. MP1 send a broadcast pkts, check how Portal1 and Portal2 handle 6. Client associate MP1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal2   Client ping wired pc  Client ping ap1,ap2,ap3 | | |
| Expect result | 1. Default route should be eth0, route table should not include portal2’s route . 2. Default route should be eth0, route table should not include Portal2,MP’s route 3. Default route should be wifi1.1,and selecting Portal1 as portal, should not include Portal2’s route Amrp should delete the route of MP1 in portal’s route table. 4. Portal1 will in eth0 broadcast out wifi1.1 and drop from wifi1.1 MP1 will broadcast only from protal1’s pkts 5. Portal1 will broadcast this packets but Portal2 will not broadcast this pkts from wifi1.1 6. Ping should successfully 7. Ping should successfully 8. Ping should successfully | | |

#### AMRP2\_Mesh\_topology\_testcase\_14

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_14 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  | |  Portal1 ------ portal2  |  MP1 | | |
| Description | 2 Portal, 1 MP boot up, Portal down/up route failover | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -Boot portal 1 first and then boot portal2  -MP1 is mesh point | | |
| Test procedure | 1. Show route, check route table in Portal1,Portal2(default route ,node route) 2. Show route, check route table in MP1. 3. Portal2 send a broadcast pkt, how to handle on portal1 and mp1? 4. Mp1 send a broadcast pkt, how to handle on portal1 and portal2? 5. Plug out cable of Portal1, Show amrp ethlink, check route table. 6. Plug in cable of portal1, Show amrp ethlink , check route table 7. Shut down the MP1,check route table 8. Plug in cable of MP1,MP1 become Portal. Check route converge 9. Client associate MP1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal2   Client ping wired pc  Client ping ap1,ap2,ap3 | | |
| Expect result | 1. Default route should be eth0, route table should include all node route. 2. Default route should be wifi1.1,and selecting Portal1 as portal, 3. Portal1 will broadcast this pkts from eth0, and drop from wifi1.1. MP will broadcast this pkts from Portal1 and drop from portal2 4. Only Portal1 will broadcast this packets and Portal2 will drop this pkts from wifi1.1 5. Default route will be changed to wifi1.1,Portal1 selecting Portal2 as portal ,Portal2 will become DA (mainly on route converge .need how long ?) 6. Default route will be eth0 again, should not effect other route entry(mainly on route converge .need how long ?) 7. Amrp should delete the route of MP1 in portal’s route table. 8. How long route will be converge ? 9. Ping should successfully 10. Ping should successfully 11. Ping should successfully | | |

#### AMRP2\_Mesh\_topology\_testcase\_15(loop-protected)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_15 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Two portals one MP boot up, Check loop protected | | |
| Pre-condition | -configure three APs in the same subnet and same hive.  -Client1 associate to Portal1  -Client2 associate to MP  -Portal1 is MP’s BMT | | |
| Test procedure | 1. Client1 associate to Portal1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how Portal2 handle 3. Client1 send a broadcast packets, check how MP handle 4. Portal1 will received broadcast from wifi1.1 forwarding from Portal2,src-mac is client1 check how Portal1 handle 5. Client2 associate to MP send broadcast packets. Check how MP handle 6. Client2 send a broadcast packets, check how Portal2 handle 7. Client2 send a broadcast packets, check how Portal1 handle 8. PC send a broadcast pkts heck how Portal1 handle 9. PC send a broadcast packet, check how Portal2 handle 10. PC send a broadcast packet, check how MP handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. MP will recv this pkts from wifi1.1 (Portal1 and Portal2),will drop pkts from Portal2 and forwarding out all port except eth0 4. Portal will discard those broadcast packets from wifi1.1 forwarding from Portal2,src-mac is client1 5. MP will forwarding this broadcast pkts out all interface ( wifi1.1 wifi0.1 ) 6. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0, and those packets will up to mgt0 7. Portal1 will recv this pkts from eth0 and wifi1.1, Portal1 will drop pkts from eth0 ,only recv from wifi1.1 and forwarding out all port 8. Portal1 will forwarding this broadcast pkts out all interface except eth0(wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 9. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 10. MP will recv this pkts from wifi1.1, MP will drop this pkts from Portal2 ,only recv from wifi1.1 and forwarding out all port except eth0 | | |

#### AMRP2\_Mesh\_topology\_testcase\_16

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_16 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ---------- switch1-----------  | |  Portal1 portal2  \ /  MP1 | | |
| Description | 2 Portal, 1 MP boot up, Portal down/up route failover | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -Boot portal 1 first and then boot portal2  -MP1 is mesh point | | |
| Test procedure | 1. Show route, check route table in Portal1,Portal2(default route ,node route) 2. Show route, check route table in MP1. 3. Connect client to every ap, check the route table on all ap 4. Every client send broadcast, check how to handle on all ap? 5. Plug out cable of Portal1, Show amrp ethlink, check route table.(If mp chosen portal1 as portal) 6. Plug in cable of portal1, Show amrp ethlink , check route table 7. Client associate MP1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal1   Client ping wired pc  Client ping ap1,ap2,ap3   1. Client associate Portal2   Client ping wired pc  Client ping ap1,ap2,ap3 | | |
| Expect result | 1. Default route should be eth0, route table should include all node route. 2. Default route should be wifi1.1,and selecting Portal1 as portal, 3. APs route table should include clients’s route and outgoing interface should right. 4. APs should send broadcast via all access interface and backhaul interface 5. Default route will be changed to wifi1.1,Portal1 selecting Portal2 as portal ,Portal2 will become DA (mainly on route converge .need how long ?) 6. Default route will be eth0 again, should not effect other route entry(mainly on route converge .need how long ?) 7. Ping should successfully 8. Ping should successfully 9. Ping should successfully | | |

#### AMRP2\_Mesh\_topology\_testcase\_17(loop-protected)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_17 | | |
| Priority | High | Automation Flag | No |
| Topology to use |  | | |
| Description | Two portals one MP boot up, Check loop protected | | |
| Pre-condition | -configure three APs in the same subnet and same hive.  -Client1 associate to Portal1  -Client2 associate to MP  -Portal1 is MP’s BMT | | |
| Test procedure | 1. Client1 associate to Portal1 send broadcast packets. Check how Portal1 handle 2. Client1 send a broadcast packets, check how Portal2 handle 3. Client1 send a broadcast packets, check how MP handle 4. Client2 associate to MP send broadcast packets. Check how MP handle 5. Client2 send a broadcast packets, check how Portal2 handle 6. Client2 send a broadcast packets, check how Portal1 handle 7. PC send a broadcast pkts heck how Portal1 handle 8. PC send a broadcast packet, check how Portal2 handle 9. PC send a broadcast packet, check how MP handle | | |
| Expect result | 1. Portal1 will forwarding this broadcast pkts out all interface (eth0 wifi1.1 wifi0.1 ) 2. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 3. MP will recv this pkts from wifi1.1 (Portal1 and Portal2),will drop pkts from Portal2 and forwarding out all port except eth0 4. MP will forwarding this broadcast pkts out all interface ( wifi1.1 wifi0.1 ) 5. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 forwarding pkts from wifi1.1, but not forwarding out eth0, eth0 rec those packets will drop, because route check fail, and those broadcast packets will up to mgt0. 6. Portal1 will recv this pkts from eth0 and wifi1.1, Portal1 will drop pkts from eth0 ,only recv from wifi1.1 and forwarding out all port 7. Portal1 will forwarding this broadcast pkts out all interface except eth0(wifi1.1 wifi0.1 ) Portal1 will drop this pkts from wifi1.1 8. Portal2 will recv this pkts from eth0 and wifi1.1, Portal2 will drop this pkts from wifi1.1 ,only recv from eth0 and forwarding out all port except eth0 9. MP will recv this pkts from wifi1.1, MP will drop this pkts from Portal2 ,only recv from wifi1.1 and forwarding out all port except eth0 | | |

### Special test topology

#### AMRP2\_Mesh\_topology\_testcase\_18



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_18 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | ---------- switch1-----------  | |  Portal1 portal2  \ /  MP1 MP2  \ /  MP3 | | |
| Description | 2 Portal, 3 MP boot up, check route table. Avoid rout loop | | |
| Pre-condition | -configure five APs in the same subnet and same hive  - MP1 and MP2 are mesh point,MPs is MPP  -Boot portal 1 first and then boot portal2 | | |
| Test procedure | 1. Show amrp interface eth0,show route ,show amrp neighbor in portal1, portal2 2. Show route, check route table in Portal1,Portal2(default route ,node route) 3. Show route, check route table in MP1. 4. Show route, check route table in MP2. 5. Show route, check route table in MP3 (supposed MP3 selecting Portal1 as portal MP3🡪MP1🡪Portal1 ) 6. Shut down MP1,check route table in MP3 7. Beboot MP1, check route table in MP3 again. 8. Topology change .check route table and traffic 9. Client associate MP1,MP2,MP3   Client ping wired pc  Client ping ap1,ap2,MP1,MP2,MP3   1. Client associate Portal1   Client ping wired pc  Client ping ap1,ap2,MP1,MP2,MP3   1. Client associate Portal2   Client ping wired pc  Client ping ap1,ap2,MP1,MP2,MP3 | | |
| Expect result | 1. Portal1 should be DA , portal2 should be BDA , 2. Default route should be eth0, should include all MP’s route in route table.. 3. Default route should be wifi1.1, all node route should included. Selecting a ortal1 as portal. 4. Default route should be wifi1.1, all node route should included. Selecting portal2 as portal. 5. 5: Default route should be wifi1.1, all node route should included. Selecting portal2 /protal1 as portal(this depend on metric ) route should be stabilization . 6. MP3 will selecting Portal2 as Portal (MP3🡪MP2🡪Portal2) 7. MP2 will selecting Portal1 as Portal(MP3🡪MP1🡪Portal1) this depend on metric ) 8. Ping should successfully 9. Ping should successfully 10. Ping should successfully | | |

#### AMRP2\_Mesh\_topology\_testcase\_19



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_19 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | Portal1 ---client1  MP1----client2 | | |
| Description | Plug out cable of Portal1,check traffic between only two MPs | | |
| Pre-condition | -configure two APs in the same subnet and same hive  - MP1 act as mesh point  -Client associated MP1, pass authentication | | |
| Test procedure | 1. When two clients associated to node ,check route table of MP1 and Portal 1 2. Plug out cable of Portal1,check route table Portal1, 3. Client send broadcast packet 4. Client send unicast (clients ping each other) | | |
| Expect result | 1. Route table should include client’s route,MP1’s default route is wifi1.1 Portal1’s default route is eth0 2. No default route, client’s route should still exist. 3. FE will drop broadcast packet 4. Ping should be successfully. | | |

#### AMRP2\_Mesh\_topology\_testcase\_20



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_20 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | ---------- switch1-----------  | | |  Portal1 - portal2---Portal3  \ | /  MP1 | | |
| Description | 3 Portal, 1 MP boot up, if MP1 wifi-link cost to Portal1 and Portal2 , Portal3 the same ,make sure MP1 selecting portal quickly | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -Boot portal 1 first and then boot portal2 ,Portal3  -MP1 is mesh point, wifi-link cost to Portal1 and Portal2, Portal3 are the same. | | |
| Test procedure | 1. When APs boot up, check route table in MP1, debug amrp basic in MP1, 2. Check route of MP1 stabilization . 3. Clients associate to MP1, Portal1 Portal2 Portal3. Check route table and running traffic | | |
| Expect result | 1. MP1’s default route should be right, and selecting right portal. Via debug info, calculate how long MP1 will select self Portal, and default route point to it. 2. Check route not in turbulence. 3. All state should right. | | |

#### AMRP2\_Mesh\_topology\_testcase\_21



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Mesh\_topology\_testcase\_21 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | ---------- switch1-----------  | |  Portal1 ----- portal2  MP1----- MP2 | | |
| Description | 2 Portal, 2 MP (full mesh), check route table, | | |
| Pre-condition | -configure four APs in the same subnet and same hive  - MP1 and MP2 are mesh point  -Boot portal 1 first and then boot portal2 | | |
| Test procedure | 1. When AP boot up, show amrp interface eth0 ,show amrp ethlink in Portal1,Portal2. 2. Show route, check route table in Portal1,Portal2(default route ,node route) 3. Show route, check route table in MP1. 4. Show route, check route table in MP2. 5. Shut down the MP1,check route table 6. Reboot MP1,caluate calculate time of Portal1 learn MP1’s route | | |
| Expect result | 1. DA should be Portal1,Portal2 should be BDA 2. Default route should be eth0,all node route should included. 3. Default route should be wifi1.1,route table should include Portal1,MP2,Portal2’s route. Selecting portal1 or portal2 as portal, 4. Default route should be wifi1.1,route table should include Portal1,Portal2,MP1’s route. Selecting portal1 or portal2 as portal 5. Amrp should delete the route of MP1 in route table(how long ?) 6. How long will add MP1’s route in route table. | | |

## Client L2 roaming test

### L2 roaming from wifi0 to wifi1 in the same box

#### AMRP2\_L2roam\_testcase\_1



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_1 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Switch  |  (wifi0.1)Portal1(wifi1.1)    client | | |
| Description | 1 Portal, client L2 roaming from wifi0.1 to wifi1.1, | | |
| Pre-condition | -Configure portal1 a SSID on wifi0 and wifi1,use 802.1X for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to wifi0.1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 “show roaming cache” 3. Client roaming from wifi0.1 to wifi1.1,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”again . 5. Client disassociate to AP, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right consistent with before roaming 5. Route table should delete this client’s route. | | |

### L2 roaming between boxes

#### AMRP2\_L2roam\_testcase\_2



1

2

3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_2 | | |
| Priority | High | Automation Flag | No |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | L2 roaming between two mesh portals | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to Portal1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,Portal2 “show roaming cache” 3. Client roaming from Portal1 to Portal2 ,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in Portal2 again . 5. Check roaming cache in Portal1 ,Portal2 “show roaming cache” 6. Client disassociate to Portal2, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

#### AMRP2\_L2roam\_testcase\_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_3 | | |
| Priority | High | Automation Flag | No |
| Topology to use | ====================  |  Portal1  |  Mp | | |
| Description | Roaming between MP and its portal | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to Portal1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,MP2 “show roaming cache” 3. Client roaming from Portal1 to MP,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route” in MP again . 5. Check roaming cache in Portal1 ,MP “show roaming cache” 6. Client disassociate to MP, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

#### AMRP2\_L2roam\_testcase\_4

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_4 | | |
| Priority | High | Automation Flag | No |
| Topology to use | ======================  |  Portal1  / \  MP1 MP2 | | |
| Description | L2 Roaming between two MP | | |
| Pre-condition | -Configure portal1 and mp1 mp2 in the same subnet and same hive.  -Configure MP1 MP2 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this MP1, pass authentication | | |
| Test procedure | 1. When client associate to MP1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in MP1 ,MP2 “show roaming cache” 3. Client roaming from MP1 to MP2,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in MP2 again . 5. Check roaming cache in MP1 ,MP2 “show roaming cache” 6. Client disassociate to AP, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

#### AMRP2\_L2roam\_testcase\_5

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_5 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | =========================  | |  1 2 | | |
| Description | Roaming between portals which has not wifi backhaul link | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to Portal1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,Portal2 “show roaming cache” 3. Client roaming from Portal1 to Portal2,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in Portal2 again . 5. Check roaming cache in Portal1 ,Portal2 “show roaming cache” 6. Client disassociate to AP, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

#### AMRP2\_L2roam\_testcase\_6

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_6 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | = =============================  | |  Portal1 portal2  |  MP1 | | |
| Description | Roaming between mp and portal which has not wifi backhaul link(MP<->Portal) | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure mp1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to MP1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,Portal2,MP1 “show roaming cache” 3. Client roaming from MP1 to Portal2,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in Portal2 again . 5. Check roaming cache inPortal1 Portal2 ,MP1 “show roaming cache” 6. Client disassociate to Portal2, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

#### AMRP2\_L2roam\_testcase\_7

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_7 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | =============================  | |  portal1 Portal 2  | |  MP1 MP2 | | |
| Description | Roaming between two MP | | |
| Pre-condition | -Configure Mp1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to MP1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,Portal2 “show roaming cache” 3. Client roaming from MP1 to MP2,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in MP2 again . 5. Check roaming cache in MP1 ,MP2 “show roaming cache” 6. Client disassociate to MP2, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

### 2 roaming hop testing

#### AMRP2\_L2roam\_testcase\_8



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| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_8 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | ----------- Switch-----------  | | |  Portal1 Portal2 Portal3    client | | |
| Description | Three portals, client L2 roaming one hop | | |
| Pre-condition | Configure portal1 and portal2, Portal3 in the same subnet and same hive.  Configure the a SSID on two Portals and client associate to portal1, pass wpa2-tkip-8021x authentication | | |
| Test procedure | 1. When client associate to Portal1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,Portal2 “show roaming cache” 3. Client roaming from Portal1 to Portal2,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in Portal2 again . 5. Check roaming cache in Portal1 ,Portal2,Portal3 “show roaming cache” 6. Client roaming from Portal2 to Portal3,check if fast roaming occurs 7. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in Portal3 again . 8. Check roaming cache in Portal1 ,Portal2,Portal3 “show roaming cache” | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Skip 802.1x auth. should be fast roaming 7. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 8. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right | | |

#### AMRP2\_L2roam\_testcase\_9



1

2



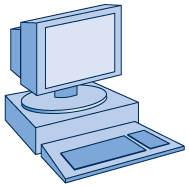
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|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L2roam\_testcase\_9 | | |
| Priority | Low | Automation Flag | No |
| Topology to use | ----------- Switch-----------  | | |  Portal1 Portal2 Portal3    client | | |
| Description | Three portal, roaming 2 hop | | |
| Pre-condition | -Configure portal1 and portal2, Portal3 in the same subnet and same hive.  -Configure the a SSID on two Portals and client associate to portal1, pass authentication  -In portal1, configure roaming hop design to Portal3,not to Portal2 | | |
| Test procedure | 1. When client associate to Portal1, check “show ssid xxx sta”;check “show auth”;check “show amrp client”;check “show route 2. Check roaming cache in Portal1 ,Portal2,Portal3 “show roaming cache” 3. Client roaming from Portal1 to Portal3,check if fast roaming occurs 4. “show ssid xxx sta”;”show auth”;”show amrp client”;”show route”in Portal3 again . 5. Check roaming cache in Portal1 ,Portal3 “show roaming cache” 6. Client disassociate to Portal3, check route table. | | |
| Expect result | 1. Client’s mac ,UPID, VLAN-ID, route table should be right. 2. Roaming cache Client’s mac ,UPID, VLAN-ID should be right 3. Skip 802.1x auth. should be fast roaming 4. After roaming client’s mac ,UPID, VLAN-ID, route table should be right and consistent with before roaming 5. Roaming cache Client’s mac ,UPID, VLAN-ID should be right consistent with before roaming, route table should right 6. Route table should delete this client’s route. | | |

## Bridging + mac-learning test

### Bridge to PC topology

#### AMRP2\_bridge\_testcase\_1



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_1 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | Switch1  |  Portal1------------- MP1 ---PC | | |
| Description | Bridge PC to backhaul, default user-profile. | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure MP1 eth0 to bridge-access and mac-learning enable | | |
| Test procedure | 1. When PC connected to MP1 ,check mac-learning table, route table in MP1 (show int eth0 mac-learning all) 2. Show route, check route in Portal1 3. When PC connected to MP1 “debug fe\_arp basic” in Portal 4. PC send ICMP packets.   PC ping MP1  PC Ping Portal1  PC ping gateway   1. PC send broadcast packets. 2. Plug out cable of pc’s ethlink. 3. Plug in cable of pc’s ethlink 4. Shut down interface eth0 5. No shut down interface eth0 | | |
| Expect result | 1. MP can learn PC’s mac address, and outgoing interface is eth0.MP’s default route should be wifi1.1. Assign default user-profile 2. Portal1 should update laptop’s route and added in route table. 3. Portal1 will send gra-arp to switch1 4. Ping should successfully. 5. FE data handle should right. 6. mac-learning table will be released, route will be deleted. 7. mac-learning table and route table will be added. 8. mac-learning table will be released, route will be deleted 9. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_2

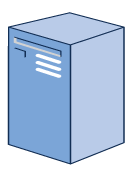
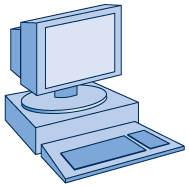
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| Case ID | AMRP2\_bridge\_testcase\_2 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | Switch1  |  Portal1------------- MP1 ---PC | | |
| Description | Bridge PC to backhaul, configure a UPID | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure MP1 eth0 to bridge-access and mac-learning enable  -configure a use-profile and bind use-profile to eth0 | | |
| Test procedure | 1. When PC connected to MP1 ,check mac-learning table, route table in MP1 2. Show route, check route in Portal1 3. When PC connected to MP1 “debug fe\_arp basic” in Portal 4. Laptop send ICMP packets.   PC ping MP1  PC Ping Portal1  PC ping gateway   1. Laptop broadcast packets. 2. Plug out cable of pc’s ethlink. 3. Plug in cable of pc’s ethlink 4. Shut down interface eth0 5. No shut down interface eth0 | | |
| Expect result | 1. MP1 can learn PC’s mac address, and outgoing interface is eth0.MP’s default route should be wifi1.1. Assign configure user-profile 2. Portal1 should update laptop’s route and added in route table. Assign right user-profile 3. Portal1 will send gra-arp to switch1 4. Ping should successfully. 5. FE data handle should right. 6. mac-learning table will be released, route will be deleted. 7. mac-learning table and route table will be added. 8. mac-learning table will be released, route will be deleted 9. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_3 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | Switch1  |  Portal1------------- MP1 ---PC | | |
| Description | Bridge PC to backhaul, configure change UPID | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure MP1 eth0 to bridge-access and mac-learning enable  -configure a use-profile and bind use-profile to eth0  -default user-profile is 0 vlan1 | | |
| Test procedure | 1. When PC connected to MP1 ,check mac-learning table, route table in MP1 2. Show route, check route in Portal1 3. When PC connected to MP1 “debug fe\_arp basic” in Portal 4. Change upid ,bind this attribute to eth0 | | |
| Expect result | 1. MP1 can learn PC’s mac address, and outgoing interface is eth0.MP’s default route should be wifi1.1. Assign configure user-profile 2. Portal1 should update laptop’s route and added in route table. Assign right user-profile(use-profile is 0 and vlan is 1 ) 3. Portal1 will send gra-arp to switch1 4. Check route table and mac-learning table .client’s upid should update in route table . | | |

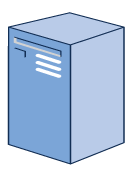
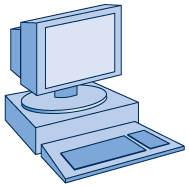
### Bridge to LAN topology

#### AMRP2\_bridge\_testcase\_4



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_4 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Switch1  |  Portal1------------- MP---Switch2—PC1 PC2  | |  Client1 Client2 | | |
| Description | Bridge LAN to backhaul, PC access same vlan | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure MP eth0 to bridge-802.1q and mac-learning enable  -boot portal1 first and then portal2. | | |
| Test procedure | 1. Show amrp interface eth0, show amrp ethlink, show amrp node in Portal1,MP. 2. Show route ,check route in Portal1 3. Show route ,check route in MP 4. PC connected to switch2 ,check mac-learning table, route table in MP 5. Show route, check route in Portal1 6. PC1 send ICMP packets to server, to PC2   PC ping MP1  PC Ping Portal1  PC ping gateway  PC1 ping PC2   1. PC1 send broadcast packets. 2. Plug out cable of pc’s ethlink. 3. Plug in cable of pc’s ethlink 4. Shut down interface eth0 5. No shut down interface eth0 | | |
| Expect result | 1. Portal 1 should be DA , ,portal1 and MP should be wifi neighbor 2. Default route should eth0 ,Portal1 route table should include MP’s route 3. Default route should wifi1.1, MP’s route table should include Portal1’s route 4. MP can learn laptop’s mac, and outgoing interface is eth0(how long ), should assign right vlan-id. 5. Portal1 should update laptop’s route and added in route table (how long) . 6. Ping should successfully. 7. FE data handle should right. 8. mac-learning table will be released, route will be deleted. 9. mac-learning table and route table will be added. 10. mac-learning table will be released, route will be deleted 11. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_5



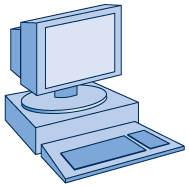
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| Case ID | AMRP2\_bridge\_testcase\_5 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | Switch1  |  Portal1------------- MP---Switch2—PC1 PC2  | |  Client1 Client2 | | |
| Description | Bridge LAN to backhaul, PC access different vlan | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure MP eth0 to bridge-802.1q and mac-learning enable  -boot portal1 first and then portal2. | | |
| Test procedure | 1. Show amrp interface eth0, show amrp ethlink, show amrp node in Portal1,MP. 2. Show route ,check route in Portal1 3. Show route ,check route in MP 4. PC connected to switch2 ,check mac-learning table, route table in MP 5. Show route, check route in Portal1 6. PC1 send ICMP packets to server,to PC2 7. PC1 send broadcast packets. 8. Plug out cable of pc’s ethlink. 9. Plug in cable of pc’s ethlink 10. Shut down interface eth0 11. No shut down interface eth0 | | |
| Expect result | 1. Portal 1 should be DA , ,portal1 and MP should be wifi neighbor 2. Default route should eth0 ,Portal1 route table should include MP’s route 3. Default route should wifi1.1, MP’s route table should include Portal1’s route 4. MP can learn laptop’s mac, and outgoing interface is eth0(how long ), should assign right vlan-id. 5. Portal1 should update laptop’s route and added in route table (how long) . 6. Ping should successfully. 7. FE data handle should right. 8. mac-learning table will be released, route will be deleted. 9. mac-learning table and route table will be added. 10. mac-learning table will be released, route will be deleted 11. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_6

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_6 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use |  | | |
| Description | Bridge LAN to backhaul (mac-learning timeout) | | |
| Pre-condition | -configure two APs in the same subnet and same hive,but can’t acsp to each other.  -configure Portal2 eth0 to bridge-802.1q and mac-learning enable | | |
| Test procedure | 1. M1 associate to AP2, M2 connect to AP2. M1 ping M2, check route table and mac-learning-table. 2. MP2 connect to AP1 ,M2 ping M1. | | |
| Expect result | 1. Route table and mac-learning table will include M2’s mac 2. Traffic will interrupted and recoverd (because mac-learing table timeout need 300s ) | | |

### Data-path of bridge topology

#### AMRP2\_bridge\_testcase\_7



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_7 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Client3 client1  | |  pc1,pc2======sw=====portal------mp====switch===client2 | | |
| Description | Data-path of bridge topology | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure Portal2 eth0 to bridge-802.1q and mac-learning enable  -boot portal1 first and then portal2. | | |
| Test procedure | 1. When PC connected to MP, “debug fe\_arp basic” in portal 2. Client2 send a broadcast pkt. “debug fe basic” in MP and Portal 3. Client2 send a unicast pkt client1. “debug fe basic” in MP and Portal 4. Client2 send a unicast pkt to pc. “debug fe basic” in MP and Portal 5. Client2 send dhcp pkt. “debug fe basic” in MP and Portal 6. Pc1 send a broadcast pkt “debug fe basic”in MP 7. Pc1 send a unicast pkt whose dst-mac does not exist in route table “debug fe basic” 8. Pc 1send a dhcp pkt. “debug fe basic” 9. MP send broadcast “debug fe basic” 10. MP send unicast to PC “debug fe basic” 11. MP send unicast to PC 1“debug fe basic” 12. MP send unknown unicast “debug fe basic” 13. MP send dhcp discover packets “debug fe basic” 14. If MP’s arp cache is empty, PC1 send a arp req, 15. If MP’s arp cache is empty, pc send a arp req 16. If MP’s arp cache is empty, mgt0 send a arp req 17. If already has arp entry for client3 and pc on mp, client2 send arp req for client3 and pc 18. If already has arp entry for client3 and pc on portal, but mp has not, client2 send arp req for client3 and pc 19. If already has arp entry for client2 on portal and mp, client3 or pc send arp req for client2 20. If already has arp entry for client2 on mp, but portal has not, client3 or pc send arp req for client2 21. If already has arp entry for client2 on portal, mgt0 send arp req for client2 22. If already has arp entry for mgt0 on portal,mp has not entry for portal mgt0,client2 send arp req for portal mgt0 23. If already has arp entry for portal mgt0 on mp, client2 send arp req for portal mgt0 24. If already has arp entry for mp’s mgt0 on portal, pc or client3 send arp req for mp’s mgt0 25. If already has arp entry for mp’s mgt0 on mp, but portal has not, pc or client3 send arp req for mp’s mgt0 | | |
| Expect result | 1. portal should send out a Gratitous-ARP to eth0,pkt should be in client vlan 2. pkt should be forwarded to wifi1.1,wifi0.1 ,mgt0. Portal should forward to wifi1.1,wifi0.1 , eth0,mgt0 3. traffic should be ok. Outgoing interface should wifi1.1 4. traffic should be ok. Outgoing interface should wifi1.1 5. pkt should only be send to wifi1.1, mgt0,Portal forwarding to eth0 and mgt0 6. pkt should be forward to wifi0.1,wifi0.2,wifi1.1,mgt0 7. AP should drop this pkt 8. Portal up to mgt0 and MP should not recv this packet 9. pkt should be forwarded to wifi1.1,wifi0.1, eth0,mgt0. 10. Traffic should be ok. 11. ap should drop this pkt 12. MP should only be send to wifi1.1, 13. MP should only be send to wifi1.1, mgt0 14. MP and portal should learn this arp and add in arp-table but in different interface 15. MP and portal should learn this arp and add in arp-table but in different interface 16. MP and portal should learn this arp and add in arp-table but in different interface 17. mp should reply these req instead of client3 and pc 18. portal will reply req instead of client3 and pc 19. portal do not reply, mp will reply instead of cleint1 20. MP will reply instead of client1 21. ? 22. Portal will reply 23. mp will reply instead of Portal 24. Portal will reply instead of Portal 25. MP will reply | | |

#### AMRP2\_bridge\_testcase\_8

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_8 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | Client3 ----client1  | |  pc1,pc2======sw=====portal------mp====switch===client2 | | |
| Description | Data-path of bridge topology | | |
| Pre-condition | -configure two APs in the same subnet and same hive  -configure Portal2 eth0 to bridge-802.1q and mac-learning enable  -boot portal1 first and then portal2. | | |
| Test procedure | 1. Client1 and Client2 access the same vlan. Client1 send a unicast to client2 2. Clear arp table in switch. Client 1 send a request to client2 “debug fe” in MP 3. Client1 and Client2 access the different vlan. Client1 send a unicast to client2 4. Clear arp table in switch. Client 1 send a request to client2 “debug fe” in MP | | |
| Expect result |  | | |

### DualPort bridge test

#### AMRP2\_bridge\_testcase\_9

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_9 | | |
| Priority | High | Automation Flag | No |
| Topology to use |  | | |
| Description | Bridge LAN to backhaul one port backhaul one port access (dualport) | | |
| Pre-condition | -configure two APs in the same subnet and same hive,but can’t acsp to each other.  -configure Portal2 eth0 to bridge-802.1q and mac-learning enable | | |
| Test procedure | 1. M1 associate to AP2, M2 connect to AP2. M3 connected to AP1 M1 ping M2, check route table and mac-learning-table. 2. M1,M2,M3 running traffic (broadcast,unicast) 3. Plug out cable of pc’s ethlink(switch uplink). 4. Plug in cable of pc’s ethlink 5. Shut down interface eth1(switch uplink) 6. No shut down interface eth1 | | |
| Expect result | 1. Route table and mac-learning table will include M2’s mac 2. APs handle should right. 3. mac-learning table will be released, route will be deleted. 4. mac-learning table and route table will be added. 5. mac-learning table will be released, route will be deleted 6. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_10

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_10 | | |
| Priority | High | Automation Flag | No |
| Topology to use |  | | |
| Description | Bridge LAN to backhaul to pc (dualport) | | |
| Pre-condition | -configure two APs in the same subnet and same hive,  -configure AP2 eth0/eth1 to bridge-access and mac-learning enable | | |
| Test procedure | 1. M1 M2 connect to AP2, check route table and mac-learning-table. 2. M1,M2,running traffic (broadcast,unicast) 3. Plug out cable of pc’s ethlink 4. Plug in cable of pc’s ethlink 5. Shut down interface eth1(switch uplink) 6. No shut down interface eth1 | | |
| Expect result | 1. Route table and mac-learning table will include M1 M2’s mac 2. APs handle should right. 3. mac-learning table will be released, route will be deleted. 4. mac-learning table and route table will be added. 5. mac-learning table will be released, route will be deleted 6. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_11

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_11 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use |  | | |
| Description | Bridge LAN to backhaul to lan (dualport) | | |
| Pre-condition | -configure two APs in the same subnet and same hive,  -configure AP2 eth0/eth1 to bridge-dot1q and mac-learning enable  -bind eth0 and eth1 to red0. | | |
| Test procedure | 1. M1 M2 connect to AP2, check route table and mac-learning-table. 2. M1,M2,running traffic (broadcast,unicast) 3. Plug out one ethlink cable (eth0) 4. Plug in one ethlink cable (eth0) 5. Shut down interface red0 6. No shut down interface red0 | | |
| Expect result | 1. Route table and mac-learning table will include M1 M2’s mac 2. APs handle should right. 3. Route table and mac-learning should not effect . 4. Route table and mac-learning should not effect . 5. mac-learning table will be released, route will be deleted 6. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_12

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_12 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use |  | | |
| Description | Bridge LAN to backhaul to lan agg (dualport) | | |
| Pre-condition | -configure two APs in the same subnet and same hive,  -configure AP2 eth0/eth1 to bridge-dot1q and mac-learning enable  -bind eth0 and eth1 to agg0. | | |
| Test procedure | 1. M1 M2 connect to AP2, check route table and mac-learning-table. 2. M1,M2,running traffic (broadcast,unicast) 3. M1 send broadcast to MP(AP2) 4. Plug out one ethlink cable (eth0) 5. Plug in one ethlink cable (eth0) 6. Shut down interface agg0 7. No shut down interface agg0 | | |
| Expect result | 1. Route table and mac-learning table will include M1 M2’s mac 2. APs handle should right. 3. MP(AP2) should not incoming with eth0 but outgoing interface eth1 4. Route table and mac-learning should not effect . 5. Route table and mac-learning should not effect . 6. mac-learning table will be released, route will be deleted 7. mac-learning table and route table will be added. | | |

#### AMRP2\_bridge\_testcase\_13

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_13 | | |
| Priority | High | Automation Flag | No |
| Topology to use |  | | |
| Description | Dual port to PC and to vlan(bridge-access and bridge-dot1q) | | |
| Pre-condition | -configure two APs in the same subnet and same hive,  -configure AP2 eth0 to bridge-access and mac-learning enable  -configure AP2 eth1 to bridge-dot1q and mac-learning enable | | |
| Test procedure | 1. M1 connect to AP2 ETH0, check route table and mac-learning table 2. M2 M3connect to AP2, check route table and mac-learning-table. 3. M1,M2,MP3running traffic (broadcast,unicast)   M1 ping M2 and M3(reverse )  M1 ping AP1 and AP2(reverse )  M1 ping gateway.   1. Plug out cable of pc’s ethlink 2. Plug in cable of pc’s ethlink 3. Shut down interface eth1(switch uplink) 4. No shut down interface eth1 | | |
| Expect result | 1. Route table and mac-learning table will include M1 M2’s mac 2. APs handle should right. 3. mac-learning table will be released, route will be deleted. 4. mac-learning table and route table will be added. 5. mac-learning table will be released, route will be deleted 6. mac-learning table and route table will be added. | | |

### Two hops of bridge topology

#### AMRP2\_bridge\_testcase\_14

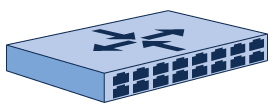


|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_bridge\_testcase\_14 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Switch1  | MP1  Portal1------- ------ Portal2 ---Switch2  MP2 | | |
| Description | Two hops of bridge test | | |
| Pre-condition | -configure four APs in the same subnet and same hive  -Portal 1 is portal portal2 is bridge access AP and ,MP1 MP2 are mesh point  -portal2 mac-learning enable  - one client connected switch2 | | |
| Test procedure | Check route table of Portal2,MP1,MP2  If Portal2 to Portal route is going through MP1, MP1 shutdown, verify Portal2’s route should has a list from MP2 to portal  boot up MP1 again, check route table in Portal1 | | |
| Expect result | Portal2’s default route should wifi1.1 and next hop is MP1.  Portal2’s route should has a list from MP2 to portal  by learning about 30 seconds. (how long ?) | | |

## layer-3 DNXP roaming

### User scenario

#### Inter-gateway Layer-3 roaming



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Inter-gateway\_Layer-3\_roaming\_1 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Layer-3 DNXP roaming, Inter-gateway-L3 roaming | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ----Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP1 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP2 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP2 “debug auth all” 5. Check roaming cache in AP1,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache in AP1,AP2(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1 to AP2,check gre-arp send by AP2 (should not send) 8. Check AP2 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” show amrp client. 12. Check tunnel state “show amrp tunnel ” 13. Check route state in AP1 and AP2 “show route” 14. After client roaming to AP2, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP1,”show roaming neighbor and show amrp dnxp neighbor”should have AP2’s cache info 2. AP1 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2(unicast) 4. AP1 will send roaming cache to AP2 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP2,AP2 will send DNXP-cache to AP1 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP1 and AP2 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

#### Roaming with different mgt0 vlan (L3 switch)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Inter-gateway\_Layer-3\_roaming\_2 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Roaming with different mgt0 vlan (L3 switch) | | |
| Pre-condition | -Configure two APs in the different subnet(mgt0) but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 30 ) | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP1 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP2 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP2 “debug auth all” 5. Check roaming cache in AP1,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache inAP1,AP2(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1 to AP2,check gre-arp send by AP2 (should not send) 8. Check AP2 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” show amrp client. 12. Check tunnel state “show amrp tunnel ” 13. Check route state in AP1 and AP2 “show route” 14. After client roaming to AP2, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP1,”show roaming neighbor and show amrp dnxp neighbor”should have AP2’s cache info 2. AP1 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2(unicast) 4. AP1 will send roaming cache to AP2 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP2,AP2 will send DNXP-cache to AP1 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP1 and AP2 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

#### Roaming with different mgt0 vlan (L3 switch)

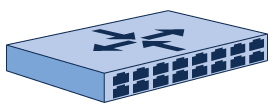
|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Inter-gateway\_Layer-3\_roaming\_3 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Roaming with different mgt0 vlan (L3 switch) | | |
| Pre-condition | -Configure two APs in the different subnet(mgt0) but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 28 too ) | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP1 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP2 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP2 “debug auth all” 5. Check roaming cache in AP1,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache inAP1,AP2(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1 to AP2,check gre-arp send by AP2 (should not send) 8. Check AP2 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” show amrp client. 12. Check tunnel state “show amrp tunnel ” 13. Check route state in AP1 and AP2 “show route” 14. After client roaming to AP2, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP1,”show roaming neighbor and show amrp dnxp neighbor”should have AP2’s cache info 2. AP1 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2(unicast) 4. AP1 will send roaming cache to AP2 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP2,AP2 will send DNXP-cache to AP1 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP1 and AP2 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

#### Roaming with use-profile vlan-id

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Inter-gateway\_Layer-3\_roaming\_4 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | Roaming with use-profile vlan-id | | |
| Pre-condition | -Configure two APs in the same sunnet and in the same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this use-profile to SSID  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 30 ) | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP1 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP2 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP2 “debug auth all” 5. Check roaming cache in AP1,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache inAP1, AP2(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1 to AP2,check gre-arp send by AP2 (should not send) 8. Check AP2 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” show amrp client. 12. Check tunnel state “show amrp tunnel ” 13. Check route state in AP1 and AP2 “show route” 14. After client roaming to AP2, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP1,”show roaming neighbor and show amrp dnxp neighbor”should have AP2’s cache info 2. AP1 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2(unicast) 4. AP1 will send roaming cache to AP2 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP2,AP2 will send DNXP-cache to AP1 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP1 and AP2 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

### Data-path of L3 roaming

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_5



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_5 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC  |  -----------route-------------  | |  AP1 AP2  Client1 Client2  Client3 | | |
| Description | For router topo,L3 Roaming Datapath | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID(PSK mode)  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan  -ap1 and ap2 have different mgt0 vlan  -Cient1client3 associate to AP1,client2 associate to AP2 pass auth  -client1 and client3 are in vlan 28,client2 is in vlan 30  -Client1 roams from AP1 to AP2, L3 tunnel build | | |
| Test procedure | 1. When clients roaming to AP2, “debug fe\_arp basic” on ap2,check whether sending G-ARP on AP2. 2. client1 send a broadcast pkt. Check the datapath.You can “debug fe basic” on ap1 and ap2 3. client1 send a unicast pkt client2. “debug fe basic” on ap2 and ap1 4. client1 send a unicast pkt client3. “debug fe basic” on ap2 and ap1 5. client1 send a unicast pkt to pc. “debug fe basic” on ap2 and ap1 6. client 1 send a unicast pkt to ap2 mgt0. “debug fe basic” on ap2 and ap1 7. client1 send a unicast pkt to ap1 mgt0. “debug fe basic” on ap2 and ap1 8. client1 send a unicast(src-mac is client1,dst-mac is client2) to ap2, “debug fe basic” on ap2,what happen? 9. client1 send dhcp pkt. “debug fe basic” on ap2 and ap1 10. client2 send a broadcast pkt. “debug fe basic” on ap2 and ap1 11. client2 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 12. client3 send a broadcast pkt. “debug fe basic” on ap2 and ap1 13. client3 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 14. client3 send dhcp pkt. “debug fe basic” on ap2 and ap1 15. PC send dhcp pkt. “debug fe basic” on ap1 and ap2 16. PC send a broadcast pkt. “debug fe basic” on ap1 and ap2. 17. PC send a unicast pkt client1. “debug fe basic” on ap1 and ap2 18. AP1 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 19. AP1 send dhcp pkt, “debug fe basic” on ap1 20. AP2 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 21. AP2 mgt0 send dhcp, “debug fe basic” on ap1 and ap2 22. PC send a broadcast(src-mac is client1’s mac), ap1 will receive it. How to handle? 23. PC send a unicast(src-mac is client1’s mac,dst-mac is client3’s mac), how to handle on ap1 24. If Portal2 arp cache is empty, client1 send a arp req, 25. If Portal2 have client1 arp-enty, client2 send a arp req for client1 | | |
| Expect result | 1. AP2 should NOT send out a Gratitous-ARP to eth0 pkt. 2. On ap2, this pkt should be ONLY forwarded to tunnel.   On ap1, this pkt should be forwared to wifi1.1,wifi0.1,wifi0.2, eth0,mgt0(if mgt0 vlan is same as client1’s vlan); make sure this pkt should be forwarded in client1’s vlan; make sure this pkt should not be forwared to tunnel again.   1. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->wifi0->client2 2. traffic path should be ->wifi0->tunnel->mgt0 of ap1->wifi0->client3 3. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->pc 4. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->mgt0 of ap2 5. traffic path should be ->wifi0->tunnel->mgt0 of ap1 6. ap2 will forward this pkt to tunnel 7. on ap2,pkt should be forwarded tunnel and make sure do not leak to other interfaces.   On ap1, pkt should be only forwarded to eth0 and mgt0(if mgt0 vlan is same as client1’s vlan).   1. Should not tunnel to ap1 2. traffic path should be client2->wifi0->eth0 of ap2->GW of ap2->GW of ap1->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 3. ap1 should copy pkt to tunnel; ap2 will receive this pkt and ONLY forward it to access interface 4. traffic path should be client3->wifi0->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 5. pkt should only be forwarded to mgt0 and eth0. No go to tunnel. 6. this pkt should only be forwarded to mgt0 and do not flood to other interfaces. 7. This pkt should be forwarded to tunnel and flood to other local interfaces on ap1;on ap2,should only be forwarded to access interface. 8. traffic path should be pc->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 9. ap1 will tunnel it to ap2 and ap2 will flood this pkt to all access interfaces 10. ap1 will only forward it to eth0, go to tunnel 11. ap2 will not send this pkt to tunnel 12. ap2 will not send this pkt to tunnel and only forward it to eth0 13. ap1 will drop this pkt and do not flood it 14. ap1 will drop this pkt and do not flood it 15. AP will reply this req and do not forward req to client1 16. AP will not response and just drop this pkt. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_6

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_6 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC  |  -----------L3 Switch-------------  | |  AP1 AP2  Client1 Client2  Client3 | | |
| Description | For L3 switch topo,L3 Roaming Datapath | | |
| Pre-condition | -Configure two APs in the different subnet(mgt0) but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID(PSK mode)  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 30 )  -Cient1client3 associate to AP1,client2 associate to AP2 pass auth  -client1 and client3 are in vlan 28,client2 is in vlan 30  -Client1 roaming from AP1 to AP2, L3 tunnel build | | |
| Test procedure | 1. When clients roaming to AP2 , “debug fe\_arp basic” on ap2,check sending G-ARP. 2. client1 send a broadcast pkt. Check the datapath.You can “debug fe basic” on ap1 and ap2 3. client1 send a unicast pkt client2. “debug fe basic” on ap2 and ap1 4. client1 send a unicast pkt client3. “debug fe basic” on ap2 and ap1 5. client1 send a unicast pkt to pc. “debug fe basic” on ap2 and ap1 6. client 1 send a unicast pkt to ap2 mgt0. “debug fe basic” on ap2 and ap1 7. client1 send a unicast pkt to ap1 mgt0. “debug fe basic” on ap2 and ap1 8. client1 send a unicast(src-mac is client1,dst-mac is client2) to ap2, “debug fe basic” on ap2,what happen? 9. client1 send dhcp pkt. “debug fe basic” on ap2 and ap1 10. client2 send a broadcast pkt. “debug fe basic” on ap2 and ap1 11. client2 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 12. client3 send a broadcast pkt. “debug fe basic” on ap2 and ap1 13. client3 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 14. client3 send dhcp pkt. “debug fe basic” on ap2 and ap1 15. PC send dhcp pkt. “debug fe basic” on ap1 and ap2 16. PC send a broadcast pkt. “debug fe basic” on ap1 and ap2. 17. PC send a unicast pkt client1. “debug fe basic” on ap1 and ap2 18. AP1 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 19. AP1 send dhcp pkt, “debug fe basic” on ap1 20. AP2 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 21. AP2 mgt0 send dhcp, “debug fe basic” on ap1 and ap2 22. PC send a broadcast(src-mac is client1’s mac), ap1 will receive it. How to handle? 23. PC send a unicast(src-mac is client1’s mac,dst-mac is client3’s mac), how to handle on ap1 24. If Portal2 arp cache is empty, client1 send a arp req, 25. If Portal2 have client1 arp-enty, client2 send a arp req for client1 | | |
| Expect result | 1. AP2 should NOT send out a Gratitous-ARP to eth0 pkt. 2. On ap2, this pkt should be ONLY forwarded to tunnel.   On ap1, this pkt should be forwared to wifi1.1,wifi0.1,wifi0.2, eth0,mgt0(if mgt0 vlan is same as client1’s vlan); make sure this pkt should be forwarded in client1’s vlan; make sure this pkt should not be forwared to tunnel again.   1. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->wifi0->client2 2. traffic path should be ->wifi0->tunnel->mgt0 of ap1->wifi0->client3 3. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->pc 4. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->mgt0 of ap2 5. traffic path should be ->wifi0->tunnel->mgt0 of ap1 6. ap2 will forward this pkt to tunnel 7. on ap2,pkt should be forwarded tunnel and make sure do not leak to other interfaces.   On ap1, pkt should be only forwarded to eth0 and mgt0(if mgt0 vlan is same as client1’s vlan).   1. Should not tunnel to ap1 2. traffic path should be client2->wifi0->eth0 of ap2->GW of ap2->GW of ap1->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 3. ap1 should copy pkt to tunnel; ap2 will receive this pkt and ONLY forward it to access interface 4. traffic path should be client3->wifi0->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 5. pkt should only be forwarded to mgt0 and eth0. No go to tunnel. 6. this pkt should only be forwarded to mgt0 and do not flood to other interfaces. 7. This pkt should be forwarded to tunnel and flood to other local interfaces on ap1;on ap2,should only be forwarded to access interface. 8. traffic path should be pc->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 9. ap1 will tunnel it to ap2 and ap2 will flood this pkt to all access interfaces 10. ap1 will only forward it to eth0, go to tunnel 11. ap2 will not send this pkt to tunnel 12. ap2 will not send this pkt to tunnel and only forward it to eth0 13. ap1 will drop this pkt and do not flood it 14. ap1 will drop this pkt and do not flood it 15. AP will reply this req and do not forward req to client1 16. AP will not response and just drop this pkt. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase \_7

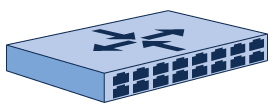
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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_7 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | PC  |  -----------L3 Switch-------------  | |  AP1 AP2  Client1 Client2  Client3 | | |
| Description | For L3 switch topo,L3 Roaming Datapath（same user-profile vlan-id） | | |
| Pre-condition | -Configure two APs in the different subnet(mgt0) but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID(PSK mode)  -In AP1,user-profile vlan-id same with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 28 )  -Cient1client3 associate to AP1,client2 associate to AP2 pass auth  -client1 and client3 are in vlan 28,client2 is in vlan 28  -Client1 roaming from AP1 to AP2, L3 tunnel build | | |
| Test procedure | 1. When clients roaming to AP2, “debug fe\_arp basic” on ap2,check whether sending G-ARP on AP2. 2. client1 send a broadcast pkt. Check the datapath.You can “debug fe basic” on ap1 and ap2 3. client1 send a unicast pkt client2. “debug fe basic” on ap2 and ap1 4. client1 send a unicast pkt client3. “debug fe basic” on ap2 and ap1 5. client1 send a unicast pkt to pc. “debug fe basic” on ap2 and ap1 6. client 1 send a unicast pkt to ap2 mgt0. “debug fe basic” on ap2 and ap1 7. client1 send a unicast pkt to ap1 mgt0. “debug fe basic” on ap2 and ap1 8. client1 send a unicast(src-mac is client1,dst-mac is client2) to ap2, “debug fe basic” on ap2,what happen? 9. client1 send dhcp pkt. “debug fe basic” on ap2 and ap1 10. client2 send a broadcast pkt. “debug fe basic” on ap2 and ap1 11. client2 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 12. client3 send a broadcast pkt. “debug fe basic” on ap2 and ap1 13. client3 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 14. client3 send dhcp pkt. “debug fe basic” on ap2 and ap1 15. PC send dhcp pkt. “debug fe basic” on ap1 and ap2 16. PC send a broadcast pkt. “debug fe basic” on ap1 and ap2. 17. PC send a unicast pkt client1. “debug fe basic” on ap1 and ap2 18. AP1 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 19. AP1 send dhcp pkt, “debug fe basic” on ap1 20. AP2 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 21. AP2 mgt0 send dhcp, “debug fe basic” on ap1 and ap2 22. PC send a broadcast(src-mac is client1’s mac), ap1 will receive it. How to handle? 23. PC send a unicast(src-mac is client1’s mac,dst-mac is client3’s mac), how to handle on ap1 24. If Portal2 arp cache is empty, client1 send a arp req, 25. If Portal2 have client1 arp-enty, client2 send a arp req for client1 | | |
| Expect result | 1. AP2 should NOT send out a Gratitous-ARP to eth0 pkt. 2. On ap2, this pkt should be ONLY forwarded to tunnel.   On ap1, this pkt should be forwared to wifi1.1,wifi0.1,wifi0.2, eth0,mgt0(if mgt0 vlan is same as client1’s vlan); make sure this pkt should be forwarded in client1’s vlan; make sure this pkt should not be forwared to tunnel again.   1. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1 ->eth0 of ap2->wifi0->client2 (fail, src-mac route lookup error) 2. traffic path should be ->wifi0->tunnel->mgt0 of ap1->wifi0->client3 3. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->pc 4. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->mgt0 of ap2 5. traffic path should be ->wifi0->tunnel->mgt0 of ap1 6. ap2 will forward this pkt to tunnel 7. on ap2,pkt should be forwarded tunnel and make sure do not leak to other interfaces.   On ap1, pkt should be only forwarded to eth0 and mgt0(if mgt0 vlan is same as client1’s vlan).   1. Should not tunnel to ap1 2. traffic path should be client2->wifi0->eth0 of ap2 ->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 3. ap1 should copy pkt to tunnel; ap2 will receive this pkt and ONLY forward it to access interface 4. traffic path should be client3->wifi0->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 5. pkt should only be forwarded to mgt0 and eth0. No go to tunnel. 6. this pkt should only be forwarded to mgt0 and do not flood to other interfaces. 7. This pkt should be forwarded to tunnel and flood to other local interfaces on ap1;on ap2,should only be forwarded to access interface. 8. traffic path should be pc->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 9. ap1 will tunnel it to ap2 and ap2 will flood this pkt to all access interfaces 10. ap1 will only forward it to eth0, no go to tunnel 11. ap2 will not send this pkt to tunnel 12. ap2 will not send this pkt to tunnel and only forward it to eth0 13. ap1 will drop this pkt and do not flood it 14. ap1 will drop this pkt and do not flood it 15. AP will reply this req and do not forward req to client1 16. AP will not response and just drop this pkt. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_8

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_8 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | PC  |  -----------L2 Switch-------------  | |  AP1 AP2  Client1 Client2  Client3 | | |
| Description | For L2 switch topo,L3 Roaming Datapath | | |
| Pre-condition | -Configure two APs in the same subnet and same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID(PSK mode)  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 30 )  -Cient1client3 associate to AP1,client2 associate to AP2 pass auth  -client1 and client3 are in vlan 28,client2 is in vlan 30  -Client1 roaming from AP1 to AP2, L3 tunnel build | | |
| Test procedure | 1. When clients roaming to AP2, “debug fe\_arp basic” on ap2,check whether sending G-ARP on AP2. 2. client1 send a broadcast pkt. Check the datapath.You can “debug fe basic” on ap1 and ap2 3. client1 send a unicast pkt client2. “debug fe basic” on ap2 and ap1 4. client1 send a unicast pkt client3. “debug fe basic” on ap2 and ap1 5. client1 send a unicast pkt to pc. “debug fe basic” on ap2 and ap1 6. client 1 send a unicast pkt to ap2 mgt0. “debug fe basic” on ap2 and ap1 7. client1 send a unicast pkt to ap1 mgt0. “debug fe basic” on ap2 and ap1 8. client1 send a unicast(src-mac is client1,dst-mac is client2) to ap2, “debug fe basic” on ap2,what happen? 9. client1 send dhcp pkt. “debug fe basic” on ap2 and ap1 10. client2 send a broadcast pkt. “debug fe basic” on ap2 and ap1 11. client2 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 12. client3 send a broadcast pkt. “debug fe basic” on ap2 and ap1 13. client3 send a unicast pkt client1. “debug fe basic” on ap2 and ap1 14. client3 send dhcp pkt. “debug fe basic” on ap2 and ap1 15. PC send dhcp pkt. “debug fe basic” on ap1 and ap2 16. PC send a broadcast pkt. “debug fe basic” on ap1 and ap2. 17. PC send a unicast pkt client1. “debug fe basic” on ap1 and ap2 18. AP1 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 19. AP1 send dhcp pkt, “debug fe basic” on ap1 20. AP2 mgt0 send broadcast, “debug fe basic” on ap1 and ap2 21. AP2 mgt0 send dhcp, “debug fe basic” on ap1 and ap2 22. PC send a broadcast(src-mac is client1’s mac), ap1 will receive it. How to handle? 23. PC send a unicast(src-mac is client1’s mac,dst-mac is client3’s mac), how to handle on ap1 24. If Portal2 arp cache is empty, client1 send a arp req, 25. If Portal2 have client1 arp-enty, client2 send a arp req for client1 | | |
| Expect result | 1. AP2 should NOT send out a Gratitous-ARP to eth0 pkt. 2. On ap2, this pkt should be ONLY forwarded to tunnel.   On ap1, this pkt should be forwared to wifi1.1,wifi0.1,wifi0.2, eth0,mgt0(if mgt0 vlan is same as client1’s vlan); make sure this pkt should be forwarded in client1’s vlan; make sure this pkt should not be forwared to tunnel again.   1. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->wifi0->client2 2. traffic path should be ->wifi0->tunnel->mgt0 of ap1->wifi0->client3 3. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->pc 4. traffic path should be ->wifi0->tunnel->mgt0 of ap1->eth0 of ap1->GW of ap1->GW of ap2->eth0 of ap2->mgt0 of ap2 5. traffic path should be ->wifi0->tunnel->mgt0 of ap1 6. ap2 will forward this pkt to tunnel 7. on ap2,pkt should be forwarded tunnel and make sure do not leak to other interfaces.   On ap1, pkt should be only forwarded to eth0 and mgt0(if mgt0 vlan is same as client1’s vlan).   1. Should not tunnel to ap1 2. traffic path should be client2->wifi0->eth0 of ap2->GW of ap2->GW of ap1->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 3. ap1 should copy pkt to tunnel; ap2 will receive this pkt and ONLY forward it to access interface 4. traffic path should be client3->wifi0->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 5. pkt should only be forwarded to mgt0 and eth0. No go to tunnel. 6. this pkt should only be forwarded to mgt0 and do not flood to other interfaces. 7. This pkt should be forwarded to tunnel and flood to other local interfaces on ap1;on ap2,should only be forwarded to access interface. 8. traffic path should be pc->eth0 of ap1->mgt0 of ap1->tunnel to ap2->mgt0 of ap2->wifi0->client1 9. ap1 will tunnel it to ap2 and ap2 will flood this pkt to all access interfaces 10. ap1 will only forward it to eth0, no go to tunnel 11. ap2 will not send this pkt to tunnel 12. ap2 will not send this pkt to tunnel and only forward it to eth0 13. ap1 will drop this pkt and do not flood it 14. ap1 will drop this pkt and do not flood it 15. AP will reply this req and do not forward req to client1 16. AP will not response and just drop this pkt. | | |

### L3 DNXP Unroam test

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_9



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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_9 | | |
| Priority | Middle | Automation Flag |  |
| Topology to use |  | | |
| Description | L3 DNXP unroam test (default value “0” disable) | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan  -Configure unroam-threshold timer on APs  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1 check dnxp cache in portal. 2. Check unroam-threshold value “show mobility-policy \*\*\*” 3. Client roaming from AP1 to AP2, check cache table ,check route table 4. No traffic running between APs. 5. Check unroam-threshold default is disable | | |
| Expect result | 1. client’s cache should update in AP2 2. default value is “0” 3. Tunnel should built from AP2 to AP1 4. Client will be no disassociated and tunnel still alive 5. unroam-threshold default is disable | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_10

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_10 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | L3 DNXP unroam test (manual set value ) | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan  -Configure unroam-threshold timer on APs  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1 check dnxp cache in portal. 2. Set unroam-threshold value” mobility-policy inxp dnxp unroam-threshold 1000 10” 3. Check unroam-threshold value “show mobility-policy \*\*\*” 4. Client roaming from AP1 to AP2, check cache table ,check route table 5. traffic running between APs biger >1000/10 packets/minute 6. raffic running between APs less <1000/10 packets/minute. | | |
| Expect result | 1. client’s cache should update in AP2 2. CLI can configure 3. unroam-threshold value should be 1000/10 packets/minute 4. Tunnel should built from AP2 to AP1 5. Client will be no disassociated and tunnel still alive 6. Client will be disassociated and associated local. Tunnel will be delete. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_11

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_11 | | |
| Priority | Low | Automation Flag |  |
| Topology to use |  | | |
| Description | L3 DNXP unroam test (manual set largest value ) | | |
| Pre-condition | -configure two APs in the different subnet and same hive  -Configure two APs in the same hive and same SSID, configure mobility-policy DNXP  -Configure two APs have different use-profile vlan-id  -Configure unroam-threshold timer one each box  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1 check dnxp cache in portal. 2. Set unroam-threshold value” mobility-policy inxp dnxp unroam-threshold 2147483647 600” 3. Check unroam-threshold value “show mobility-policy \*\*\*” 4. Client roaming from AP1 to AP2, check cache table ,check route table 5. traffic running between APs larger >2147483647/ 600s”packets/minute 6. raffic running between APs less <12147483647 600s” packets/minute. | | |
| Expect result | 1. client’s cache should update in AP2 2. CLI can configure 3. unroam-threshold value should be 2147483647 600” packets/minute 4. Tunnel should built from AP2 to AP1 5. Client will be no disassociated and tunnel still alive 6. Client will be disassociated and associated local. Tunnel will be delete. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_12

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_12 | | |
| Priority | Middle | Automation Flag |  |
| Topology to use |  | | |
| Description | L3 DNXP unroam test (only config in tunnel backhaul side) | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan  -Configure unroam-threshold timer on tunnel backhual APs  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1 check dnxp cache in portal. 2. Set unroam-threshold value” mobility-policy inxp dnxp unroam-threshold xx”   In AP1   1. Check unroam-threshold value “show mobility-policy \*\*\*” 2. Client roaming from AP1 to AP2, check cache table ,check route table 3. traffic running between APs larger >XX”packets/minute 4. raffic running between APs less <XX” packets/minute. | | |
| Expect result | 1. client’s cache should update in AP2 2. CLI can configure 3. unroam-threshold value should be XX” packets/minute 4. Tunnel should built from AP2 to AP1 5. Client will be no disassociated and tunnel still alive 6. Client will be disassociated and associated local. Tunnel will be delete. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_13

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_13 | | |
| Priority | Middle | Automation Flag |  |
| Topology to use |  | | |
| Description | L3 DNXP unroam test (only config in tunnel access side) | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ---Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan  -Configure unroam-threshold timer on tunnel access AP  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1 check dnxp cache in portal. 2. Set unroam-threshold value” mobility-policy inxp dnxp unroam-threshold xx”   In AP2   1. Check unroam-threshold value “show mobility-policy \*\*\*” 2. Client roaming from AP1 to AP2, check cache table ,check route table 3. traffic running between APs larger >XX”packets/minute 4. raffic running between APs less <XX” packets/minute. | | |
| Expect result | 1. client’s cache should update in AP2 2. CLI can configure 3. unroam-threshold value should be XX” packets/minute 4. Tunnel should built from AP2 to AP1 5. Client will be no disassociated and tunnel still alive 6. Client will be disassociated and associated local. Tunnel will be delete. | | |

### DNXP L3 roaming Failover.

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_14

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_14 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use |  | | |
| Description | DNXP L3 roaming failover( tunnel backhaul portals) | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2,AP3 in same subnet AP4,AP5,AP6 in the same subnet)  -Configure APs have same SSID, configure mobility-policy DNXP,  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -Client associate to AP1, pass authentication  -AP1 is DA,AP2 is BDA,AP3 is Attach. | | |
| Test procedure | 1. Client M1 associate to AP1 at beginning , check AMPR DNXP cache in all APs 2. Client M1 roaming from AP1 to AP4 check DNXP cache , check route table , amrp tunnel in APs 3. If tunnel build from AP2 to AP4,plug out cable of AP2.check roaming failover state 4. Then power down AP2 check roaming failover state 5. If tunnel build from AP3 to AP4, Plug out cable of AP3, check roaming failover state. 6. Then power down AP2 check roaming failover state 7. Design a state, tunnel built with DA, power down AP1(DA), check roaming failover state | | |
| Expect result | 1. AP1,will send DNXP cache to all other APs(unicast) 2. When roaming to AP4, tunnel will be build with AP2 or AP3 and route table will add “T” 3. Plug out cable of AP2, Tunnel still build on AP2 4. When AP2 down, AP4 will try build tunnel with AP3 5. Plug out cable of AP3, Tunnel still build on AP2 6. If AP3 down ,tunnel will be build with AP2 7. AP4 will try build tunnel with AP2 or AP3(BAD/Attach) | | |

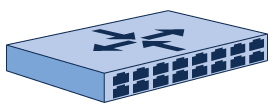
#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_15

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_15 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | DNXP L3 roaming failover( tunnel access portals) | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2,AP3 in same subnet AP4,AP5,AP6 in the same subnet)  -Configure APs have same SSID, configure mobility-policy DNXP,  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -Client associate to AP1, pass authentication  -AP1 is DA,AP2 is BDA,AP3 is Attach. | | |
| Test procedure | 1. Client M1 associate to AP1 at beginning , check AMPR DNXP cache in all APs 2. Client M1 roaming from AP1 to AP4 check DNXP cache , route table amrp tunnel in APs 3. If tunnel build from AP2 to AP4,plug out cable of AP4.check roaming failover state 4. Then, power down AP4, check roaming failover state. 5. Power down APs which client associate on | | |
| Expect result | 1. AP1,will send DNXP cache to all other APs(unicast) 2. When roaming to AP6, tunnel will be build and route table will add “T” 3. Tunnel will still keep alive with AP4 4. Client will associate to AP5 or AP6. AP2 will still try build tunnel with them 5. Client will associate to APs and try build tunnel if cache not timeout. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_16

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_16 | | |
| Priority | Middle | Automation Flag |  |
| Topology to use |  | | |
| Description | DNXP L3 roaming failover(from MP to MP) | | |
| Pre-condition | -The network bootup process has completed.  -Configure APs have same SSID, configure mobility-policy DNXP, -Bind mobility-policy to user-profile  -Client M1,M2 associate to AP1, pass authentication | | |
| Test procedure | 1. Client M1 associate to AP1 at beginning , check AMPR DNXP cache in all APs 2. Client M1 roaming from AP1 to AP6 check DNXP cache , route table, amrp tunnel in APs 3. If tunnel build from AP6 to AP4, power down AP4,check roaming failover state. 4. Tunnel will build with AP3 quickly. Then power down AP3. 5. Down AP6’s wireless. | | |
| Expect result | 1. AP1,will send DNXP cache to all other APs(unicast) 2. When roaming to AP6, tunnel will be build and route table will add “T” 3. When AP4 down,APs will try build tunnel with AP3 4. If AP3 down ,tunnel will be build with AP2 5. Client will associate to AP5 and still will try build tunnel | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_17



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_17 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | DNXP L3 roaming failover(DA down) | | |
| Pre-condition | -The network bootup process has completed.  -Configure APs have same SSID, configure mobility-policy DNXP, -Bind mobility-policy to user-profile  -Client M1,M2 associate to AP1, pass authentication | | |
| Test procedure | 1. Client M1 associate to AP1 at beginning , check AMPR DNXP cache in all APs 2. Plug out cable of AP2, AP2 will become MP 3. Client M1 roaming from AP1(DA) to AP3 check DNXP cache , route table, amrp tunnel in APs 4. tunnel build from AP1(DA) to AP3, Plug in cable of AP2,AP2 will become BDA 5. Power down AP1, check roaming failover state. 6. Tunnel will build with AP2 quickly. Then power down AP2. | | |
| Expect result | 1. AP1,will send DNXP cache to all other APs(unicast) 2. When roaming to AP3, tunnel will be build with AP1 and AP3 , route table will add “T” 3. When AP1 down, AP3 will try build tunnel with AP2 4. If AP2 down ,tunnel will be build with AP1 again | | |

### session sync in L3 roaming

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_18

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_18 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | L3 roaming sessions synchronization (ftp) | | |
| Pre-condition | -Configure portal1 and portal2 in the different subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication  -configure ip-policy ,only permit ftp traffic and enable alg | | |
| Test procedure | 1. When client associate to Portal1,debug auth all in Portal2,and check roaming cache in Portal2 2. Client run FTP, check IP-sessions in Portal1 (show forwarding-engine ip-sessions) 3. Client L3roaming from Portal1 to Portal2,debug auth all in Portal2, check IP-sessions in portal2.(when L2 roaming, debug auth all) 4. Client L3 roaming back from Portal2 to Portal1, , debug auth all in Portal1, check check IP-sessions in Portal1 (show forwarding-engine ip-sessions again) | | |
| Expect result | 1. Portal2’s roaming cache should include client’s auth info, and all auth info should consistent 2. At this time box should have IP-sessions 3. When roaming to Portal2, IP-sessions should synchronization, and FTP traffic should not interrupted. 4. When client roaming back from Portal2, IP-sessions should synchronization, and FTP traffic should not interrupted. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_19

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_19 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | L3 roaming sessions synchronization (tftp) | | |
| Pre-condition | -Configure portal1 and portal2 in the different subnets and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication  -configure ip-policy ,only permit tftp traffic and enable alg | | |
| Test procedure | 1. When client associate to Portal1,debug auth all in Portal2,and check roaming cache in Portal2 2. Client run TFTP, check IP-sessions in Portal1 (show forwarding-engine ip-sessions) 3. Client L3 roaming from Portal1 to Portal2,debug auth all in Portal2, check IP-sessions in portal2.(when L2 roaming, debug auth all) 4. Client L3 roaming back from Portal2 to Portal1, , debug auth all in Portal1, check check IP-sessions in Portal1 (show forwarding-engine ip-sessions again) | | |
| Expect result | 1. Portal2’s roaming cache should include client’s auth info, and all auth info should consistent 2. At this time box should have IP-sessions 3. When roaming to Portal2, IP-sessions should synchronization, and TFTP traffic should not interrupted. 4. When client roaming back from Portal2, IP-sessions should synchronization, and TFTP traffic should not interrupted. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_20

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_20 | | |
| Priority | High | Automation Flag | N/A |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | L2 roaming sessions synchronization (Sip) | | |
| Pre-condition | -Configure portal1 and portal2 in the different subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication  -configure ip-policy ,only permit sip traffic and enable alg | | |
| Test procedure | 1. When client associate to Portal1,debug auth all in Portal2,and check roaming cache in Portal2 2. Client run sip phone, check IP-sessions in Portal1 (show forwarding-engine ip-sessions) 3. Client L3 roaming from Portal1 to Portal2,debug auth all in Portal2, check IP-sessions in portal2.(when L2 roaming, debug auth all) 4. Client L3 roaming back from Portal2 to Portal1, , debug auth all in Portal1, check check IP-sessions in Portal1 (show forwarding-engine ip-sessions again) | | |
| Expect result | 1. Portal2’s roaming cache should include client’s auth info, and all auth info should consistent 2. At this time box should have IP-sessions 3. When roaming to Portal2, IP-sessions should synchronization, and sip traffic should not interrupted. 4. When client roaming back from Portal2, IP-sessions should synchronization, and sip traffic should not interrupted. | | |

### L3 roaming （inter-gateway）

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_21

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_21 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | layer-3 DNXP roaming . Tunnel build priority | | |
| Pre-condition | -Configure AP1,AP2 in the same subnet AP3 and AP4 in the same subnet  --Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1 AP2 AP3 ,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP3,AP4,AP5,user-profile vlan-id same as AP3’s mgt0 vlan  -Client1 associate to AP3, pass authentication  -If AP1 is DA AP2 is BDA,AP3 is attach | | |
| Test procedure | 1. Client associate to AP1 first “debug amrp xnxp detail”in DA 2. Client roaming from AP1 to AP4 3. Client associate to AP2 and then Client roaming from AP2 to AP4 4. Client associate to AP3 and then Client roaming from AP3 to AP4 | | |
| Expect result | 1. DA will send homelan request to peer subnet DA periodically. 2. AP4 Tunnel will build with AP2 or AP3.cache will be update 3. AP4 Tunnel will build with AP2 or AP3 cache will be update 4. AP4 Tunnel will build with AP2 or AP3 cache will be update | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_22

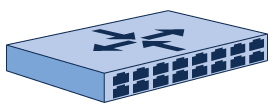
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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_22 | | |
| Priority | High | Automation Flag |  |
| Topology to use | L3 roaming between MP and Portals | | |
| Description | Layer-3 DNXP roaming, roaming from MP to Portal. | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2,AP3 in the same subnet AP4 in another subnet)  --Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1 AP2 AP3 ,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP4,user-profile vlan-id same as AP4’s mgt0 vlan  -Client1 associate to AP1, pass authentication | | |
| Test procedure | 1. Client1 associate to AP1, check roaming cache , AMPR DNXP cache in Portal2. 2. Check route table in Portal2 3. Client1 L3 roaming from AP1 to AP4,check AMRP tunnel, route table in AP4 and AP3(if AP2 is DA) 4. Client send unicast like ping etc, Unknown unicast, broadcast pkt. 5. Client roaming back from AP4 to AP1. | | |
| Expect result | 1. In AP4, roaming cache and AMRP DNXP cache should include clinet1’s auth info, VLAN, UPID. 2. In AP4’s route table, no client1’s route entry 3. Between AP4 and AP3 will build L3 tunnel, AMRP tunnel in AP4 is access side and in AP3 is backhaul side, client’s route will add “T” in route table. (when roaming to AP4 ,how long client’s traffic will recover ) 4. All packets will encapsulation in AP4, forwarding to AP3 and then forwarding. 5. In AP4, roaming cache and AMRP DNXP cache should update, but no client1’s route entry. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_23

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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_23 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | layer-3 DNXP roaming, roaming from Portal to MP. | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2,AP3 in the same subnet AP4 in another subnet)  --Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1 AP2 AP3 ,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP4,user-profile vlan-id same as AP4’s mgt0 vlan  -Client1 associate to AP4, pass authentication | | |
| Test procedure | 1. When client1 associate to AP4, check roaming cache , AMPR DNXP cache in AP1,AP2.AP3. 2. Check route table in Portal1, MP1. 3. Client1 L3 roaming from Portal2 to MP1,check AMRP tunnel, route table in MP1 and Portal2 4. Client send unicast like ping etc, Unknown unicast, broadcast pkt. 5. Client roaming back from Portal2 to MP1. | | |
| Expect result | 1. In AP1,AP2,AP3 ,roaming cache and AMRP DNXP cache should update. 2. In AP1,AP2,AP3’s route table, no client1’s route entry 3. Between MP1 and AP4 will build L3 tunnel, AMRP tunnel in MP1 is access side and in AP4 is backhaul side, client’s route will add “T” in route table. (when roaming to MP1 ,how long client’s traffic will recover ) 4. All packets will encapsulation in MP1, forwarding to AP4 and then forwarding . 5. In AP1,AP2,AP3, roaming cache and AMRP DNXP cache should update, but no client1’s route entry. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_24

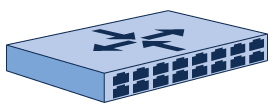
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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_24 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | layer-3 DNXP roaming ,L2/L3 roaming in the same topology. | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2 in the same subnet AP3,AP4 in another subnet)  --Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1 AP2 ,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP3,AP4,user-profile vlan-id same as AP4’s mgt0 vlan  -Client1 associate to AP1, pass authentication | | |
| Test procedure | 1. Client roaming from AP1 to AP2 (L2), check roaming cache , AMPR DNXP cache update in each box. 2. Check route table in AP3, AP4. 3. Client roaming from Portal2 to Portal3 (L3), check roaming cache AMPR DNXP cache, amrp tunnel. 4. Check route table in all boxes 5. Client roaming from AP3 to AP4 (L2), 6. Check route table in AP2 and AP4 7. Client roaming back, hop by hop. | | |
| Expect result | 1. In AP3 AP4, roaming cache and AMRP DNXP cache should be update 2. In AP3 AP4’s route table, no client1’s route entry 3. Between AP2 and AP3 will build L3 tunnel, AMRP tunnel in AP3 is access side and in AP2 is backhaul side, DNXP cache will update. 4. All boxes have client1’s route entry 5. Between AP2 and AP4 will build L3 tunnel, AMRP tunnel in APl4 is access side and in AP2 is backhaul side, DNXP cache will update. 6. All boxes have client1’s route entry 7. Roaming back should successfully. Cache table will update every times | | |



#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_25

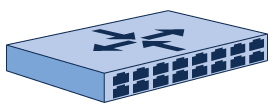
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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_25 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | L3 roaming between three subnet.. | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2,AP3 in different subnet)  --Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan  -In AP3,user-profile vlan-id same as AP3’s mgt0 vlan  -Client1 associate to AP1, pass authentication | | |
| Test procedure | 1. Client roaming from AP1 to AP2, check roaming cache , AMPR DNXP cache update in AP1,AP3. 2. Check route table in AP1, AP2. 3. Client roaming from AP2 to AP3, check roaming cache , AMPR DNXP cache update in AP1,AP2. 4. Check route table in AP1, AP3. 5. Roaming back from portal3 take turns | | |
| Expect result | 1. In AP2 AP3, roaming cache and AMRP DNXP cache should update. 2. Between AP1 and AP2 will build L3 tunnel, AMRP tunnel in AP2 is access side and in AP1 is backhaul side. 3. In AP1 AP3, roaming cache and AMRP DNXP cache should update. 4. Between AP1 and AP3 will build L3 tunnel, AMRP tunnel in Portal3 is access side and in Portal1 is backhaul side. 5. Roaming back should successfully and tunnel will be delete, cache will be update. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_26(NBR-keepalive)



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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_26 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | NBR-keepalive parameter check. | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ----Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan | | |
| Test procedure | 1. Set default NBR-keepalive paremeter(interval 10 Ageout (num of missed keepalives) 5 ) 2. “debug amrp xnxp keepalive “check neighbor update time 3. Down ethlink of eth0. Check how long neighbor will be disappear ? 4. Set max /mini NBR-keepalive paremeter(interval 5-360000 Ageout (num of missed keepalives) (2-1000) ) 5. “debug amrp xnxp keepalive “check neighbor update time 6. Down ethlink of eth0. Check how long neighbor will be disappear ? 7. Set random NBR-keepalive paremeter(interval 100 Ageout (num of missed keepalives) 10 ) 8. “debug amrp xnxp keepalive “check neighbor update time 9. Down ethlink of eth0. Check how long neighbor will be disappear ? | | |
| Expect result |  | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_27



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| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_27 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | After tunnel build, client disassociate and associate . | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, ----Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1,user-profile vlan-id same as AP1’s mgt0 vlan  -In AP2,user-profile vlan-id same as AP2’s mgt0 vlan | | |
| Test procedure | 1. Client roaming from AP1 to AP2, check roaming cache,amrp tunnel AP1,AP2. 2. Check route table in AP1, AP2. 3. Client disassociate from AP2,and associate to AP2 again befor cache timeout 4. Client disassociate from AP2,and associate to AP2 again after cache timeout | | |
| Expect result | 1. client’s tunnel will be rebuild 2. client will associate with local. | | |

### L3 roaming (base on user-profile vlan-id)

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_31

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_31 | | |
| Priority | Accept | Automation Flag |  |
| Topology to use |  | | |
| Description | Roaming between portals with use-profile vlan-id | | |
| Pre-condition | -Configure APs in the same sunnet and in the same hive  -Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this use-profile to SSID  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP2,AP3  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 30 in AP2 user-profile vlan is 32) | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP1 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP2 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP2 “debug auth all” 5. Check roaming cache in AP1,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache in AP2(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1 to AP2,check gre-arp send by AP2 (should not send) 8. Check AP2 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” show amrp client. 12. Check tunnel state “show amrp tunnel ” 13. Check route state in AP1 and AP2 “show route” 14. After client roaming to AP2, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP1,”show roaming neighbor and show amrp dnxp neighbor”should have AP2’s cache info 2. AP1 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2(unicast) 4. AP1 will send roaming cache to AP2 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP2,AP2 will send DNXP-cache to AP1 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP1 and AP2 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_32

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_32 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | Roaming from MP to Portal base on user-profile vlan-id. | | |
| Pre-condition | -Configure two APs in the same sunnet and in the same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this use-profile to SSID  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP2  (for example: in AP1 user-profile vlan is 28, in AP2 user-profile vlan is 30 )  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP1 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP2 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP2 “debug auth all” 5. Check roaming cache in AP1,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache in AP1(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1to AP2,check gre-arp send by AP2 (should not send) 8. Check AP2 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” “show amrp client”. 12. Check tunnel state “show amrp tunnel ”in AP1 and AP2 13. Check route state in AP1 and AP2 “show route” 14. After client roaming to AP2, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP1,”show roaming neighbor and show amrp dnxp neighbor”should have AP2’s cache info 2. AP1 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2(unicast) 4. AP1 will send roaming cache to AP2 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP2,AP2 will send DNXP-cache to AP1 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP1 and AP2 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_33

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_33 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | Roaming from MP to MP base on user-profile vlan-id. | | |
| Pre-condition | -Configure APs in the same sunnet and in the same hive  -Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this use-profile to SSID  -In AP1,user-profile vlan-id different with user-profile vlan-id of AP4  (for example: in AP1 user-profile vlan is 28, in AP4 user-profile vlan is 30)  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. Before client associate to AP1, check roaming neighbor and DNXP neighbor(“show roaming neighbor” and “show amrp dnxp neighbor”) 2. Client associate to AP1, check AP3 send gre-arp to switch (debug fe\_arp basic) 3. Check AP1 send “DNXP-cache”to AP1 (debug amrp xnxp detail) 4. Check AP1 send “roaming-cache ”to AP3 and AP2 AP4 “debug auth all” 5. Check roaming cache in AP3,AP2 (show roaming cache) check “UPID, VLAN-id” 6. Check DNXP cache in AP2,AP4,AP3(show amrp dnxp cache) check vlan-id 7. Client roaming from AP1 to AP4,check gre-arp send by AP2 (should not send) 8. Check AP4 send “DNXP-cache”to AP1,AP2.AP3 (debug amrp xnxp detail) 9. Check ssid station info “show ssid xxxx station”check “UPID VLAN-ID” 10. Check roaming cache in AP1 and AP2,AP3 check “UPID VLAN-ID” 11. Check amrp client info, check “UPID VLAN-ID” “show amrp client”. 12. Check tunnel state “show amrp tunnel ”in AP3 and AP4 13. Check route state in AP3 and AP4 “show route” 14. After client roaming to AP4, client send broadcast pkts 15. Client send unicast to local PC/client mgt0 16. Client send unicast to remote PC/client mgt0 17. Client send DHCP pkts | | |
| Expect result | 1. AP4,”show roaming neighbor and show amrp dnxp neighbor”should have AP1’s cache info 2. AP3 will send g-arp to swith 3. When client associate to AP1,AP1 will send cache to AP2,AP3,AP4(unicast) 4. AP1 will send roaming cache to AP2,AP3,AP4 5. “UPID, VLAN-id” should matching. 6. In DNXP cache VLAN-ID should matching. 7. AP2 will not send g-arp to switch when roaming occur. 8. When client roaming to AP4,AP4 will send DNXP-cache to AP1,AP2,AP3 9. show ssid xxxx station” “UPID VLAN-ID” should matching 10. roaming cache in AP3 and AP4 “UPID and vlan-id”should matching 11. “UPID VLAN-ID” show amrp client. Should matching 12. Tunnel should build and info should right. 13. Route table should right and client’s route should add “T” 14. Broadcast pkts should send out via gre tunnel 15. Pkts should send via GRE tunnel 16. Pkts should send via GRE tunnel 17. Pkts should send via GRE tunnel | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_34

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_34 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | layer-3 DNXP roaming ,L3 roaming in base on vlan-id and homelan. | | |
| Pre-condition | -Configure APs in the different subnet but same hive  (AP1,AP2,AP3 in the same subnet AP4 in another subnet)  --Configure APs have same SSID, configure mobility-policy DNXP, -  -Bind mobility-policy to user-profile  -Bind this user-profile to SSID  -In AP1 AP2 ,user-profile vlan-id is different  -In AP3,AP4,user-profile vlan-id is different  -Client1 associate to AP1, pass authentication | | |
| Test procedure | 1. Client roaming from AP1 to AP2, check roaming cache , AMPR DNXP cache update in each box. tunnel will built between AP1 and AP2, 2. Check route table in AP3, AP4. 3. Client roaming from Portal2 to Portal3 , check roaming cache AMPR DNXP cache, amrp tunnel. 4. Check route table in all boxes 5. Client roaming from AP3 to AP4, 6. Check route table in AP2 and AP4 7. Client roaming back, hop by hop. | | |
| Expect result | 1. Tunnel will built between AP1 and AP2, In AP3 AP4, roaming cache and AMRP DNXP cache will update 2. In AP3 AP4’s route table, no client1’s route entry 3. Between AP1 and AP3 will build L3 tunnel, AMRP tunnel in AP3 is access side and in AP1 is backhaul side, DNXP cache will update. 4. All boxes have client1’s route entry 5. Between AP1 and AP4 will build L3 tunnel, AMRP tunnel in AP4 is access side and in AP2 is backhaul side, DNXP cache will update. 6. All boxes have client1’s route entry 7. Roaming back should successfully. Cache table will update every times | | |

### Negative test of L3 roaming

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_35

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_35 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | L3 roaming from MP to Portal base on user-profile vlan-id. | | |
| Pre-condition | -configure three APs in the same subnet and same hive  -Configure two APs in the same hive and same SSID, configure mobility-policy DNXP  -Configure two APs have different use-profile vlan-id  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1 check dnxp cache in portal. 2. Client roaming from AP1 to AP2, check cache table check route table | | |
| Expect result | 1. client’s cache should update in AP2 2. Tunnel should not built from AP2 to AP1 | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_36

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_36 | | |
| Priority | High | Automation Flag |  |
| Topology to use | L3 roaming between MP and Portals | | |
| Description | Layer-3 Nomadic DNXP roaming. | | |
| Pre-condition | -The network bootup process has completed.  -Client1 associate to AP1, pass authentication | | |
| Test procedure | 1. Check roaming cache ,DNXP cache in AP6 2. Client roaming from AP1 to AP6 | | |
| Expect result | 1. We do no support L3 nomadic roaming | | |

### Protocol test (Inter-gateway layer-3 roaming)

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_37

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_37 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP1 works properly | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP5  -Debug driver/auth  -Debug amrp basic /amrp xnxp detail  -Check the driver/auth table  -Check routing table | | |
| Expect result | *Driver:*  *1. M1 de-associated(timeout)*  *auth:*  1. notify routing M1 leave  *Routing:*  1. de-register M1🡪AP1 to AP2.  *AMRP:*  Updte DNXP cache table | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_38

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_38 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP5 works properly | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP5  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | Driver:  1. M1 associated  *auth:*  *1. lookup cache, hit!*  2. authorize M1.  3. M1 cache become local  4. notify routing M1 connected.  AMRP:  1. Look up DNXP cache, first check DA (homelan ).  2. Homelan DA notify AP5 the best tunnel to  3. Routing assign AP3 as M1’s master portal (if AP2 is DA)  4. Send tunnel open request to master portal and FE locally.  5. Push Local DNXP cache to nbrs .  6. Tunnel open    *Routing:*  1.learn M1 connected.  2. lookup STA with flag I.  3. AP2 is M1’s master portal. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_39

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_39 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP2(DA) works properly | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP5  -Debug driver/auth  -Debug amrp basic /amrp xnxp basic  -Check the driver/auth table  -Check routing table | | |
| Expect result | *AMRP:*  1. Notify AP5 the best tunnel to..  2. update dnxp cache  3. notify | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_40

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_40 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP3 works properly | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP5  -Debug driver/auth  -Debug amrp basic /amrp xnxp basic  -Check the driver/auth table  -Check routing table | | |
| Expect result | Auth:  1. Get GRE req for M1  2. Ask FE create GRE tunnel.  3. Notify routing about M1 GRE tunnel.  AMRP  Update cache  Routing:  1. Recv M1 GRE tunnel notice from auth.  2. Update STA binding M1🡪AP2 with flag T  3. Recv de-register M1🡪AP1 from AP1  4. Bcast M1->AP2 within Hive | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_41

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_41 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP4 works properly, | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP5  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | no state changed when do roaming. | | |

Roaming back from AP5 to AP1



#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_42

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_42 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP5 works properly | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp basic / armp xnxp basic  -Check the driver/auth table  -Check routing table | | |
| Expect result | Driver:  1. M1 de-associate(timeout).  Auth:  1. notify routing M1 leave.  AMRP:  1. Upate dnxp cache  *Routing:*  1. find STA with flag I.  2. no need de-register. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_43

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_43 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP1 works properly | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | Driver:  1. M1 associated  *auth:*  *1. lookup cache hit.*  2. authorize M1.  3. cache M1 become local  4. notify routing M1 connected.  Amrp:  1. Look up DNXP cache, first check DA (homelan ).second check vlan-id.  2. In DNXP cache, homelan,vlan-id same as assigned, so do normally associated  3. Routing assign AP2 as M1’s master portal  4. Push Local KEY to nbr and master portal.  5. Push Local DNXP cache to nbrs .  *Routing:*  1.learn M1 connected.  2. STA lookup hit flag T.  3. STA without flag I.  4. my portal is M1’s master portal(auth )  5.register M1🡪AP1 binding to portal | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_44

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_44 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP2 works properly  We must check how to remove the FE policy when M1 come back to AP1. | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | *auth:*  1. learn (M1,key1)  AMRP:  1 . Update dnxp cache from AP1  *Routing:*  1. recv register M1🡪AP1  2. update STA entry M1🡪AP1 flag R.  3. Export M1 nbr-portals (AP3) | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_45

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_45 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP3 works properly  We must check how to remove the FE policy when M1 come back to AP1. | | |
| Pre-condition | -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | *auth:*  1. learn (M1,key1)  *AMRP:*  1 . receive tunnel close request from AP5, and give reply ,tunnel closed  2 . Update dnxp cache from AP1  *Routing:*  1. recv register M1🡪AP1  2. update STA entry M1🡪AP1 flag R. | | |

### 4.5.3 Protocol test ( roaming base on client’s VLAN)

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_46

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_46 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | L3 nomadic roaming, verify that the process of AP1 works properly | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP4  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | *Driver:*  *1. M1 de-associated(timeout)*  *auth:*  1. notify routing M1 leave  *Routing:*  1. de-register M1🡪AP1 to AP2. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_47

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_47 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP4 works properly | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP4  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | Driver:  1. M1 associated  *auth:*  *1. lookup cache, hit!*  2. authorize M1.  3. M1 cache become local  4. notify routing M1 connected.  AMRP:  1. Look up DNXP cache, first check DA (homelan ),then check vlan-id  2. Homelan DA notify AP4 the best tunnel to (bootup,DA will tell all box the best tunnel to )  3. Routing assign AP3 as M1’s master portal (if AP2 is DA)  4. Check DA same, but vlan-id different ,begin built GRE tunnel.  5. Send tunnel open request to master portal and FE locally.  6. Push Local DNXP cache to nbrs .    *Routing:*  1.learn M1 connected.  2. lookup STA with flag I.  3. AP2 is M1’s master portal. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_48

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_48 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP3 works properly | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming from AP1 to AP4  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | *Auth:*  1. get GRE req for M1  2. build GRE tunnel.  3. notify routing about M1 GRE tunnel.  *Routing:*  1. recv M1 GRE tunnel notice from auth.  2. update STA binding M1🡪AP2 with flag T  3. recv de-register M1🡪AP1 from AP1 | | |

**Roaming back from AP4 to AP1**



#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_49

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_49 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M seamless roaming | | |
| Description | Verify that the process of AP4 works properly | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp basic / armp xnxp basic  -Check the driver/auth table  -Check routing table | | |
| Expect result | Driver:  1. M1 de-associate(timeout).  Auth:  1. notify routing M1 leave.  AMRP:  1. Upate dnxp cache  *Routing:*  1. find STA with flag I.  2. no need de-register. | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_50

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_50 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP1 works properly | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | Driver:  1. M1 associated  *auth:*  *1. lookup cache hit.*  2. authorize M1.  3. cache M1 become local  4. notify routing M1 connected.  Amrp:  1. Look up DNXP cache, first check DA (homelan ).second check vlan-id.  2. In DNXP cache, homelan,vlan-id same as assigned, so do normally associated  3. Routing assign AP2 as M1’s master portal  4. Push Local KEY to nbr and master portal.  5. Push Local DNXP cache to nbrs .  *Routing:*  1.learn M1 connected.  2. STA lookup hit flag T.  3. STA without flag I.  4. my portal is M1’s master portal(auth )  5.register M1🡪AP1 binding to portal | | |

#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_51

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_51 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP2 works properly  We must check how to remove the FE policy when M1 come back to AP1. | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | *auth:*  1. learn (M1,key1)  AMRP:  1 . Update dnxp cache from AP1  *Routing:*  1. recv register M1🡪AP1  2. update STA entry M1🡪AP1 flag R.  3. Export M1 nbr-portals (AP3) | | |

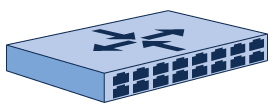
#### AMRP2\_L3\_DNXP\_Roaming\_testcase\_52

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_L3\_DNXP\_Roaming\_testcase\_52 | | |
| Priority | Low | Automation Flag |  |
| Topology to use | Test Topology New station M roaming | | |
| Description | Verify that the process of AP3 works properly  We must check how to remove the FE policy when M1 come back to AP1. | | |
| Pre-condition | -AP1 and AP5 are not same user-profile vlan-id  -The network bootup process has completed. | | |
| Test procedure | -Roaming back from AP5 to AP1  -Debug driver/auth  -Debug amrp  -Check the driver/auth table  -Check routing table | | |
| Expect result | *auth:*  1. learn (M1,key1)  *AMRP:*  1 . receive tunnel close request from AP5, and give reply ,tunnel closed  2 . Update dnxp cache from AP1  *Routing:*  1. recv register M1🡪AP1  2. update STA entry M1🡪AP1 flag R. | | |

## layer-3 INXP Tunnel

### L3 Roaming INXP between two boxes(password check)

### L3 Roaming INXP between two boxes(password check)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_1 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------L3 Switch-----------  | |  Portal 1 Portal 2  Client 1 | | |
| Description | INXP,different password check. | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to Portal2 in Portal1  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal2  -tunnel password is different  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check tunnel state 2. Change tunnel password to same | | |
| Expect result | 1. Tunnel will no build because password not match 2. Tunnel can build successfully | | |

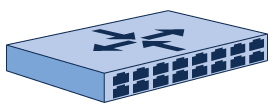
### L3 Roaming INXP between two boxes(subnet check)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_2 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------L3 Switch-----------  | |  Portal 1 Portal 2  Client 1 | | |
| Description | INXP ,different subnet check. | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to Portal2 in Portal1  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal2  -tunnel from mask different with Portal1  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check tunnel state 2. Change tunnel mask to same with Portal1 | | |
| Expect result | 1. Tunnel will no build because password not match 2. Tunnel can build successfully | | |

### L3 Roaming INXP between two boxes(normal state)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_3 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------L3 Switch-----------  | |  Portal 1 Portal 2  Client 1 | | |
| Description | INXP ,different subnet check. | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to Portal2 in Portal1  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal2  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check build tunnel state “\_debug amrp xnxp detail” 2. Check tunnel state “show amrp tunnel” 3. “show ssid xxx station”check upid vlan-id 4. “show amrp client” check upid and vlan-id 5. Client send broadcast and unicast   Client ping(MP AP1 AP2) mgt0 IP  Client ping gateway  Client ping locate client | | |
| Expect result | 1. Tunnel can build successfully 2. Tunnel parameter should right 3. Upid vlan-id should be right 4. Upid vlan-id should be right 5. Datapath should be right | | |

### L3 Roaming INXP from MP to Portal



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_4 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ------------L3 Switch-----------  | |  Portal 1 Portal 2  MP  Client 1 | | |
| Description | INXP ,from MP to Portal | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to Portal2 in MP  -Configure mobility-policy INXP gre-tunnel from MP in Portal2  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check build tunnel state “\_debug amrp xnxp detail” 2. Check tunnel state “show amrp tunnel” 3. “show ssid xxx station”check upid vlan-id 4. “show amrp client” check upid and vlan-id 5. Client send broadcast and unicast   Client ping(MP AP1 AP2) mgt0 IP  Client ping gateway  Client ping locate client | | |
| Expect result | 1. Tunnel can build successfully 2. Tunnel parameter should right 3. Upid vlan-id should be right 4. Upid vlan-id should be right 5. Datapath should be right | | |

### L3 Roaming INXP from Portal to MP

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_5 | | |
| Priority | Accept | Automation Flag | Yes |
| Topology to use | ------------L3 Switch-----------  | |  Portal 1 Portal 2  MP  Client 1 | | |
| Description | INXP ,from Portal to MP | | |
| Pre-condition | -Configure two APs in the different subnet but same hive  -Configure two APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to MP in Portal2  -Configure mobility-policy INXP gre-tunnel from Portal2 in MP  -Client1 associate to Mp, pass authentication | | |
| Test procedure | 1. When client associate to MP ,check build tunnel state “\_debug amrp xnxp detail” 2. Check tunnel state “show amrp tunnel” 3. “show ssid xxx station”check upid vlan-id 4. “show amrp client” check upid and vlan-id 5. Client send broadcast and unicast   Client ping(MP AP1 AP2) mgt0 IP  Client ping gateway  Client ping locate client | | |
| Expect result | 1. Tunnel can build successfully 2. Tunnel parameter should right 3. Upid vlan-id should be right 4. Upid vlan-id should be right 5. Datapath should be right | | |

### L3 Roaming INXP on bridge-access mode(dynamic mac-learning)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_6 | | |
| Priority | Accept | Automation Flag | N/A |
| Topology to use |  | | |
| Description | INXP in bridge-access topology(dynamic mac-learning) | | |
| Pre-condition | -configure two APs in the same hive,  -In MP configure mobile-policy INXP and bind to user-profile  (for example:mobility-policy inxp inxp gre-tunnel to 10.100.40.24 password \*\*\*  user-profile name qos-policy def-user-qos vlan-id 30 mobility-policy inxp  attribute 300  interface eth1 mode bridge-access user-profile-attribute 300  interface eth1 mac-learning enable)  - In AP2 configure mobile-policy INXP and bind to user-profile  ( For example: mobility-policy inxp inxp gre-tunnel from 10.100.30.0/24 password \*\*\*  user-profile name qos-policy def-user-qos vlan-id 30 mobility-policy inxp attribute 300 ) | | |
| Test procedure | 1. STA1 connected switch which bridge via MP's eth1, “show interface eth1 mac-learning all ”check mac-learning entry 2. When STA1 connected to switch open”\_debug amrp basic” on MP,check tunnel build from MP to AP2 3. After tunnel build successfully,”show amrp tunnel””show amrp client”on MP 4. STA1 send unicast to mgt0 of AP1 and AP2 5. STA1 send broadcast 6. STA2 associate to AP2,send broadcast packets,debug FE on MP 7. Down interface eth1, then up interface eth1, check mac-learning table and tunnel entry 8. When interface eth1 down,check tunnel should be down on AP2 9. Reboot MP,after AP boot up check mac-learning table and tunnel entry. | | |
| Expect result | 1. Mac-learning table should Learn STA’s info and route table should add STA’s route 2. Tunnel should be build from MP to AP2 3. Tunnel entry should display on MP 4. Unicast should send out via tunnel 5. Broadcast should be send out all access interface and tunnel interface 6. MP will received broadcast from tunnel, and will be forwarding out all access interface and up to mgt0 7. Tunnel should rebuild successfully 8. Tunnel will be down on AP2 9. Tunnel should rebuild successfully | | |

### L3 Roaming INXP on bridge-access mode(static mac-learning)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_7 | | |
| Priority | Accept | Automation Flag | N/A |
| Topology to use |  | | |
| Description | INXP in bridge-access topology(static mac-learning) | | |
| Pre-condition | -configure two APs in the same hive,  -In MP configure mobile-policy INXP and bind to user-profile  (for example:mobility-policy inxp inxp gre-tunnel to 10.100.40.24 password \*\*\*  user-profile name qos-policy def-user-qos vlan-id 30 mobility-policy inxp  attribute 300  interface eth1 mode bridge-access user-profile-attribute 300  interface eth1 mac-learning enable)  - In AP2 configure mobile-policy INXP and bind to user-profile  ( For example: mobility-policy inxp inxp gre-tunnel from 10.100.30.0/24 password \*\*\*  user-profile name qos-policy def-user-qos vlan-id 30 mobility-policy inxp attribute 300 ) | | |
| Test procedure | 1. Add static mac-entry on MP ” interface eth1 mac-learning static xx” 2. STA1 connected switch which bridge via MP's eth1, “show interface eth1 mac-learning all ”check mac-learning entry 3. When STA1 connected to switch open”\_debug amrp basic” on MP,check tunnel build from MP to AP2 4. After tunnel build successfully,”show amrp tunnel””show amrp client”on MP 5. STA1 send unicast to mgt0 of AP1 and AP2 6. STA1 send broadcast 7. Down interface eth1, then up interface eth1, check mac-learning table and tunnel entry 8. When interface eth1 down,check tunnel should be down on AP2 9. Reboot MP,after AP boot up check mac-learning table and tunnel entry. | | |
| Expect result | 1. “show int eth1 mac-learning static”should have entry of STA 2. Mac-learning table should Learn STA’s info and route table should add STA’s route 3. Tunnel should be build from MP to AP2 4. Tunnel entry should display on MP 5. Unicast should send out via tunnel 6. Broadcast should be send out all access interface and tunnel interface 7. Tunnel should rebuild successfully 8. Tunnel will be down on AP2 9. Tunnel should rebuild successfully | | |

### INXP to IP Pool (noral state)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_8 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------L3 Switch-----------  | | |  Portal 1 Portal 2 Portal3  Client 1 | | |
| Description | INXP to ip pool . | | |
| Pre-condition | -Configure APs in the different subnet but same hive  Portal1 is a subnet portal2 and portal3 is a subnet  -Configure three APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to IP Pool in Portal1  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal2  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal3  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check build tunnel state “\_debug amrp xnxp detail” 2. Check tunnel state “show amrp tunnel” 3. “show ssid xxx station”check upid vlan-id 4. “show amrp client” check upid and vlan-id 5. Client send broadcast and unicast   Client ping(MP AP1 AP2) mgt0 IP  Client ping gateway  Client ping locate client | | |
| Expect result | 1. Tunnel can build successfully ,chosen min IP for tunnel backhaul side 2. Tunnel parameter should right 3. Upid vlan-id should be right 4. Upid vlan-id should be right 5. Datapath should be right | | |

### INXP to IP Pool (big pool)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_9 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------L3 Switch-----------  | | |  Portal 1 Portal 2 Portal3  Client 1 | | |
| Description | INXP to ip pool . | | |
| Pre-condition | -Configure APs in the different subnet but same hive  Portal1 is a subnet portal2 and portal3 is a subnet  -Configure three APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to IP Pool in Portal1  (this IP Pool is big but include Portal2 and Portal3)  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal2  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal3  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check build tunnel state “\_debug amrp xnxp detail” 2. Check tunnel state “show amrp tunnel” 3. “show ssid xxx station”check upid vlan-id 4. “show amrp client” check upid and vlan-id 5. Client send broadcast and unicast   Client ping(MP AP1 AP2) mgt0 IP  Client ping gateway  Client ping locate client | | |
| Expect result | 1. Tunnel can build successfully ,chosen an reachable IP (how long) 2. Tunnel parameter should right 3. Upid vlan-id should be right 4. Upid vlan-id should be right 5. Datapath should be right | | |

### INXP to IP Pool (failover)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_INXP\_testcase\_10 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------L3 Switch-----------  | | |  Portal 1 Portal 2 Portal3  Client 1 | | |
| Description | INXP failover. | | |
| Pre-condition | -Configure APs in the different subnet but same hive  Portal1 is a subnet portal2 and portal3 is a subnet  -Configure three APs in the same hive and same SSID,  -Configure mobility-policy INXP gre-tunnel to IP Pool in Portal1  (this IP Pool is include Portal2 and Portal3)  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal2  -Configure mobility-policy INXP gre-tunnel from Portal1 in Portal3  -Client1 associate to portal1, pass authentication | | |
| Test procedure | 1. When client associate to Portal1 ,check build tunnel state “\_debug amrp xnxp detail” 2. Check tunnel state “show amrp tunnel” 3. “show ssid xxx station”check upid vlan-id 4. “show amrp client” check upid and vlan-id 5. Down AP which build tunnel with AP1 6. Client send broadcast and unicast   Client ping(MP AP1 AP2) mgt0 IP  Client ping gateway  Client ping locate client | | |
| Expect result | 1. Tunnel can build successfully , min IP for tunnel backhaul 2. Tunnel parameter should right 3. Upid vlan-id should be right 4. Upid vlan-id should be right 5. Will do failover and change a reachable IP for tunnel backhaul 6. Datapath should be right | | |

## Dualport of AMRP2

### Dualport\_testcase\_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Dualport\_testcase\_1 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | Dualport of red | | |
| Pre-condition | -Configure four APs in the same subnet and same hive  -All Ethlink port configure to red mode | | |
| Test procedure | 1. Boot up APs one by one check route table “show route” in each APs 2. Check amrp ethlink state “show amrp interface red0/eth0/eth1” 3. Down/up ethlink ,check ethlink change. “show amrp interface eth0/eth1” 4. Boot up APs at same time, check route table “show route” in each APs 5. Check amrp ethlink state “show amrp interface eth0/eth1” 6. Client associate to box ,check datapath(broadcast,unicast. Unknown unicast dhcp packets) | | |
| Expect result | * 1. Default rotue should be red0,node route should be right   2. Check eth0/eth1 will remind occur wrong because have bind red0,check red0 will be in DA/BDA /attach state   3. Down one port Red0 state will be no change . dualport up/down will occur state change   4. Default route should be red0 and node route number should be right   5. Red0 state will be no change | | |

### Dualport\_testcase\_2

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Dualport\_testcase\_2 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | Dualport of agg0 | | |
| Pre-condition | -Configure four APs in the same subnet and same hive  -All Ethlink port configure to agg0 mode  -switch side port should configure to agg0 mode too | | |
| Test procedure | 1. Boot up APs one by one check route table “show route” in each APs 2. Check amrp ethlink state “show amrp interface eth0/eth1” 3. Down/up ethlink ,check ethlink change. “show amrp interface eth0/eth1” 4. Boot up APs at same time, check route table “show route” in each APs 5. Check amrp ethlink state “show amrp interface eth0/eth1” 6. Client associate to box ,check datapath(broadcast,unicast. Unknown unicast dhcp packets) | | |
| Expect result | 1. Default rotue should be agg0,node route should be right 2. Check eth0/eth1 will remind occur wrong because have bind agg0,check agg0 will be in DA/BDA /attach state 3. Down one port agg0 state will be no change . dualport up/down will occur state change 4. Default route should be agg0 and node route number should be right 5. agg0 state will be no change | | |

### Dualport\_testcase\_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Dualport\_testcase\_3 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | Dualport | | |
| Pre-condition | -Configure four APs in the same subnet and same hive  -All Ethlink port not configure | | |
| Test procedure | 1. Boot up APs one by one check route table “show route” in each APs 2. Check amrp ethlink state “show amrp interface eth0/eth1” 3. Down/up ethlink ,check ethlink change. “show amrp interface eth0/eth1” 4. Boot up APs at same time, check route table “show route” in each APs 5. Check amrp ethlink state “show amrp interface eth0/eth1” 6. Client associate to box ,check datapath(broadcast,unicast. Unknown unicast dhcp packets) | | |
| Expect result | * + 1. Default route should be eth0.     2. Eth0/eth1 state should be right     3. Down/up interface eth0/eth1 will change state     4. Default route should be eth0 and interface route should right     5. Eth0/eth1 state should be right. | | |

### Dualport\_testcase\_4

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | Dualport\_testcase\_4 | | |
| Priority | High | Automation Flag |  |
| Topology to use | -----switch----  | |  AP1  MP | | |
| Description | Dualport of BMT-table change | | |
| Pre-condition | -Configure two APs in the same subnet and same hive  -All Ethlink port not configure | | |
| Test procedure | 1. Boot up APs one by one check route table “show route” in each APs 2. Check amrp ethlink state “show amrp interface eth0/eth1” 3. Check bmt table in AP1(show amrp int eth0/eth1 bmt-table) 4. Down interface eth0 check bmt table in AP1(show amrp int eth0/eth1 bmt-table) 5. Up interface eth0 again and check bmt table in AP1(show amrp int eth0/eth1 bmt-table) | | |
| Expect result | 1. AP1’s default route should be eth0 need include mp’s route.MP’s default route shoud be wifi1.1 2. AP1 eth0 should be in DA state and eth1 in attach state 3. Mp should register to AP1 eth0 . AP2 eth0 act as mp’s bmt 4. Mp should register to AP1 eth1 . AP2 eth1 act as mp’s bmt 5. Mp should register to AP1 eth0 . AP2 eth0 act as mp’s bmt | | |

## AMRP2 of static route

### AMRP2\_static\_route\_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_static\_route\_1 | | |
| Priority | Middle | Automation Flag |  |
| Topology to use | -----switch----  | |  AP1  MP | | |
| Description | AP configure static route | | |
| Pre-condition | -Configure two APs in the same subnet and same hive  -All Ethlink port not configure | | |
| Test procedure | * + - 1. Use HM configure static route (destination MAC interface Next Hop MAC)       2. Push configure to MP   route 11-11-11-11-11-11 outgoing-interface eth0 next-hop 22-22-22-22-22-22 route 33-33-33-33-33-33 outgoing-interface eth1 next-hop 44-44-44-44-44-44 route 45-55-55-55-55-55 outgoing-interface red0 next-hop 66-66-66-66-66-66 route 77-77-77-77-77-77 outgoing-interface agg0 next-hop 88-88-88-88-88-88 route 99-99-99-99-99-99 outgoing-interface wifi0 next-hop 99-12-11-11-11-11 route 12-22-12-33-33-33 outgoing-interface wifi1 next-hop 55-55-65-65-66-56   * + - 1. “ Show running configure “ Check CLI       2. “show route” check static route added | | |
| Expect result | Step3: show running configure can see this,  route 11-11-11-11-11-11 outgoing-interface eth0 next-hop 22-22-22-22-22-22 route 33-33-33-33-33-33 outgoing-interface eth1 next-hop 44-44-44-44-44-44 route 45-55-55-55-55-55 outgoing-interface red0 next-hop 66-66-66-66-66-66 route 77-77-77-77-77-77 outgoing-interface agg0 next-hop 88-88-88-88-88-88 route 99-99-99-99-99-99 outgoing-interface wifi0 next-hop 99-12-11-11-11-11 route 12-22-12-33-33-33 outgoing-interface wifi1 next-hop 55-55-65-65-66-56  step4: “show route” can see those route have take effect. | | |

## AMRP2 emhancemet(allowed vlan and VLAN based L3 roaming)

### Allowed Vlan basic function test

Topology1:

Topology2:

Topology3:

Topology4:

Topology5:

Topology6：

Topology7：

Topology8：

#### Test case AMRP\_allowed\_vlan\_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_1 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Allowed vlan all, packets from wifi access side | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all | | |
| Test procedure | 1. AP1 create several SSIDs, bind different user-profile, every user-profile with different client vlan-id(41,42,43) 2. Push CLI “interface eth0 allow vlan all ” 3. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 4. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow vlan all ” 5. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Interface eth0/eth1 bind red0,Push CLI” interface red0 allow vlan all” 7. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 8. Interface eth0/eth1 bind agg0,Push CLI” interface agg0 allow vlan all” 9. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 10. Client associated a SSID, and get vlan-id(45)from radius, but local user-profeil have not this vlan-id. Client running traffic. Client ping gateway, send broadcast packets | | |
| Expect result | 3: Client ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0  5: Client ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1  7: Client ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1  9: Client ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1  10: Client ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1 | | |

#### Test case AMRP\_Allowed Vlan\_2

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_2 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 2 | | |
| Description | Allowed vlan all, packets from backhual side | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all | | |
| Test procedure | * 1. broadcast packet from ethlink side ,PC in different subnet send broadcast packets   2. Broadcast packets from wifi1.1 , ackets from MP. | | |
| Expect result | 1: open debug FE, packets should forwarding out all interface except incoming interface.  2: open debug FE, packets should forwarding out all interface except incoming interface. | | |

#### Test case AMRP\_Allowed Vlan\_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_3 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Allowed Specified Vlan packets from wifi access interface | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all | | |
| Test procedure | 1. AP1 create several SSID, bind different user-profile, every user-profile with different client vlan-id ” 41,42,43,44”. 2. Push CLI “interface eth0 allow vlan 41,42” 3. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 4. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow vlan 41,42 ” 5. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Interface eth0/eth1 bind red0,Push CLI” interface red0 allow vlan 41,42” 7. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 8. Interface eth0/eth1 bind agg0,Push CLI” interface agg0 allow vlan 41,42” 9. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 10. Client associated a SSID, and get vlan-id(45)from radius, but local user-profeil have not this vlan-id. Client running traffic. Client ping gateway, send broadcast packets | | |
| Expect result | 3: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0, Client with vlan 43,44 ping gateway will be fail, packets drop by FE  5: Client in vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1, Client in vlan 43,44 ping gateway will be fail, drop by FE  7: Client in vlan (41,42) ping gateway should succeed, Broadcast packets should forwarding out all interface include eth0/eth1, Client in vlan 43,44 ping gateway will be fail, drop by FE  9: Client in vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1,Client in vlan 43,44 ping gateway will be fail, drop by FE  9:packets should be discarding by FE | | |

#### Test case AMRP\_Allowed Vlan\_4

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_4 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 2 | | |
| Description | Allowed Specified Vlan packets from backhual interface | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all   1. Ethlink side only allowed vlan 41,42 | | |
| Test procedure | 1. broadcast packet from ethlink side (PC in vlan 42 send a broadcast packet) 2. broadcast packet from ethlink side (PC in vlan 43 send a broadcast packet) 3. Broadcast packets from wifi1.1 (packets in vlan 42),Packets fromMP 4. Broadcast packets from wifi1.1 (packets in vlan 43),Packets fromMP | | |
| Expect result | 1: AP should forwarding out all interface except incoming interface.  2: AP should discard those broadcast packets in vlan 43  3: AP should forwarding out all interface except incoming interface.  4: AP should discard those packets in vlan 43 | | |

#### Test case AMRP\_Allowed Vlan\_5

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_5 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 3 | | |
| Description | Allowed Specified Vlan packets from/to bridge-dot1q interface. | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all | | |
| Test procedure | 1. AP1 create several SSID, bind different user-profile, every user-profile with different client vlan-id ” 41,42,43,44”. 2. AP2 eth0/eth1 interface mode is bridge-dot1q, 3. Push CLI “interface eth0 allow vlan 41,42” 4. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 5. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 7. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 8. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow vlan 41,42 ” 9. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 10. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 11. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 12. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 13. Interface eth0 eth1 bind red0,push CLI”interface red0 allowed vlan 41,42” 14. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 15. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 16. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 17. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 18. Interface eth0 eth1 bind agg0,push CLI”interface agg0 allowed vlan 41,42” 19. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 20. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 21. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 22. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 | | |
| Expect result | 4: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0,  5: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  6:PC in (41,42) Broadcast packets should forwarding out all interface include eth0,  7:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE  9: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1,  10: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  11:PC in (41,42) Broadcast packets should forwarding out all interface include eth1,  12:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE  14: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  15: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  16:PC in (41,42) Broadcast packets should forwarding out all interface include eth1/eth0,  17:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE  19: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  20: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  21:PC in (41,42) Broadcast packets should forwarding out all interface include eth1/eth0,  22:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE | | |

#### Test case AMRP\_Allowed Vlan\_6

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_6 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Allowed vlan auto, packets from wifi access side | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41 | | |
| Test procedure | 1. AP1 create several SSID, bind different user-profile, every user-profile with different client vlan-id 42,43,44. 2. Push CLI “interface eth0 allow auto” 3. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 4. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow auto ” 5. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Interface eth0/eth1 bind red0,Push CLI” interface red0 allow auto” 7. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 8. Interface eth0/eth1 bind agg0,Push CLI” interface agg0 allow auto” 9. Client associated to different SSID, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” | | |
| Expect result | 3: Client in vlan (42,43,44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0  5: Client in vlan (42,43,44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1  7: Client in vlan (42,43,44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1  9: Client in vlan (42,43,44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1 | | |

#### Test case AMRP\_Allowed Vlan\_7

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_7 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 2 | | |
| Description | Allowed auto Vlan packets from backhual interface | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Ethlink side only allowed vlan auto | | |
| Test procedure | 1. AP1 create several SSID, bind different user-profile, every user-profile with different client vlan-id 42,43 2. broadcast packets from ethlink side (PC in vlan 42 send a broadcast packet) 3. broadcast packets from ethlink side (PC in vlan 44 send a broadcast packet) 4. Broadcast packets from wifi1.1 (packets in vlan 42) 5. Broadcast packets from wifi1.1 (packets in vlan 44) | | |
| Expect result | 2: AP should forwarding out all interface except incoming interface.  3: AP should discarding those broadcast packets  4: AP should forwarding out all interface except incoming interface.  5: AP should discarding those broadcast packets | | |

#### Test case AMRP\_Allowed Vlan\_8

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_8 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 3 | | |
| Description | Allowed Vlan atuo packets from/to bridge-dot1q interface. | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all | | |
| Test procedure | 1. AP1 create several SSID, bind different user-profile, every user-profile with different client vlan-id ” 41,42,43,44”. 2. AP2 eth0/eth1 interface mode is bridge-dot1q,create two user-profile with client vlan-id “41,42” 3. Push CLI “interface eth0 allow vlan auto” 4. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 5. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 7. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 8. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow vlan auto” 9. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 10. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 11. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 12. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 13. Interface eth0 eth1 bind red0,push CLI”interface red0 allowed vlan auto” 14. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 15. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 16. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 17. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 18. Interface eth0 eth1 bind agg0,push CLI”interface agg0 allowed vlan auto” 19. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 20. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 21. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 22. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 | | |
| Expect result | 4: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0,  5: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  6:PC in (41,42) Broadcast packets should forwarding out all interface include eth0,  7:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE  9: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1,  10: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  11:PC in (41,42) Broadcast packets should forwarding out all interface include eth1,  12:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE  14: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  15: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  16:PC in (41,42) Broadcast packets should forwarding out all interface include eth1/eth0,  17:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE  19: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  20: Client with vlan 43,44 ping gateway will be fail, packets drop by FE  21:PC in (41,42) Broadcast packets should forwarding out all interface include eth1/eth0,  22:PC with vlan 43,44 will not forwarding out via bridge-dot1q interface packets drop by FE | | |

#### Test case AMRP\_Allowed Vlan\_9

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_9 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Allowed vlan auto and Specified Vlan, packets from wifi access side | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41 2. Configure MP in the management vlan 41 | | |
| Test procedure | 1. Create different user-profile, every user-profile with different client vlan-id 41,42,43, 2. Push CLI “interface eth0 allow auto 44” 3. Cllient associated a SSID, and get vlan-id(44)from radius, but local user-profeil have not this vlan-id, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 4. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow auto 44” 5. Client associated a SSID, and get vlan-id(44)from radius, but local user-profeil have not this vlan-id, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Interface eth0/eth1 bind red0,Push CLI” interface red0 allow auto 44” 7. Client associated a SSID, and get vlan-id(44)from radius, but local user-profeil have not this vlan-id, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 8. Interface eth0/eth1 bind agg0,Push CLI” interface agg0 allow auto 44” 9. Client associated a SSID, and get vlan-id(44)from radius, but local user-profeil have not this vlan-id, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” | | |
| Expect result | 3: Client in vlan (44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0  5: Client in vlan (44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1  7: Client in vlan (44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1  9: Client in vlan (44) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0/eth1 | | |

#### Test case AMRP\_Allowed Vlan\_10

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_10 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 2 | | |
| Description | Allowed vlan auto and Specified Vlan packets from backhual interface | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Ethlink side only allowed vlan auto,44 | | |
| Test procedure | 1. Create different user-profile, every user-profile with different client vlan-id 41,42,43, 2. broadcast packets from ethlink side (PC in vlan 44 send a broadcast packet) 3. Broadcast packets from wifi1.1 (packets in vlan 44) packets from MP | | |
| Expect result | 1: AP should forwarding out all interface except incoming interface.  2: AP should forwarding out all interface except incoming interface. | | |

#### Test case AMRP\_Allowed Vlan\_11

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_11 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 3 | | |
| Description | Allowed Vlan atuo and specified vlan packets from/to bridge-dot1q interface. | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all | | |
| Test procedure | 1. AP1 create several SSID, bind different user-profile, every user-profile with different client vlan-id ” 41,42,43,44”. 2. AP2 eth0/eth1 interface mode is bridge-dot1q,create two user-profile with client vlan-id “41,42” 3. Push CLI “interface eth0 allow vlan auto 44” 4. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 5. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 6. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 7. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 8. Down interface eth0,up interface eth1, Push CLI “interface eth1 allow vlan auto 44” 9. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 10. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 11. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 12. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 13. Interface eth0 eth1 bind red0,push CLI”interface red0 allowed vlan auto 44” 14. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 15. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 16. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 17. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 18. Interface eth0 eth1 bind agg0,push CLI”interface agg0 allowed vlan auto 44” 19. Client1 connected to AP2,get vlan-id 42, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 20. Client2 connected to AP2,get vlan-id 44 from radius, running traffic(Client ping gateway, send broadcast packets), “\_debug FE basic” 21. Backhaul side PC,in vlan 42, send a broadcast to AP2,”\_debug FE basic”on AP2 22. Backhual side PC in vlan 44, send a broadcast to AP2, ”\_debug FE basic”on AP2 | | |
| Expect result | 4: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0,  5: Client with vlan 44 ping gateway should succeed. Broadcast packets should forwarding out all interface include eth0,  6:PC in (41,42) Broadcast packets should forwarding out all interface include eth0,  7:PC with vlan 44 Broadcast packets should forwarding out all interface include eth0,  9: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1,  10: Client with vlan 44 ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1,  11:PC in (41,42) Broadcast packets should forwarding out all interface include eth1,  12:PC with vlan 44 Broadcast packets should forwarding out all interface include eth1,  14: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  15: Client with vlan 44 ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  16:PC in (41,42) Broadcast packets should forwarding out all interface include eth1/eth0,  17:PC with vlan44 Broadcast packets should forwarding out all interface include eth1/eth0,  19: Client with vlan (41,42) ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  20: Client with vlan 44 ping gateway should succeed. Broadcast packets should forwarding out all interface include eth1/eth0,  21:PC in (41,42) Broadcast packets should forwarding out all interface include eth1/eth0,  22:PC with vlan 44 Broadcast packets should forwarding out all interface include eth1/eth0 | | |

#### Test case AMRP\_Allowed Vlan\_12

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_12 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 3 | | |
| Description | Bridge –access interface allowed Vlan, should not take effect | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41 | | |
| Test procedure | 1. AP1,AP2 Create different user-profile, every user-profile with different client vlan-id 41,42,43, AP1 “interface eth0 allowed all” 2. AP2 interface eth0 bridge-access mode, bind client vlan-id 43,PC connected to interface eth0 3. Push CLI, “interface eth0 allow 43” on AP2 4. Create a ssid on AP2, with user-profile client vlan-id 42 5. Client associated to AP2, client ping PC, Client send broadcast packets 6. Push CLI, “interface eth0 allow 44” on AP2 7. Create a ssid on AP2, with user-profile client vlan-id 42 8. Client associated to AP2, client ping PC, Client send broadcast packets | | |
| Expect result | 5: Client in vlan (42) ping PC should be successfully. Broadcast packets will be forwarding out via interface eth0  8: Client in vlan (42) ping PC should be successfully. Broadcast packets will be forwarding out via interface eth0 | | |

### Allowed vlan CLI boundary test

#### Test case AMRP\_Allowed Vlan\_13

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_13 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | CLI parameter regression test | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41 | | |
| Test procedure | 1. Reset configure, “show running configure” check CLI 2. Push CLI “interface eth0 allowed all” “show running configure” check CLI 3. Push CLI “interface eth0 allowed vlan 41” “show running configure” check CLI 4. Then push CLI “interface eth0 allowed valn 42” “show running configure” check CLI 5. Then push CLI “interface eth0 allowed valn auto” “show running configure” check CLI | | |
| Expect result | 1: null CLI  2: null CLI  3: should display CLI “interface eth0 allowed 41”  4: should display CLI “interface eth0 allowed 41,42”  5: should display CLI “interface eth0 allowed auto 41,42” | | |

#### Test case AMRP\_Allowed Vlan\_14

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_14 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | CLI parameter max length check (4095 ?) | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41 | | |
| Test procedure | 1. Reset configure, “show running configure” check CLI 2. Push CLI “interface eth0 allowed x, xx, xxx…..” “show running configure” check CLI | | |
| Expect result | 2: check max length CLI support | | |

#### Test case AMRP\_Allowed Vlan\_15

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_15 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Mgt0 vlan, native vlan, packets checked by allowed vlan ? | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41,AP1 ‘s native vlan is 44 | | |
| Test procedure | 1. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 42,43” 2. AP1 send ICMP packets to gateway, opend debug FE 3. AP1 mgt0 vlan change to 44,AP1 send ICMP packets to gateway, opend debug FE 4. Change configure to “interface eth0 allowed vlan auto” 5. AP1 send ICMP packets to gateway, opend debug FE 6. AP1 mgt0 vlan change to 44,AP1 send ICMP packets to gateway, opend debug FE 7. Change configure to “interface eth0 allowed vlan auto 41,44” 8. AP1 send ICMP packets to gateway, opend debug FE 9. AP1 mgt0 vlan change to 44,AP1 send ICMP packets to gateway, opend debug FE | | |
| Expect result | 2: AP ping gateway fail  3: AP ping gateway fai  5: AP ping gateway should be successfully  6: AP ping gateway should be successfully  8: AP ping gateway should be successfully  9: AP ping gateway should be successfully | | |

#### Test case AMRP\_Allowed Vlan\_16

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_16 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | dynamictlly change allowed vlan | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 42,41” 2. Create a ssid ,with user-profile client vlan-id 42. 3. Client associate to this ssid, ping gateway, send broadcast packets 4. PC in switch side, in vlan 42,PC ping client. 5. AP1 eth0 change configure “eth0 allowed vlan 41,43” 6. Client associate to this ssid, ping gateway, send broadcast packets 7. PC in switch side, in vlan 42,PC ping client. | | |
| Expect result | 3:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface  4: PC ping client should be successufully.  6: packets should be discard by FE FROM open debug FE  7: packets should be discard by FE FROM open debug FE | | |

#### Test case AMRP\_Allowed Vlan\_17

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_17 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | dynamictlly change interface which has different allowed vlan configuration | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 41,42,”” “interface eth1 allowed vlan 43,41” 2. Create a ssid ,with user-profile client vlan-id 42. Client associate to this ssid, ping gateway, send broadcast packets 3. Create a ssid, with got vlanid from radus, client associate to this ssid got vlan 43 ping gateway, send broadcast packets 4. Down interface eth0 up interface eth1 5. Client in vlan-id 42 ping gateway, send broadcast packets 6. Client in vlan-id 43 ping gateway, send broadcast packets | | |
| Expect result | 2:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface  3: Packets should be discard by FE FROM open debug FE  5: Packets should be discard by FE FROM open debug FE  7: Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface | | |

### Allowed vlan boundary topology test

#### Test case AMRP\_Allowed Vlan\_18

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_18 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Dual-port, one port bind agg0 one port bind red0 | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 interface eth1 bind red0, interface eth0 bind agg0 2. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface agg0 allowed vlan 41,42,”” “interface red0 allowed vlan 43,41” 3. Create a ssid ,with user-profile client vlan-id 42. Client associate to this ssid, ping gateway, send broadcast packets 4. Create a ssid, with got vlan id from radus, client associate to this ssid got vlan 43 ping gateway, send broadcast packets 5. Down interface agg0 up interface red0 6. Client in vlan-id 42 ping gateway, send broadcast packets 7. Client in vlan-id 43 ping gateway, send broadcast packets | | |
| Expect result | 3:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface  4: Packets should be discard by FE FROM open debug FE  6: Packets should be discard by FE FROM open debug FE  7: Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface | | |

#### Test case AMRP\_Allowed Vlan\_19

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_19 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Dual-port, one port no bind one port bind red0 | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 interface eth0 no bind interface eth1bind red0 2. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 41,42,”” “interface red0 allowed vlan 43,41” 3. Create a ssid ,with user-profile client vlan-id 42. Client associate to this ssid, ping gateway, send broadcast packets 4. Create a ssid, with got vlan id from radus, client associate to this ssid got vlan 43 ping gateway, send broadcast packets 5. Down interface eth0 up interface red0 6. Client in vlan-id 42 ping gateway, send broadcast packets 7. Client in vlan-id 43 ping gateway, send broadcast packets | | |
| Expect result | 3:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface  4: Packets should be discard by FE FROM open debug FE  6: Packets should be discard by FE FROM open debug FE  7: Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface | | |

#### Test case AMRP\_Allowed Vlan\_20

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_20 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Dual-port, one port no bind one port bind agg0 | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 interface eth0 no bind interface eth1 bind agg0 2. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 41,42,”” “interface agg0 allowed vlan 43,41” 3. Create a ssid ,with user-profile client vlan-id 42. Client associate to this ssid, ping gateway, send broadcast packets 4. Create a ssid, with got vlan id from radus, client associate to this ssid got vlan 43 ping gateway, send broadcast packets 5. Down interface eth0 up interface agg0 6. Client in vlan-id 42 ping gateway, send broadcast packets 7. Client in vlan-id 43 ping gateway, send broadcast packets | | |
| Expect result | 3:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface  4: Packets should be discard by FE FROM open debug FE  6: Packets should be discard by FE FROM open debug FE  7: Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface | | |

#### Test case AMRP\_Allowed Vlan\_21

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_21 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Dual-port, one port backual one port bridge-dot1q | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 interface eth0 is backhaul interface eth1 is bridge-dot1q 2. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 41,42,”” “interface eth1 allowed vlan 43,41” 3. Create a ssid ,with user-profile client vlan-id 42. Client associate to this ssid, ping gateway, send broadcast packets 4. Client connected to AP1 via interface eth1 bridge-dot1q ping gateway, send broadcast packets | | |
| Expect result | 3:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface and bridge-dot1q interface  4:client ping gateway, packets will drop by interface eth0 | | |

#### Test case AMRP\_Allowed Vlan\_22

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_22 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | Dual-port, one port backual one port bridge-acess | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 interface eth0 is backhaul interface eth1 is bridge-access 2. AP1 Create different user-profile, every user-profile with different client vlan-id 42,43, AP1 “interface eth0 allowed vlan 41,42,”” “interface eth1 allowed vlan 43,41” 3. Create a ssid ,with user-profile client vlan-id 42. Client associate to this ssid, ping gateway, send broadcast packets 4. Client connected to AP1 via interface eth1 bridge-access ping gateway, send broadcast packets | | |
| Expect result | 3:Client ping gateway should be successfully,broadcast packets should out all interface except incoming interface and bridge-dot1q interface  4:client ping gateway, packets will drop by interface eth0 | | |

#### Test case AMRP\_Allowed Vlan\_23

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_allowed\_vlan\_23 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | Topology 1 | | |
| Description | If interface eth0 eth1 allowed different vlan, should no bind together | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,43,44   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42,43,44   1. Configure AP1 in the management vlan 41, | | |
| Test procedure | 1. AP1 eth0 configure “eth0 allowed vlan 41” eth1 configure”interface eth1 allowed vlan 42” 2. Push CLI “interface eth0 bind red0,interface eth1 bind red0” 3. Push CLI “interface eth0 bind agg0,interface eth1 bind agg0” | | |
| Expect result | 2: bind will be fail  3: bind will be fail | | |

### VLAN based L3 roaming with different topology

#### Test case AMRP\_ L3-Roaming \_1

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_1 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 4 | | |
| Description | L3 roaming with allowed Specified vlan | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42, switch2 port allow vlan 41,43,   Switch1:  Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42  Switch2:  Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,43   1. Configure AP1,AP2,AP3,AP4 in the same management vlan 41 2. Enable L3-roaming(configure mobility-policy on AP2) 3. AP1, AP2 interface eth0 allow vlan 41, 42. AP3,AP4 interface eth0 allow vlan 41,43 4. Make sure AP1,AP2 is DA/BDA, AP4 is attached AP | | |
| Test procedure | 1. Create a SSID on four APs, AP1,AP2 user-profile client vlan-id is 42, AP3,AP4 user-profile client vlan-id is 43 2. Open “debug amrp xnxp detail” on AP2,when client associate to AP2,check DNXP cache with (‘allowed-vlan-number’) should be advertised to all DNXP neighbors 3. “show amrp dnxp cache <mac\_addr>” in AP1,AP3,AP4 4. When Client roaming from AP2 to AP3, Open “\_debug amrp xnxp detail” on AP3 5. After tunnel build succeed, Check client running traffic, ping gateway, for detail “debug FE basic” 6. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP3 7. Client roaming from AP3 to AP4, Open “\_debug amrp xnxp detail” on AP4 8. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP4 9. Client roaming back from AP4 to AP3, then from AP3 to AP2, When client roaming from AP3 to AP2. Open ”debug amrp xnxp detail” on AP3 | | |
| Expect result | 2: AP2 should advertised DNXP cache to all DNXP neighbors, DNXP cache should include ” homlan,1st-tunnel/2nd –tunnel, vlan-id, UPID, allowed-vlan-number”.  3: AP1,AP3,AP4 should have DNXP cache of client, cache info should matched with Debug on AP2, In AP3,AP4 1st-tunnel/2nd –tunnel should be AP1,AP2, allowed-vlan-number should be “42”  4: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP3, GRE tunnel to AP1 or AP2 when Client roaming to AP3, AP3 will advertised new cache to all other APs  5:Client ping gateway should be successfully  6:Client tunnel route will be add on AP3, Tunnel entry will be list when “show amrp dnxp tunnel” on AP3  7: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP4,GRE tunnel to AP1 or AP2 and when Client roaming to AP4, AP4 will advertised new cache to all other APs  8: Client tunnel route will be add on AP4, Tunnel entry will be list when “show amrp dnxp tunnel” on AP4  9: When client roaming back from AP3 to AP2 or AP1, tunnel will be deleted. | | |

#### Test case AMRP\_ L3-Roaming \_2

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_2 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 4 | | |
| Description | L3 roaming with allowed auto vlan | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42, switch2 port allow vlan 41,43,   Switch1:  Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,42  Switch2:  Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan 41,43   1. Configure AP1,AP2,AP3,AP4 in the same management vlan 41 2. Enable L3-roaming(configure mobility-policy on AP2) 3. AP1, AP2 interface eth0 allow vlan auto. AP3,AP4 interface eth0 allow vlan auto 4. Make sure AP1,AP2 is DA/BDA, AP4 is attached AP | | |
| Test procedure | 1. Create a SSID on four APs, AP1,AP2 user-profile client vlan-id is 42, AP3,AP4 user-profile client vlan-id is 43 2. Open “debug amrp xnxp detail” on AP2,when client associate to AP2,check DNXP cache with (‘allowed-vlan-number’) should be advertised to all DNXP neighbors 3. “show amrp dnxp cache <mac\_addr>” in AP1,AP3,AP4 4. When Client roaming from AP2 to AP3, Open “\_debug amrp xnxp detail” on AP3 5. After tunnel build succeed, Check client running traffic, ping gateway, for detail “debug FE basic” 6. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP3 7. Client roaming from AP3 to AP4, Open “\_debug amrp xnxp detail” on AP4 8. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP4 9. Client roaming back from AP4 to AP3, then from AP3 to AP2,When client roaming from AP3 to AP2. Open ”debug amrp xnxp detail”on AP3 | | |
| Expect result | 2: AP2 should advertised DNXP cache to all DNXP neighbors, DNXP cache should include ” homlan,1st-tunnel/2nd –tunnel, vlan-id, UPID, allowed-vlan-number”.  3: AP1,AP3,AP4 should have DNXP cache of client, cache info should matched with Debug on AP2, In AP3,AP4 1st-tunnel/2nd –tunnel should be AP1,AP2, allowed-vlan-number should be “42”  4: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP3, GRE tunnel to AP1 or AP2 when Client roaming to AP3, AP3 will advertised new cache to all other APs  5:Client ping gateway should be successfully  6:Client tunnel route will be add on AP3, Tunnel entry will be list when “show amrp dnxp tunnel” on AP3  7: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP4,GRE tunnel to AP1 or AP2 and when Client roaming to AP4, AP4 will advertised new cache to all other APs  8: Client tunnel route will be add on AP4, Tunnel entry will be list when “show amrp dnxp tunnel” on AP4  9: When client roaming back from AP3 to AP2 or AP1, tunnel will be deleted. | | |

#### Test case AMRP\_ L3-Roaming \_3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_3 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 5 | | |
| Description | L3 roaming with allowed auto and Specified vlan (from MP to portal) | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,44 switch2 port allow vlan 41,43, 2. Configure AP1,AP2,AP3,AP4 MP in the same management vlan 41 3. Enable L3-roaming(configure mobility-policy on AP2) 4. AP1, AP2 interface eth0 allow vlan auto 44. AP3,AP4 interface eth0 allow vlan auto | | |
| Test procedure | 1. Create a SSID on four APs,AP1,AP2,user-profile client vlan-id is 42,AP3,AP4 user-profile client vlan-id 43 2. Create same SSID on MP, user-profile client vlan-id is 44 3. Open “debug amrp xnxp detail” on MP,when client associate to MP,check DNXP cache with (‘allowed-vlan-number’) should be advertised to all DNXP neighbors 4. “show amrp dnxp cache <mac\_addr>” in AP1,AP3,AP4 5. When Client roaming from MP to AP3, Open “\_debug amrp xnxp detail” on AP3 6. After tunnel build succeed, Check client running traffic, ping gateway, for detail “debug FE basic” 7. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP3 8. Client roaming back from AP4 to AP3, then from AP3 to AP2,When client roaming from AP3 to AP2, Tunnel will be delete succeed. Open ”debug amrp xnxp detail”on AP3 | | |
| Expect result | 3: MP should advertised DNXP cache to all DNXP neighbors, DNXP cache should include ” homlan,1st-tunnel/2nd –tunnel, vlan-id, UPID, allowed-vlan-number”.  4: AP1,AP3,AP4 should have DNXP cache of client, cache info should matched with Debug on MP, In AP3,AP4 1st-tunnel/2nd –tunnel should be AP1,AP2, allowed-vlan-number should be “44”  5: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP3, GRE tunnel to AP1 or AP2 when Client roaming to AP3, AP3 will advertised new cache to all other APs  6:Client ping gateway should be successfully  7:Client tunnel route will be add on AP3, Tunnel entry will be list when “show amrp dnxp tunnel” on AP3  8: When client roaming back from AP3 to AP2 or AP1, tunnel will be deleted. | | |

#### Test case AMRP\_ L3-Roaming \_4

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_4 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Topology 6 | | |
| Description | L3 roaming from Portal to MP | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,switch2 port allow vlan 41,43, 2. Configure AP1,AP2,AP3,MP in the same management vlan 41 3. Enable L3-roaming(configure mobility-policy on AP2) 4. AP1,AP2,MP interface eth0 allow vlan 41,42. AP3,AP4 interface eth0 allow vlan 41,43 | | |
| Test procedure | 1. Create a SSID on AP1, AP2 user-profile client vlan-id is 42, AP3,AP4,MP user-profile client vlan-id is 43 2. Open “debug amrp xnxp detail” on AP2,when client associate to AP2,check DNXP cache with (‘1st-tunnel/2nd –tunnel’, allowed-vlan-number) should be advertised to all DNXP neighbors included MP 3. “show amrp dnxp cache <mac\_addr>” in AP3,AP4,MP 4. When Client roaming from AP2 to MP, Open “\_debug amrp xnxp detail” on MP 5. After tunnel build succeed, Check client running traffic, ping gateway, for detail “debug FE basic” 6. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on MP 7. Client roaming back from MP to Portal . Open ”debug amrp xnxp detail”on MP | | |
| Expect result | 2: AP2 should advertised DNXP cache to all DNXP neighbors, DNXP cache should include ” homlan,1st-tunnel/2nd –tunnel, vlan-id, UPID, allowed-vlan-number”.  3: AP3,AP4,MP should have DNXP cache of client, cache info should matched with Debug in AP2, In AP3,AP4,MP 1st-tunnel/2nd –tunnel should be AP1/AP2,  4: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on MP, GRE tunnel to AP1 or AP2 when Client roaming to MP, AP3 will advertised new cache to all other APs  5:Client ping gateway should be successfully  6:Client tunnel route will be add on MP, Tunnel entry will be list when “show amrp dnxp tunnel” on MP  7: When client roaming back from MP to AP2, tunnel will be deleted. | | |

#### Test case AMRP\_ L3-Roaming \_5

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_5 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 7 | | |
| Description | L3 roaming with two different subnet | | |
| Pre-condition | 1. Configure switch1 port allow vlan all,switch2 port allow vlan all 2. Configure AP1,AP2,AP3,AP4 in the same management vlan 41, 3. Enable L3-roaming(configure mobility-policy on AP4) 4. AP1 interface eth0 allow vlan 41,42. AP2 interface eth0 allow vlan 41,43. AP3,AP4 interface eth0 allow vlan 44 5. Make sure AP1 is BDA,AP2 is DA | | |
| Test procedure | 1. AP1 user-profile client vlan-id is 42, AP2 user-profile client vlan-id is 43, AP3,AP4 user-profile client vlan-id is 44 2. Open “debug amrp xnxp detail” on AP2,when client associate to AP2,check DNXP cache with (‘1st-tunnel/2nd –tunnel’, allowed-vlan-number) should be advertised to all DNXP neighbors included AP3,AP4 3. “show amrp dnxp cache <mac\_addr>” in AP1,AP3,AP4 4. When Client roaming from AP2 to AP3, Open “\_debug amrp xnxp detail” on AP3 5. After tunnel build succeed, Check client running traffic, ping gateway, for detail “debug FE basic” 6. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP3 7. Client roaming from AP3 to AP4, Open “\_debug amrp xnxp detail” on AP4 8. After tunnel build succeed, ”show route”, ”show amrp dnxp tunnel” on AP4 9. Client roaming back from AP4 to AP3, then from AP3 to AP2,When client roaming from AP3 to AP2. Open ”debug amrp xnxp detail”on AP3 | | |
| Expect result | 2: AP2 should advertised DNXP cache to all DNXP neighbors, DNXP cache should include ” homlan,1st-tunnel/2nd –tunnel, vlan-id, UPID, allowed-vlan-number”.  3: AP1,AP3,AP4 should have DNXP cache of client, cache info should matched with Debug in AP2, In AP1,AP3,AP4 1ST tunnel backhaul side should be AP2 and should same with allowed vlan-id  4: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP3, GRE tunnel to AP2 when Client roaming to AP3, AP3 will advertised new cache to all other APs  5:Client ping gateway should be successfully  6:Client tunnel route will be add on AP3, Tunnel entry will be list when “show amrp dnxp tunnel” on AP3  7: Via ”\_debug amrp xnxp detail” can see GRE tunnel build succeed on AP4,GRE tunnel to AP2 and when Client roaming to AP4, AP4 will advertised new cache to all other APs  8: Client tunnel route will be add on AP4, Tunnel entry will be list when “show amrp dnxp tunnel” on AP4  9: When client roaming back from AP3 to AP2 or AP1, tunnel will be deleted. | | |

#### Negative test case\_L3-Roaming\_6

|  |  |  |  |
| --- | --- | --- | --- |
| Test caseCase ID | AMRP\_L3-Roaming\_6 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 4 | | |
| Description | Interface Allowed SAME VLAN, Client L3 roaming between Portals | | |
| Pre-condition | 1. Configure switch1 port allow vlan 41,42,switch2 port allow vlan 41,43, 2. Configure AP1,AP2,AP3,AP4 in the same management vlan 41 3. Enable L3-roaming(configure mobility-policy on AP2) 4. AP1,AP2 interface eth0 allow vlan 41,42. AP3,AP4 interface eth0 allow vlan 41,42,43 | | |
| Test procedure | 1. Create a SSID on AP1,AP2, user-profile client vlan-id is 42, AP3,AP4 user-profile client vlan-id is 43 2. Client associate to AP2,then roaming from AP2 to AP3. 3. When Client roaming from AP2 to AP3, Open “\_debug amrp xnxp detail” on AP3 | | |
| Expect result | 3: L3 roaming will be succeed, because of client vlan-id different, but in this state whether need build tunnel ? | | |

#### Negative test case\_L3-Roaming\_7

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP\_L3-Roaming\_7 | | |
| Priority | Accept | Automation Flag | No |
| Topology to use | Topology 3 | | |
| Description | L3 roaming in bridge-dot1q and wireless client topology | | |
| Pre-condition | 1. Configure switch1 port allow vlan all   Switchport mode trunk  Switchport trunk encapsulation dot1q  Switchport trunk allowed vlan all   1. Create two user-profiel, all user-prifle enable mobility-policy | | |
| Test procedure | 1. MP create several SSID, bind different user-profile, every user-profile with different client vlan-id ” 41,42”. 2. AP1 interface allowed vlan auto 43 3. MP eth0/eth1 interface mode is bridge-dot1q, 4. Push CLI “interface eth0 allow vlan 41,43” 5. Client1 connected to MP,got vlan 43”debug amrp xnxp detail” MP will send dnxp cache to neighbors 6. Client associate to MP,got vlan 42 “debug amrp xnxp detail” MP will send dnxp cache to neighbors | | |
| Expect result | 5: check cache on AP2 client1’s allowed vlan-id should be 43  6: check cache on AP2 client2’s allowed vlan-id should be 42 | | |

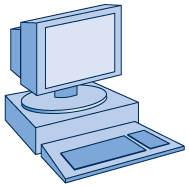
## Performance of AMRP2

### Performance of Mesh topology



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_1 | | |
| Priority | High | Automation Flag |  |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1 Portal2 Portal 3 portal n  MP | | |
| Description | N portals boot up, add one MP, check how long MP will selecting right default route, make sure selecting will not too longer. | | |
| Pre-condition | -configure Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal N can scan MP wifi-backhaul side. | | |
| Test procedure | Boot up Portals first ,then boot up MP,  Check route table in MP, check default route.  Shut down Portal of MP associated .check route table of MP | | |
| Expect result | When add a Portal calculate how long topology will stabilization (how long those Portals know this Portal exist )  Check how long MP will selecting right default route.(when boot up, debug amrp basic in MP )  Check how long MP will selecting right default route again. | | |

### Performance of bridge-PC (throughput)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_2 | | |
| Priority | High | Automation Flag | No |
| Topology to use | Pc run as chariot client========eth1(ap)eth0=======sw======chariot server | | |
| Description | Bridge –PC throughput | | |
| Pre-condition | -configure Portal eth0 is backhaul  -configure Portal eth1 to bridge-access and mac-learning enable  -PC connect to eth1 of Portal | | |
| Test procedure | * + - 1. Use chariot running traffic ,check max traffic support | | |
| Expect result |  | | |

### Performance of L2 roaming



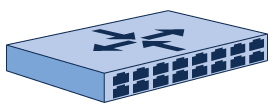
1

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3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_3 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | Performance of L2 roaming, check L2 roaming traffic delay time | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for client associate auth  -Client associate this Portal, pass authentication | | |
| Test procedure | 1. When client associate to AP1, check dnxp neighbor and dnxp cache in AP1 and AP2 2. Use veriwave running traffic datapath 3. Use veriwave simulate L2 roaming, check traffic delay time. | | |
| Expect result |  | | |

### Performance of L3 roaming



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_4 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router-----------  | |  Switch1 Switch2  | |  Portal 1 Portal 2  Client 1 | | |
| Description | Performance of L3 roaming, check L3 roaming traffic delay time | | |
| Pre-condition | -configure two Portals in the different subnet but same hive  -Configure two Portals have same SSID, configure mobility-policy INXP, bind mobility-policy to user-profile  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1, check dnxp neighbor and dnxp cache in AP1 and AP2 2. Use veriwave running traffic datapath 3. Use veriwave simulate L3 roaming, check traffic delay time. | | |
| Expect result |  | | |

### Performance of INXP L3 roaming(throughput)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_5 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router-----------  | |  Switch1 Switch2  | |  Portal 1 Portal 2  Client 1 | | |
| Description | Performance of L3 roaming, check L3 roaming traffic throughput | | |
| Pre-condition | -configure two Portals in the different subnet but same hive  -Configure two Portals have same SSID, configure mobility-policy INXP, bind mobility-policy to user-profile  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1, check dnxp neighbor and dnxp cache in AP1 and AP2 2. Client roaming from protal1 to Portal2 3. Client running traffic check throughtput   (Use chariot running traffic ,check max traffic support) | | |
| Expect result |  | | |

### Performance of INXP L3 roaming(data fragment )

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_6 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router-----------  | |  Switch1 Switch2  | |  Portal 1 Portal 2  Client 1 | | |
| Description | Performance test L3 roaming data handle | | |
| Pre-condition | -configure two Portals in the different subnet but same hive  -Configure two Portals have same SSID, configure mobility-policy DNXP, bind mobility-policy to user-profile  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1, client L3 roaming from AP1 to AP2 ,check AMRP tunnel, route table in AP1 and AP2 2. Client send larger packets(size >1500). running traffic check throughtput   (Use chariot running traffic ,check max traffic support) | | |
| Expect result |  | | |

### Performance of INXP L3 roaming(Broadcast/Multicast )

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Performance\_testcase\_7 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router-----------  | |  Switch1 Switch2  | |  Portal 1 Portal 2  Client 1 | | |
| Description | Performance test L3 roaming data handle | | |
| Pre-condition | -configure two Portals in the different subnet but same hive  -Configure two Portals have same SSID, configure mobility-policy DNXP, bind mobility-policy to user-profile  -Client associate to AP1, pass authentication | | |
| Test procedure | 1. When client associate to AP1, client L3 roaming from AP1 to AP2 ,check AMRP tunnel, route table in AP1 and AP2 2. Client send broadcast/Multicast running traffic check throughtpu | | |
| Expect result | Bug 13695 | | |

## Stress test of AMRP2

### AMRP2\_stress\_testcase\_1(N Portals)



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_stress\_testcase\_1 | | |
| Priority | High | Automation Flag | No |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1 Portal2 Portal 3 portal n | | |
| Description | N portals boot up, check system stabilization of “N” portals | | |
| Pre-condition | -Configure Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal n not fully meshed on wifi-backhaul side.  -Boot up portal1 , portal2, Portal3…..portal n one by one  -Configure a SSID on each Portal | | |
| Test procedure | 1. Boot up Portals one by one, check CPU memory utilization. 2. Check route table, check CPU memory utilization. 3. Per 64 clients associated to Portals one by one check CPU memory utilization. | | |
| Expect result | 1. CPU memory utilization should not very high 2. CPU memory utilization should not very high 3. CPU memory utilization should not very high | | |

### AMRP2\_stress\_testcase\_2(L2 roaming)

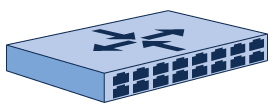


1

2

3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_stress\_testcase\_2 | | |
| Priority | Middle | Automation Flag | No |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | check max number of clients L2 roaming between two boxes System stabilization for fast L2 roaming | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for clients associate auth  -Max number clients associate this Portal1, pass authentication | | |
| Test procedure | 1. When max number clients associate to Portal1, check CPU, memory utilization 2. Clients L2 roaming from Portal1 to Portal2, check CPU, memory utilization 3. Clients L2 roaming back from Portal2 to Portal1, check CPU, memory utilization 4. Clients continuance L2 roaming between two boxes, check CPU, memory utilization | | |
| Expect result |  | | |



### AMRP2\_stress\_testcase\_3(L3 roaming)

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_stress\_testcase\_3 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router-----------  | |  Switch1 Switch2  | |  Portal 1 Portal 2 | | |
| Description | Check L3 roaming max number of clients in one tunnel | | |
| Pre-condition | -configure two APs in the different subnet but same hive  -Configure two APs have same SSID, configure mobility-policy DNXP, bind mobility-policy to user-profile  -max Clients associate to portal1, pass authentication | | |
| Test procedure | 1. When max number of clients associate to AP1, check CPU and memory utilization. 2. Clients L3 roaming from AP1 to AP2, check AMRP tunnel, check CPU and memory utilization. 3. Clients L3 roaming back from AP2, check AMRP tunnel, check CPU and memory utilization. | | |
| Expect result |  | | |

## AMRP2 of capability

### Capability of N Portals Topology



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_1 | | |
| Priority | High | Automation Flag |  |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1 Portal2 Portal 3 portal n | | |
| Description | N portals boot up, check AMRP2 support max node and max clients. | | |
| Pre-condition | -configure Portals in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal n not fully meshed on wifi-backhaul side.  - Boot up portal1 , portal2, Portal3…..portal n one by one  -configure a SSID on each Portal | | |
| Test procedure | 1. When APs boot up.check route converge and DA/BDA state 2. When APs boot up, show int eth0, show int wifi1, Calculate Rx/Tx control packets. In switch side check port traffic. 3. Check max node amrp can support 4. Check CPU memory utilization 5. Check Ethlink node stability 6. Check DA/BDA state stability 7. Keep this topo overnight, check system stability 8. Check dump file and check crash error log | | |
| Expect result | 1. Route converge should quickly and DA/BDA state should be stability and right 2. Calculate Rx/Tx control packets statistic, the impact of network. 3. Max number ? 4. If wifi backhaul side down,CPU,Memory is low(5`10%) If wifi bachaul side is up, CPU and memory is high,(50`60% average) 5. Ethlink node should be stability 6. DA/BDA state should be stability 7. System should be stability and client associate to APs should no effect 8. No dump file and no crash error log | | |

### Capability of wireless backhaul neighbor



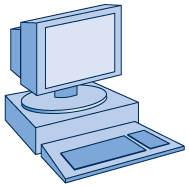
|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_2 | | |
| Priority | High | Automation Flag |  |
| Topology to use | -------------Switch----------------  | | | …………… |  Portal1-- Portal2--- Portal 3-- portal n  MP1 | | |
| Description | N APs boot up, check AMRP2 support max wireless backhaul neighbors | | |
| Pre-condition | -configure APs in the same subnet and same hive  -Portal 1 and portal 2, Portal3 …Portal n fully meshed on wifi-backhaul side.  - Boot up portal1 , portal2, Portal3…..portal n one by onel | | |
| Test procedure | 1. Boot up Portals one by one, check route table. 2. Check neighbor table , check max wifi neighbor . 3. Check CPU memory utilization 4. Check wifi neighbor stability 5. Check DA/BDA state stability 6. Keep this topo overnight, check system stability 7. Check dump file and check crash error log | | |
| Expect result | 1. When add a MP calculate how long topology will stabilization (how long those APs know this MP exist ) 2. Check AMRP2 support Wifi neighbor.( max wifi neighbor AMRP2 support ) 3. Should not very high 4. Wifi neighbor should not change very frequency 5. DA/BDA state should stability 6. System should be stablility 7. No crash and no error log | | |

### Capability of Route entries



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_3 | | |
| Priority | High | Automation Flag |  |
| Topology to use | -------------Switch----------------  |  AP | | |
| Description | AMRP2 support max route entries | | |
| Pre-condition | -use automation add static route one by one | | |
| Test procedure | 1. Check max number route entries ,AMRP can support. 2. Check CPU memory utilization 3. Keep this topo overnight, check system stability 4. Check dump file and check crash error log | | |
| Expect result | 1. Check AMRP2 support max route entries . 2. Should not very high 3. System should be stablility 4. No crash and no error log | | |

### Capability of mac learning entries



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_4 | | |
| Priority | High | Automation Flag |  |
| Topology to use |  | | |
| Description | check AMRP2 support max mac learning entries | | |
| Pre-condition | -use tool add mac learning entries one by one | | |
| Test procedure | 1. Check max number mac learning entries ,AMRP can support. 2. Check CPU memory utilization 3. Keep this topo overnight, check system stability 4. Check dump file and check crash error log | | |
| Expect result | 1. Check AMRP2 support max learning entries . 2. Should not very high 3. System should be stablility 4. No crash and no error log | | |

### Capability of L2 roaming (one radio)



1

2

3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_5 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ----------- Switch-----------  | |  Portal1 ----- portal2    client | | |
| Description | Capability of L2 roaming check max number of clients L2 roaming in one radio (wifi0.1) | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal1 a SSID on wifi0,use wpa2-tkip-8021x for clients associate auth  -Max number clients associate this Portal1, pass authentication | | |
| Test procedure | 1. When max number clients associate to Portal1 2. Client L2 roaming from Portal1 to Portal2 3. Client L2 roaming back from Portal2 to Portal1, 4. check CPU memory utilization 5. Check dump file and check crash error log | | |
| Expect result | 1. Check max number client can associate to one AP 2. Check max number clients can roaming successfully 3. Check max number clients can roaming back successfully 4. CPU and memory should not very high 5. No crash and no error | | |

### Capability of L2 roaming (two radio)



1

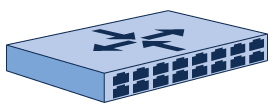
2



3

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_6 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ----------- Switch-----------  | | |  Portal1 --Portal2-- portal3    client client | | |
| Description | Capability of L2 roaming check max number of clients L2 roaming in two radios (wifi0.1 and wifi1.1) | | |
| Pre-condition | -Configure portal1 and portal2 in the same subnet and same hive.  -Configure portal2 a SSID on wifi0,wifi1 use wpa2-tkip-8021x for clients associate auth  -Configure Portal1 a SSID on wifi0.1, configure Portal3 a SSID on wifi1.1  -Max number clients associate Portal1 Portal3, pass authentication | | |
| Test procedure | 1. When max number clients associate to Portal1 2. Client L2 roaming from Portal1,Portal2 to Portal3 3. Client L2 roaming back from Portal3 to Portal1,Portal2 4. check CPU memory utilization 5. Check dump file and check crash error log | | |
| Expect result | 1. Check max number client can associate to one AP 2. Check max number clients can roaming successfully 3. Check max number clients can roaming back successfully 4. CPU and memory should not very high 5. No crash and no error | | |

### Capability of L3 roaming(tunnel )



|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_7 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router----------------  | | ------ |  Switch1 Switch2 Switch n  | | |  Portal 1 Portal 2 Portal n | | |
| Description | Check L3 roaming for max number INXP tunnels build in one box | | |
| Pre-condition | -configure n Portals in the different subnet but same hive  -Configure n Portals have same SSID, configure mobility-policy INXP, bind mobility-policy to user-profile  -clients associate to portals, pass authentication | | |
| Test procedure | 1. When clients distribute associate to Portals, 2. Check CPU memory utilization 3. Keep this topo overnight, check system stability 4. Check dump file and check crash error log | | |
| Expect result | 1. Check max number of tunnels build in one box 2. Should not very high 3. System should be stablility 4. No crash and no error log | | |

### Capability of L3 roaming(access side tunnel )

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_8 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router----------------  | | ------ |  Switch1 Switch2 Switch n  | | |  Portal 1 Portal 2 Portal n | | |
| Description | Check L3 roaming for max number tunnels build in access side | | |
| Pre-condition | -Configure n Portal1 max SSID ,  -Configure mobility-policy INXP, to Portal2,Portal n  -Configure use-profiles and bind those mobility-policy to each use-profiles  -Confiugure use-profile bind to SSID one by one  -clients associate to portal1 ‘s SSID one by one , pass authentication | | |
| Test procedure | 1. When one client associate to a ssid ,will build a tunnel check max tunnel access side support | | |
| Expect result |  | | |

### Capability of L3 roaming(backhaul side tunnel )

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_9 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router----------------  | | ------ |  Switch1 Switch2 Switch n  | | |  Portal 1 Portal 2 Portal n | | |
| Description | Check L3 roaming for max number tunnels build in backhaul side | | |
| Pre-condition | -Configure Portals(Portal2~Portaln ) a SSID ,  -Configure mobility-policy INXP, “to Portal1” (Portal2~Portaln )  -Configure use-profiles and bind those mobility-policy to use-profiles on each box  -clients associate to (Portal2~Portaln ) ‘s SSID one by one , pass authentication | | |
| Test procedure | 1. When one client associate to a ssid (Portal2~Portaln ),will build a tunnel check max tunnel backhual side support(Portal1) 2. Max client associate to (Portal2~Portaln ) check max client support in Portal1 | | |
| Expect result |  | | |

### Capability of L3 roaming(client )

|  |  |  |  |
| --- | --- | --- | --- |
| Case ID | AMRP2\_Capability\_testcase\_10 | | |
| Priority | High | Automation Flag |  |
| Topology to use | ------------Router----------------  | |  Switch1 Switch2  | |  Portal 1 Portal 2  client | | |
| Description | Check L3 roaming for max number client in one tunnel | | |
| Pre-condition | -configure two Portals in the different subnet but same hive  -Configure two Portals have same SSID, configure mobility-policy INXP, bind mobility-policy to user-profile  - max clients associate to portal2, pass authentication | | |
| Test procedure | 1. When clients associate to Portal2, 2. Check CPU memory utilization 3. Keep this topo overnight, check system stability 4. Check dump file and check crash error log | | |
| Expect result | 1. Check max number of client in on tunnel 2. Should not very high 3. System should be stablility 4. No crash and no error log | | |

# CLI (Automation Status: /No)

show amrp

show amrp Ethlink

show amrp Ethlink <mac\_addr>

show amrp node [ all ]

show amrp node <ip\_addr|mac\_addr>

show amrp interface

show amrp interface <ethx|redx|aggx|mgtx|wifix.y>

show amrp interface <ethx|redx|aggx> bmt-table

show amrp interface <ethx|redx|aggx> mac-learning

show amrp neighbor [ [Ethernet|WiFi] ]

show amrp DNXP neighbor [ <mac\_addr> ]

show amrp DNXP cache [ <mac\_addr> ]

show amrp client [ <mac\_addr> ]

show amrp tunnel [ <ip\_addr> ]

amrp neighbor <mac\_addr> metric min [number] max [number]

amrp metric type [aggressive|conservative|normal]

amrp metric poll-interval [number]

show amrp static-neighbor

# Customer Issue or Typical Bug